



MYANMAR

UNLOCKING THE POTENTIAL

COUNTRY DIAGNOSTIC STUDY

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Economics and Research Department
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FOREWORD

Myanmar stands at a critical juncture amid a wave of political, social, and economic reforms. Since the return of civilian rule in 2011, the new government has launched impressive reforms, focused initially on the political system to restore peace and achieve national unity and moving quickly to an economic and social reform program.


The results are promising, with a general improvement in most economic and some social indicators. And Myanmar's well-known advantages—its strategic location, a youthful workforce, ample natural resources, and huge tourism potential—hold promise for the country to become one of the region's success stories.

In his inaugural address, President U Thein Sein rightfully identified a raft of challenges. One of these is an urgent need for investment in physical and social infrastructure. Another is the need for strong, growth-oriented development, led initially by agriculture and natural resources, and followed by manufacturing for domestic and export markets. The President also emphasized the importance of transparency, accountability, good governance and the rule of law; resolute action against corruption; and addressing the widening income gap between rich and poor.

To overcome the obstacles, the government will need to accelerate reforms. Doing so requires a clear, multipronged development that produces quality jobs and reduces poverty. Myanmar has a historic opportunity to develop integrated, comprehensive long-term policies. Getting them right, by learning from the successes and failures of its neighbors—and adapting those lessons to the country's specific contexts—carries enormous advantages.

This report examines how Myanmar can unlock its full potential. It stresses that charting a successful course will involve considerable care in sequencing policies and programs in the right sectors at the right time. It also details the policy challenges ahead—among them, how to strengthen market institutions, enhance governance and institutional capacity, improve infrastructure, develop human capital, and promote regional integration.

I hope that the report will provide useful policy inputs for the government's consideration in steering the country toward a modern industrial economy, underpinned by export-oriented manufacturing while harnessing its natural strengths such as agriculture. As a trusted partner, Asian Development Bank is committed to supporting Myanmar in achieving its development goals.



Takehiko Nakao
President
Asian Development Bank

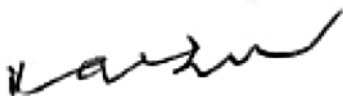
FOREWORD

Myanmar has embarked on a historic path of political and economic transformation and reform. Major achievements have been made since this process began in 2011, particularly on the economic side, while the reform of the exchange rate and a new Foreign Investment Law symbolize Myanmar's aspirations to revitalize its economy and reengage with regional and global economies. The government has announced its commitment to continuing reform, sustainable growth, and poverty reduction in the Framework for Economic and Social Reforms 2012–2015 and in other economic plans. The reforms are already bearing fruit, with the economy growing 7% a year for the last 2 years and improvements in some social indicators. Foreign direct investment has begun to flow into the country, foreign exchange earnings are already substantial, and tourism is expanding rapidly.

The Government of Myanmar continues to move forward with broad-based economic, political, and social reforms to consolidate and build on these early gains. Although the advances made are important, there is more to be done. We are moving ahead to create an enabling environment for strong and sustained economic growth and poverty reduction, improving economic governance, promoting balanced growth through regional and rural development, and raising the level of education and health care.

We welcome this report and its findings. It clarifies and illuminates many of the important issues that need to be addressed both now and in coming years. These include weaknesses in infrastructure, human development, market and government institutions, regional integration, and environmental protection. The report highlights the need to increase government revenues and broaden the base of tax collection, and it helpfully offers practical policy recommendations to achieve these goals, which are already being embraced by the government. We appreciate the importance of broadening the base of economic growth and of studying the lessons of the successes of our neighbors in improving the productivity of agriculture and encouraging the development of manufacturing and services in ways that are conducive to sustainable and equitable growth.

The Government of Myanmar is grateful for the research, analysis, and practical policy recommendations that this study provides. These will be useful for realizing our broader development goals and to assist in the design, phasing, and implementation of our complex and ambitious reform program.



H.E. Dr. Kan Zaw

Minister

Ministry of National Planning and Economic Development

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This report was written by a team of economists in the Economic Analysis and Operations Support Division under the direction of Cyn-Young Park, Assistant Chief Economist, including Kee-Yung Nam, Principal Economist; Sakiko Tanaka, Senior Economist; David Raitzer, Economist; Utsav Kumar, Economist; Kaukab Naqvi, Economist; and Paul Vandenberg, former Senior Economist; together with Maria Rowena Cham, Senior Economics Officer; Paulo Rodelio Halili, Economics Officer; Lilibeth Poot, Economics Officer, Jindra Samson, Economics Officer; and Emmanuel San Andres, former Economics Officer. It also draws heavily on the background papers prepared by the main contributors to the study. Excellent research and administrative support and assistance have been provided by Regina Salve Baroma, Arlene Evangelio, Amador Foronda, Ronaldo Ico, Maria Concepcion Latoja, Lyndree Malang, Maria Melissa Gregorio-dela Paz, Roslyn Perez, Lotis Quiao, and Rhina Ricci Lopez-Tolentino. A team from the Department of External Relations extended expert support for publication and dissemination. Grateful acknowledgment is also extended to Ronald I. Miller for his extensive economic editing and to Eric Van Zant and Alastair McIndoe for their manuscript editing. Typesetting was done by Mike Cortes.

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MAIN CONTRIBUTORS TO THE STUDY

Country History and Overview

Vision 2030: Growth Targets and Scenarios

Governance and Institutions

Macroeconomic Management and Stability

- Fiscal Policy

- Monetary Policy

- Financial Sector Reform Policy

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Industrial Development

Responsible Tourism

Human Capital Development

Infrastructure Development

Social Inclusion and Regionally Balanced Development

Regional Integration and Connectivity

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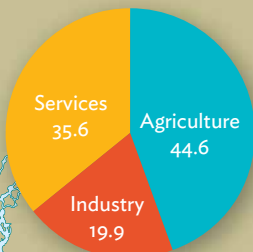
MYANMAR FAST FACTS

as of 2012

ECONOMY

\$55.8 billion GDP
GDP per capita of **\$876**

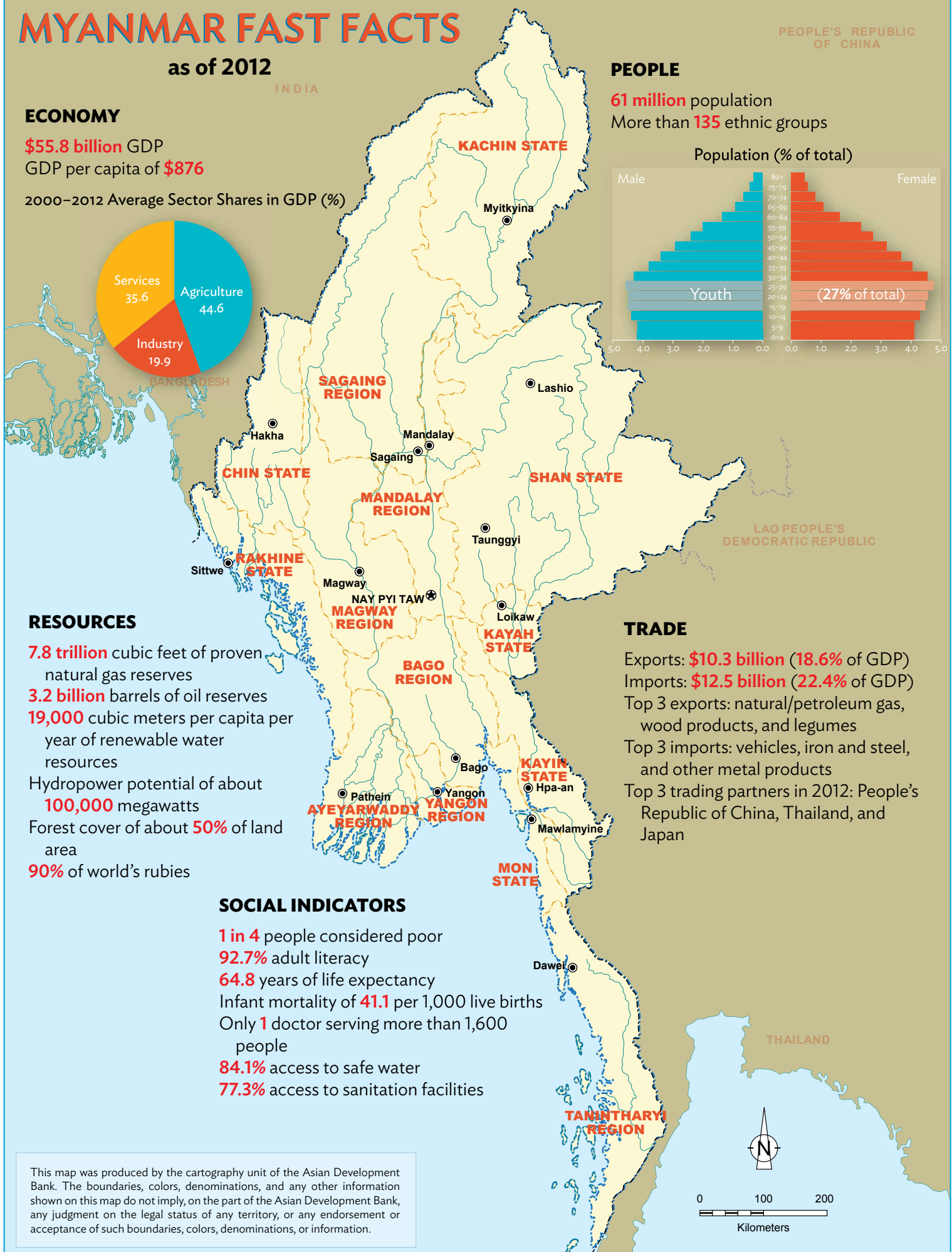
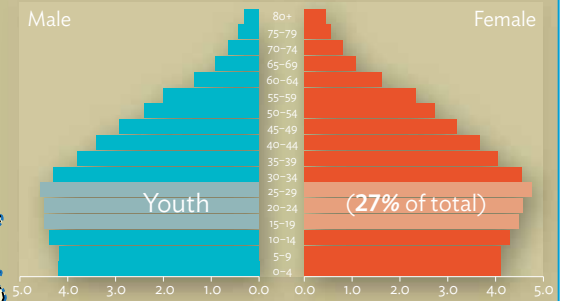
2000–2012 Average Sector Shares in GDP (%)



PEOPLE

61 million population
More than **135** ethnic groups

Population (% of total)



RESOURCES

7.8 trillion cubic feet of proven natural gas reserves
3.2 billion barrels of oil reserves
19,000 cubic meters per capita per year of renewable water resources
Hydropower potential of about **100,000** megawatts
Forest cover of about **50%** of land area
90% of world's rubies

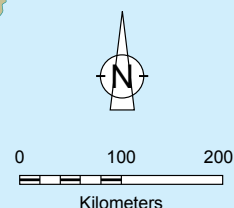
TRADE

Exports: **\$10.3 billion** (18.6% of GDP)
Imports: **\$12.5 billion** (22.4% of GDP)
Top 3 exports: natural/petroleum gas, wood products, and legumes
Top 3 imports: vehicles, iron and steel, and other metal products
Top 3 trading partners in 2012: People's Republic of China, Thailand, and Japan

SOCIAL INDICATORS

1 in 4 people considered poor
92.7% adult literacy
64.8 years of life expectancy
Infant mortality of **41.1** per 1,000 live births
Only **1** doctor serving more than 1,600 people
84.1% access to safe water
77.3% access to sanitation facilities

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ABBREVIATIONS

| | | |
|--------|---|--|
| ADB | – | Asian Development Bank |
| AEC | – | ASEAN Economic Community |
| AHTN | – | ASEAN Harmonized Tariff Nomenclature |
| ASEAN | – | Association of Southeast Asian Nations |
| ATIGA | – | ASEAN Trade in Goods Agreement |
| CBM | – | Central Bank of Myanmar |
| CESR | – | Comprehensive Education Sector Review |
| CGE | – | computable general equilibrium |
| CSO | – | Central Statistical Organization |
| EAP | – | East Asia Pacific |
| EITI | – | Extractive Industries Transparency Initiative |
| FDI | – | foreign direct investment |
| FESR | – | Framework for Economic and Social Reforms |
| FY | – | fiscal year |
| GDP | – | gross domestic product |
| HS | – | harmonized system |
| ICT | – | information and communication technology |
| IMF | – | International Monetary Fund |
| km | – | kilometer |
| kWh | – | kilowatt-hour |
| MNPED | – | Ministry of National Planning and Economic Development |
| MW | – | megawatt |
| OBM | – | own brand category |
| ODM | – | own design manufacturer |
| OECD | – | Organisation for Economic Co-operation and Development |
| PPP | – | public–private partnership |
| PRC | – | People’s Republic of China |
| SAO | – | state administrative organization |
| SDB | – | state-owned development bank |
| SEZ | – | special economic zone |
| SMEs | – | small and medium-sized enterprises |
| TVET | – | technical and vocational education and training |
| UNICEF | – | United Nations Children’s Fund |
| USDA | – | United States Department of Agriculture |
| WHO | – | World Health Organization |
| WTO | – | World Trade Organization |

EXECUTIVE SUMMARY

After a series of bold social and economic reforms since its return to civilian rule in 2011, Myanmar has made a strong start on its journey toward peace, democracy, and prosperity, one that could put its troubled postwar history behind it. To secure its course, however, it will have to navigate a complex set of long- and short-term measures that are potentially fraught with difficulty.

Much has been achieved in the 3 years since the government, led by President U Thein Sein, came to office in the first general election in 20 years. While initial reforms focused on the political system and national unity, major macroeconomic reforms are well under way. The exchange rate has been unified under a managed float and the country now has an independent central bank. Details have also been released on increasing transparency in the national budget. Authorities have begun establishing basic regulatory structures and removing unnecessary hurdles to business and trade, providing legal foundation for foreign investment, improving essential public services, and addressing governance and corruption issues.

In response, the economy has sustained gross domestic product (GDP) growth of more than 7% for 2 years running, a remarkable performance helped by foreign governments lifting long-standing trade sanctions. Foreign investment is flowing in, foreign exchange earnings rising, and tourists returning to enjoy the country's outstanding areas of natural beauty and cultural attractions.

These achievements, with visible improvements in most economic and some social and political indicators, illustrate the government's strong commitment to economic development and the scope for further rapid deployment of innovative policies.

Few will be surprised, nonetheless, to hear of the pitfalls ahead. Modernizing an economy is a huge and complex task. And the government needs to prioritize and sequence reform measures and identify and address constraints to sustained rapid economic growth. Observers widely acknowledge the huge opportunity, yet the country is facing difficult challenges in almost all aspects of economic and social policy.

A successfully integrated development policy framework will need to consider comprehensive development and reform planning and phasing. It is in this context that the Asian Development Bank's (ADB) Economics and Research Department presents this report, *Myanmar: Unlocking the Potential*, which is based on an in-depth country study undertaken in 2013. The report examines the most important and immediate issues that need to be tackled to unlock the potential. These include weak infrastructure, creating modern market and government institutions, human development, stronger regional integration, a clear focus on inclusive growth, and environmental protection.

More than just economic growth

Economic growth is imperative if Myanmar is to alleviate poverty and improve living standards. Once a very rich country that commanded the world's largest rice exports in the early 1940s, Myanmar was in decline for decades, with its per capita income of \$876 in 2012, the lowest in the Association of Southeast Asian Nations (ASEAN). It is one of the poorest countries in Asia, with estimates from the United Nations and others indicating a poverty rate of 25%, higher than Cambodia (21%) and Viet Nam (21%). But growth alone is not sufficient for a successful transformation, and its contribution to poverty reduction depends on specific circumstances and policies.

Myanmar is unique—and uniquely challenged—in a cultural complexity that reflects its geographical position between India to the west, the People’s Republic of China (PRC) to the northeast, and Southeast Asia to the east. Its 61 million people are among the world’s most diverse, with more than 135 different ethnic groups.

The country’s ability to ensure that participation in the growth process and the sharing of its benefits is as broad as possible will be crucial for a successful program of reforms. It can achieve this by making social inclusion, environmentally sustainable growth, and balanced regional development central to that agenda. In particular, this means promoting greater participation in the economy of ethnic minorities through, for one thing, equitable sharing of natural resource revenues.

Ensuring economic stability

Good governance backed by an effective institutional, legal, and regulatory framework will be one of the bulwarks of a successful strategy for growth. Priority here should be given to establishing frameworks for the effective delivery of public services. The capacity of core policy-making institutions also needs to be strengthened to make reforms effective and sustainable.

Maintaining a sound and stable macroeconomic environment is another important precondition for a successful economic transformation. This encompasses the functioning of an independent central bank, sound monetary policies to keep inflation in check, stable financial policies to ensure credit availability, adequate government revenues to finance needed budgetary outlays, and a well-managed exchange rate.

Finally, Myanmar should make concerted effort to establish a favorable environment for a thriving private sector. This will require systemic support measures for improving the regulatory environment, investing in physical and social infrastructure, building human capital with a focus on strengthening the skills of the young, improving labor relations, and deepening the banking sector and financial markets. A well-functioning financial sector is an economy’s lifeblood and vital for strong and inclusive growth. Myanmar’s financial sector remains underdeveloped. Reforms are under way to rectify this, but this momentum needs to strengthen, with the focus on ensuring stability, efficiency, and increasing access to financial services.

Seeking sectoral advantage

The way forward requires a clear idea of sectoral strengths and a multipronged development plan backed by effective development strategies. Tapping key sectors in combination with appropriate policies will help the country unlock its potential. Exactly what will be Myanmar’s growth trajectory is still uncertain, but looking at the experience of its neighbors could be useful in helping determine a suitable growth model. Development in Asia has typically involved a transformation from an agriculture-based economy into an industry and service-based one, underpinned by export-oriented manufacturing.

Myanmar’s structural transformation will almost certainly involve a large-scale transfer of resources from agriculture to manufacturing and services. Nonetheless, clear opportunities exist for targeted investment in agriculture-related infrastructure, institutions, and innovation to enable rapid growth in productivity and value addition in the agriculture sector that will immediately benefit those reliant on the sector for income and food security and also contribute to sustained high and inclusive growth in the long run. After all, agriculture accounts for 30% of GDP and over 50% of employment. With relatively abundant land, water, and labor resources and proximity to the world’s fastest growing markets for food, the country has comparative advantage in this area. Revitalizing the rural economy requires that constraints from “farm to fork” be addressed through a strategy that considers investment needs comprehensively, in terms of both hard infrastructure and conditioning policies and services.

There is also great scope for Myanmar to implement policies that can unleash the full potential of industrialization. An industrial development strategy could be anchored in promoting labor-intensive manufacturing with the aim of integrating into global value chains, promoting trade-oriented small and medium-sized enterprises, leveraging special economic zones, and attracting foreign direct investment (FDI). A solid manufacturing base would help incubate industrial clusters, which in turn attract foreign firms with technological and managerial capabilities. For dynamic industrial development, the country will need to make long-term commitments to skills development and external investment partnerships. In particular, the government needs to coordinate its policies for incentives, investments, trade, and landownership and use to attract FDI into sectors that can spearhead long-term growth.

Tourism could be another game changer in the country's economic transformation. Myanmar has already taken significant steps to responsibly develop this potential, but there is an urgent need to address how the benefits of tourism can be leveraged without overwhelming the country's capacities. The Myanmar Tourism Master Plan 2013–2020 has outlined an extensive development plan, but there are still substantial gaps and weaknesses in the sector and its supporting infrastructure which may limit effective implementation.

Building human capital and infrastructure

Human capital, or the quality of the labor force, lies at the core of sustainable and equitable economic growth, making investments in education and health essential. A review of Myanmar's education sector points to three major constraints: insufficient funding, inequitable access, and poor quality or lack of relevance. Due in part to the low quality of education, much of the workforce remains largely unskilled. To help address the skills gap, the government initiated the Comprehensive Education Sector Review and created the National Skills Standards Authority, but a significant increase in investments in education and vocational training is needed to ensure that the country has a labor force equipped with the skills required in the transition to a more industry and service-oriented economy.

The crucial role of physical infrastructure in facilitating economic growth and development cannot be overemphasized. Effective transportation, reliable power supply, and state-of-the-art information and communication technology services enable businesses to thrive, people to become more productive and innovative, and growth to accelerate. Myanmar's infrastructure subsectors require integrated planning and appropriate investments to follow up those plans. Sector master plans should be better coordinated and prepared, with explicit linking of infrastructure plans to development objectives.

Institutional and human resource capacity in the public sector needs to substantially increase to allow prioritization of key development projects based on high-quality economic assessments across all sectors. Private sector participation should be promoted to mitigate funding constraints and improve the provision of infrastructure and social services.

Social inclusion, regional integration, and environmental sustainability

Poverty is high and there is considerable inequality in access to opportunities and social services across the country's regions. Economic, political, and social inequality among different ethnic groups can also breed ethnic hostility and lead to conflict. A peaceful resolution of conflicting interests across ethnic and social groups during the transition is therefore critical, as is balancing regional development such that all ethnic groups have more economic opportunity and access to public services.

This calls for a development strategy for inclusive growth based on three policy pillars. The first is to sustain high economic growth to create sufficient economic opportunities for vulnerable groups. The second is to make adequate investments in education, health, and basic social services to enhance human capacity, eliminate market and institutional failures, and reduce social exclusion. And the third is to install social safety

nets to enable households to withstand livelihood shocks caused by, for example, natural disasters and economic downturns.

Myanmar's geopolitical position, straddling three major cultural and economic realms, presents a great opportunity to enter regional and global markets, technology, and finance. The FDI–trade nexus will be crucial for the country's economic growth and development, and can be strengthened by promoting export-oriented manufacturing and facilitating integration into regional production networks and global supply chains. To this end, the government should develop special economic zones more strategically to link domestic and regional growth centers, with an emphasis on better connectivity.

Myanmar will continue to depend heavily on its natural resource assets. In 2011, 39% of GDP derived from primary industries, including agriculture, forestry, fisheries, mining, electricity, water, oil, and gas. Exploiting these sustainably requires immediate measures to eliminate the economic incentives that destroy natural habitats and to prevent overextraction of renewable resources. Safeguard procedures and regulations are needed, and monitoring and enforcement capacity for environmental protection should be strengthened. The country is already facing increasing environmental pressure—it has the fastest rate of deforestation in Southeast Asia, and poor regulation on pollution and emissions, to name just a few areas in urgent need of attention.

Strategic pillars and priority actions

Achieving these goals will require a strategic framework that focuses on a set of priorities from the multiple objectives already crowding the policy spectrum, while addressing bottlenecks and challenges. Eight strategic pillars are presented to support the development mission and vision.

1. Accelerating governance and public sector reform
2. Ensuring macroeconomic and financial stability
3. Creating a business-enabling environment
4. Leveraging rich endowments
5. Fostering internationally competitive sectors—manufacturing and services
6. Enhancing regional connectivity and integration
7. Promoting human development and poverty reduction
8. Pursuing environmentally sustainable growth

Realizing this mission and vision requires a great number of concrete actions to be taken in all sectors of the economy. The following are 10 meriting the most immediate attention (the full list of policy recommendations is available in Appendix 3).

Extractive Industries Transparency Initiative—Appoint a senior government official to lead the early adoption of the initiative, and use it to leverage internal governance reform in the extractive sector and, more broadly, exploit opportunities to anchor broader policy reforms, including anticorruption efforts.

Monetary policy—Develop a monetary policy process based on reserve-money targeting and develop the operational capacity to execute the process. Steps toward this goal include regulations and policies to support the development of private interbank, bond, and repo markets; conversion of the Central Bank of Myanmar auction facility into a lender of last resort able to impose penalty interest rates; and the redefinition of the reserve requirement to be consistent with monetary policy.

Financial sector—Develop market institutions and infrastructure for the banking system. This would include (i) finalizing the legal framework, (ii) completing the automated clearance and payments systems, (iii) developing the money market system, (iv) creating a credit information system, and (v) establishing financial accounting standards.

Fiscal management—Unify the annual budget and move further toward hard budget constraints for state economic enterprises, along with their further corporatization, and give consideration to the privatization of other state economic enterprises.

Education—Increase public spending on education, in particular for primary and secondary schools in the short term, to improve access and quality throughout the country; update school curricula; and enhance the quality and relevance of higher-level education programs, including technical and vocational education and training, to meet the needs of industry.

Transport and connectivity—Identify and implement priority projects for each subsector based on their potential to generate the highest economic returns; improve rural-urban and regional connectivity through rehabilitation and repair of lower-level road networks and at the borders; and upgrade rail, port, and air transport to ensure adequate connectivity both within the country and with the region.

Electricity—Adopt a least-cost power expansion plan to increase electricity supply, rehabilitate and upgrade existing coal- and gas-fired generation plants to provide a more reliable electricity supply, and facilitate the transition to the use of more efficient generation technologies such as combined cycle gas power plants.

Agriculture—Restructure agricultural support to increase productivity and value-adding opportunities along the entire supply chain through a supply-chain management approach that views agriculture as an agribusiness system; increase public investments in agrisupport services, including research, extension, marketing, credit, and organization of smallholders; strengthen input markets and promote the proper use of quality seeds, fertilizers, and pesticides through targeted investments and regulation; and extend and rehabilitate irrigation and drainage systems for rice and high-value crops .

Industrial policy—Pursue cluster-based development for small and medium-sized enterprises; minimize transaction costs for businesses; streamline processes, including for start-ups, construction permits, employing workers, registering property, accessing credit, protecting investors, paying taxes, trading across borders, enforcing contracts, and closing a business; and improve the business environment by clarifying land, legal, and contractual issues.

ASEAN Economic Community—Accelerate implementation of the ASEAN Economic Community commitments and obligations to meet the 2015 deadline; remove tariff and nontariff barriers to trade and investment; and implement policies encouraging efficient FDI including removing corruption, facilitating trade, and enhancing the business environment.

CHAPTER 1: COUNTRY HISTORY AND OVERVIEW

Geopolitical advantage and rich endowments underpin strong growth potential

Myanmar's 676,000 square kilometers straddle the Indian subcontinent to the west, the People's Republic of China (PRC) to the northeast, and Southeast Asia to the east. Its 61 million people are among the world's most ethnically diverse, with more than 135 ethnic groups,¹ reflecting the country's long history of migration and intermixing between cultures. Most of these groups migrated from borderlands in the PRC (including Tibet Autonomous Region) and speak languages belonging to the Sino-Tibetan family, while the dominant Buddhist religion and concepts of statecraft and cosmology came from India more than a thousand years ago. Political unification goes back to the 11th century Bagan Dynasty founded by King Anawrahta. Myanmar, previously known as Burma, remained a great power in mainland Southeast Asia until it fell under British rule in 1885.

The Irrawaddy River, flowing from the foothills of the Himalayas, is the foundation of life, culture, and commerce. The river's delta, in the southwest of Myanmar, extends from the town of Myan Aung to the Bay of Bengal and Andaman Sea, 290 kilometers to the south. Its densely populated and fertile lands play a major role in rice cultivation. Rice was the leading export and mainstay of the colonial economy, with a production volume of over 3 million tons in 1940, making the country the world's largest exporter of rice at that time. Teak and

other forest products, petroleum, and other mineral products were also major exports that helped make the country prosperous in those days.

This abundance of natural and agricultural resources and a highly favorable geography underpin Myanmar's strong growth potential. The country is blessed with large offshore deposits of natural gas, plenty of arable land, teak forests, metallic minerals, jade, rubies, and other precious stones. It has proven reserves of 7.8 trillion cubic feet of natural gas and oil reserves of 3.2 billion barrels. Renewable water resources, at about 19,000 cubic meters per capita per year, are among the highest in Southeast Asia, and the current utilization rate is only 5%. The availability of inland water sources and 1,900 kilometers of coastline provide great potential for the production and export of fish and shrimp, industries that have grown rapidly recently. Forests cover about 31.7 million hectares, close to 50% of the total land area. Arable land is plentiful, with only about 16.5% of the total land area under cultivation. Pristine beaches, snowcapped mountains, scenic lakes, and a diversity of flora and fauna, coupled with archeological heritage at sites such as Bagan, offer vast potential for tourism.

Yet despite these riches, Myanmar is one of the poorest countries in Southeast Asia. The economy has largely stagnated since 1997 due to poor macroeconomic management, a large public sector debt, economic sanctions, and a sharp decline in foreign investment. In 2012, gross domestic product (GDP) in current US dollars was estimated at \$56 billion, making per capita income \$876 (\$1,405 in purchasing-power parity terms)—one of the lowest in Asia (International Monetary Fund [IMF] 2014). Table 1.1 shows key economic indicators.

¹ This is the official population figure, but other estimates vary widely. The last census was in 1983 and a new one is scheduled for 2014.

Table 1.1: Key Economic Indicators for Myanmar

| Category | Year ^a | | | | | | |
|---|-------------------|---------|---------|------------------|------------------|-----------------------|-------------------|
| Economic | 1980s | 1990s | 2000s | 2010 | 2011 | 2012 | 2013 ^c |
| GDP (\$ billion, current) | 5.6 | 6.8 | 16.1 | 49.6 | 56.2 | 55.8 ^b | 56.4 |
| GDP per capita (\$, current) | 149.6 | 150.1 | 291.0 | 742 | 900 | 876 ^b | 869 |
| GDP growth (% in constant prices) | 1.8 | 5.5 | 4.7 | 5.3 | 5.9 | 7.3 | 7.5 |
| Agriculture, livestock, fishery, and forestry | 2.0 | 4.9 | 9.1 | 4.4 ^b | 4.4 ^c | 4.5 ^c | ... |
| Industry | (2.0) | 9.2 | 18.7 | 6.3 ^b | 6.5 ^c | 7.5 ^c | ... |
| Services | 1.4 | 6.2 | 11.9 | 6.1 ^b | 6.3 ^c | 7.1 ^c | ... |
| Unemployment rate (%) | ... | 4.1 | 4.0 | 4.0 | 4.0 | 4.0 | ... |
| Gross domestic investment (% of GDP) | ... | 13.0 | 13.4 | 23.2 | 29.1 | 30.3 | ... |
| Gross domestic saving (% of GDP) | ... | 12.3 | 13.4 | ... | ... | ... | ... |
| Consumer price index (annual % change) | 9.7 | 26.5 | 19.5 | 8.2 | 2.8 | 2.8 ^b | 5.8 |
| Broad money (annual % change) | 13.7 | 33.8 | 28.3 | 36.3 | 26.3 | 46.6 | 37.4 |
| Domestic credit (annual % change) | 12.4 | 28.5 | 29.0 | 34.4 | 25.1 | 5.1 | 33.5 |
| Domestic credit (% of GDP) | 57.7 | 34.3 | 24.5 | 18.0 | 18.1 | 18.1 | 18.8 |
| Government revenues (% of GDP) | 8.5 | 7.4 | 9.0 | 11.4 | 12.0 | 23.3 ^b | 22.3 |
| Government expenditures (% of GDP) | 11.0 | 9.2 | 14.9 | 16.9 | 16.6 | 27.2 ^b | 27.2 |
| Overall fiscal surplus (deficit) (% of GDP) | (2.4) | (1.8) | (2.9) | (5.4) | (4.6) | (3.8) ^b | (4.9) |
| Exports (\$ million) ^d | ... | 1,038 | 4,133 | 8,829 | 10,228 | 10,345 ^b | 11,947 |
| Exports (% of GDP) | 5.5 | 1.0 | 7.7 | 17.8 | 18.2 | 18.6 ^b | 21.2 |
| Imports (\$ million) ^d | ... | (2,069) | (3,418) | (8,184) | (10,437) | (12,464) ^b | (13,992) |
| Imports (% of GDP) | (9.3) | (1.9) | (7.0) | (16.5) | (18.6) | (22.4) ^b | (24.8) |
| Merchandise trade balance (% of GDP) | (3.8) | (0.9) | 0.7 | 1.3 | (0.4) | (3.8) ^b | (3.6) |
| Current account balance ^d (% of GDP) | (0.9) | (0.7) | (1.3) | (1.5) | (2.1) | (4.4) ^b | (4.8) |
| External debt service (% of exports of goods and services) | 48.6 | 12.9 | 2.6 | 7.6 | 10.7 | 2.2 ^b | 4.2 |
| External debt (% of GDP) | 55.5 | 83.1 | 55.5 | 29.0 | 27.3 | 24.2 ^b | 19.0 |
| Foreign exchange reserves ^d (\$ millions) | 118 | 320 | 1,381 | 3,951 | 4,026 | 4,591 ^b | 4,913 |
| (months of imports) | ... | ... | 4.8 | 4.1 | 3.5 | 3.6 ^b | 3.3 |
| Official exchange rate (kyat/\$) ^e | 7.3 | 6.1 | 6.0 | 5.6 | 5.6 | 851.7 ^b | ... |
| Parallel effective exchange rate (kyat/\$) ^e | ... | ... | 1,035 | 861 | 822 | 878 ^b | ... |

continued on next page

Table 1.1 (continued)

| Category | Year ^a | |
|--|-------------------|----------------|
| Poverty and Social | 2000 | 2012 |
| Population (million) | 50.1 | 61.0 |
| Population growth (annual % change) | 2.0 | 1.0 |
| Maternal mortality ratio (per 100,000 live births) | 300.0 | 200.0 [2010] |
| Infant mortality rate (below 1 year/per 1,000 live births) | 58.5 | 41.1 |
| Life expectancy at birth (years) | 62.0 | 64.8 [2011] |
| Adult literacy (%) | 89.9 | 92.7 [2011] |
| Primary school gross enrollment (%) | 98.2 | 114.2 [2010] |
| Child malnutrition (% below 5 years old) | 30.0 | 32.0 [2010] |
| Population below poverty line (%) | 32.1 [2005] | 25.6 [2010] |
| Population with access to safe water (%) | 66.9 | 84.1 [2011] |
| Population with access to sanitation (%) | 62.0 | 77.3 [2011] |
| Environment | 2000 | 2012 |
| Carbon dioxide emissions (thousand tons) | 4,276.0 [1990] | 8,995.0 [2010] |
| Carbon dioxide emissions per capita (tons) | 0.1 [1990] | 0.2 [2010] |
| Forest area (million hectares) | 34.9 | 31.7 [2010] |
| Urban population (% of total population) | 27.2 | 33.2 |

... = not available, () = negative, [] = latest year for which data are available, GDP = gross domestic product.

^a Fiscal year (ends 31 March), ^b Estimates, ^c Projected, ^d Central Bank of Myanmar provided the following data \$ million, in calendar year:

| | 2010 | 2011 | 2012 |
|---------------------------|-----------|-----------|-----------|
| Current account | 1,963.2 | (1,600.7) | (1,210.7) |
| Balance on goods | 3,553.0 | 236.2 | 793.0 |
| Exports | 7,846.6 | 8,262.9 | 8,934.9 |
| Imports | (4,293.6) | (8,026.7) | (8,141.9) |
| Foreign exchange reserves | 6,047.2 | 7,366.8 | 7,354.0 |

^e Authorities adopted a managed float on 2 April 2012.

Sources: Asian Development Bank (ADB) (2012a, 2013a); ADB Statistical Database System (SDBS) (accessed June 2014); Central Bank of Myanmar; Economy Watch; Food and Agriculture Organization of the United Nations (2010a); IMF (2012, 2013, 2014); Ministry of National Planning and Economic Development (MNPED), Swedish International Development Cooperation Agency (Sida), United Nations Development Programme (UNDP), and United Nations Children's Fund (2011), UNData (accessed June 2014); World Bank (2013a).

Agriculture dominates Myanmar's economic structure, as expected from the country's very low per capita income, accounting for 31% of GDP, but over 50% of employment. This indicates that productivity in the sector is significantly lower than the average for the economy as a whole. This also helps explain low urbanization, with only 33% of the population living in urban areas in 2012. Industry, which includes mining and the lucrative natural gas and energy sector, accounts for about 32% of GDP, and services 38%. In comparison with the other countries of the Association of Southeast Asian Nations (ASEAN), the agricultural share of GDP is 12% on average, while the share of services in GDP is 47% and that of industry as high as 41%.

A new chapter in history begins

Myanmar, a once wealthy country in Southeast Asia, succumbed to the demands of World War II, political instability after independence in 1948, and military rule from 1962 to 1988 that pursued the “Burmese Way to Socialism”—an isolationist ideology—all of which undermined the freedom, security, and economic well-being of its people. The Burmese Way to Socialism was abandoned after a pro-democracy uprising in 1988, although the military retained power. The regime began dismantling

some of the earlier policies and introduced a more market-oriented approach during the first half of the 1990s, but it retained ownership of state enterprises and even created more of them. The regime made no sustained effort at reform, and economic recovery was slow. International trade and economic sanctions compounded these problems. Only after the regime adopted a new constitution and held elections in 2010 did the country begin genuine political and economic transition.

The government's strategic direction is clear in the Framework for Economic and Social Reforms (FESR), which identifies a number of concrete short-term results, while laying the foundation for sustainable and equitable long-term development. Published in January 2013, the framework also lays out reform priorities for long-term goals, and action has already been taken on many of them (Box 1.1).

Despite the short span of 2012–2015, the FESR aims to cover multiple areas including fiscal and tax reforms, monetary and finance sector reforms, trade and investment liberalization, private sector and small and medium-sized enterprise development, health and education, food security and agriculture development, governance and transparency, infrastructure development including telecommunications, and improvement

Box 1.1: Myanmar's Planning System and Reform Framework

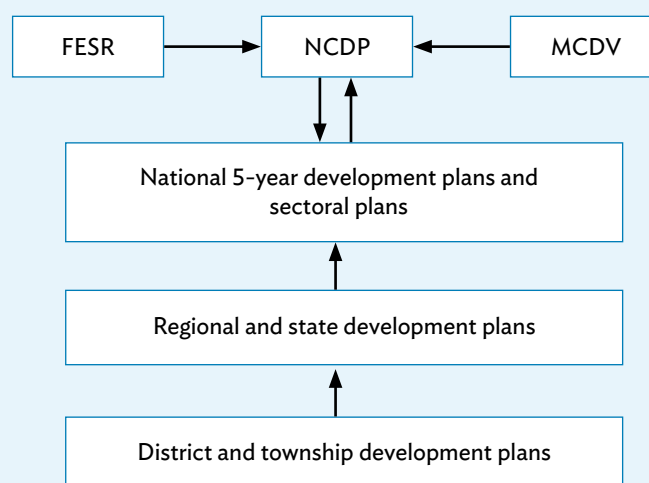
The Framework for Economic and Social Reforms (FESR) was developed to set the policy priorities of the government in 2012–2015 for achieving the long-term goals of the 20-year National Comprehensive Development Plan (National Comprehensive Development Plan) 2011–2031, which consists of four 5-year plans, beginning 2011–2015. An important input was the Myanmar Comprehensive Development Vision, which the Economic Research Institute for the Association of Southeast Asian Nations (ASEAN) and East Asia undertook with financial support from the Japan-ASEAN Integration Fund. The vision sets out a development strategy of “two-polar growth with border development and better connectivity.”

The government is preparing the National Comprehensive Development Plan using both top-down and bottom-up approaches. Broad goals are being set at the top, while detailed plans are being compiled from the inputs from every township, government ministry, and agency. To move the plan forward, the government established a Planning Commission in 2012 chaired by the Minister of National Planning and Economic Development, tasked with coordinating and implementing the national development plan. The ministry has, in turn, formed regional and state planning and implementation committees, as well as district- and township-level planning and implementation committees, chaired by the respective administrative offices (Figure B1.1.1).

continued on next page

Box 1.1 (continued)

Figure B1.1.1: Myanmar's Planning Process



The FESR bridges existing government plans and the long-term National Comprehensive Development Plan and serves as a reference for the various government agencies for developing more detailed sectoral and regional plans. The framework proposes potential quick wins in 10 areas: fiscal and tax structure, monetary and financial systems, trade and investment, private sector development, health and education, food security and agricultural growth, governance and transparency, mobile phones and the internet, infrastructure, and effective and efficient government. The government has already implemented and seen results in some of these areas.

The FESR identifies four policy priorities: (i) sustained industrial development while maintaining the momentum of agricultural reforms and attaining poverty alleviation and rural development; (ii) equitable sharing of resources, both budgetary and foreign aid, among regions and states while promoting foreign and local investment for regional development; (iii) people-centered development through community-driven and participatory approaches to improvements in education, health, and living standards; and (iv) reliable and timely gathering of statistics and other information to better inform public policy decisions.

The reform framework aims for full economic integration with ASEAN, in accordance with its ASEAN Economic Community 2015 schedules, to realize the Millennium Development Goals and other human development objectives by 2015, and to allow Myanmar to move beyond least-developed-country status and become a knowledge-based economy.

Under the FESR, the government has also set goals for (i) average annual gross domestic product (GDP) growth of 7.7%; (ii) growth of the industrial share of GDP from 26% to 32%, together with an increase in the services sector to reduce the current high share of agriculture; and (iii) growth in per capita GDP of 30%–40% from the base year of 2010 to help reduce poverty incidence by half over 2000–2015.

FESR = Framework for Economic and Social Reforms, MCDV = Myanmar Comprehensive Development Vision, NCDP = National Comprehensive Development Plan.

Sources: Ministry of National Planning and Economic Development (2013), Economic Research Institute for ASEAN and East Asia (2013).

in the effectiveness and efficiency of government. The government has demonstrated a strong commitment to economic development through the rapid deployment of innovative policies, although much detailed policy work remains to be done.

Reforms aim at short- and long-term potential

The government has introduced an impressive array of reforms since 2011 (Appendix 1 details recent reforms in various areas). The broad reform

objectives include accelerating economic growth and achieving equitable and balanced development by reducing the socioeconomic development gap among remote border areas, rural, and urban areas. Greater integration with the international community through strategic engagements with neighboring economies including with ASEAN, through the ASEAN Economic Community, and the Greater Mekong Subregion, is also on the agenda.

The government has implemented broad-based policy reforms to strengthen macroeconomic stability and address impediments to a market-based economy. One of the most significant has been the unification of exchange rates. In April 2012, the government abolished the country's multiple exchange rates, and replaced the highly overvalued official exchange rate with a managed-float rate set by daily auctions of foreign exchange between commercial banks and the Central Bank of Myanmar. The government approved the Foreign Exchange Management Law in August 2012 to lift all restrictions on transactions in the current account.

The government is also addressing the other major macroeconomic problem under the previous administration—the monetization of large budget deficits. The new Central Bank Law passed in July 2013 granted operational autonomy to the Central Bank of Myanmar, making it independent of the Ministry of Finance, and the central bank is starting to build capacity for independent monetary policy.

From the second half of 2011, in anticipation of exchange rate unification, the government initiated a broad financial reform program, allowing private banks to open foreign exchange counters. It also more frequently adjusted the administratively set interest rate on deposits and loans. Reforms in the finance sector accelerated in 2013. New rules made the opening of new bank branches easier, broadened the definition of collateral for lending to include agricultural export goods, gradually liberalized deposit interest rates, extended loan durations, and introduced mobile banking. With the end of economic sanctions, banks could access SWIFT for international bank transfers and domestic banks

could establish relations with correspondent banks abroad. A formal foreign exchange market also started to operate. Credit card use is expanding. An ATM network is fast developing and an interbank payments network is in place. A new Electronic Transactions Law was enacted in February 2014, which eases restrictions on the use of internet and electronic transactions technology.

On the fiscal side, new mechanisms have been put in place to create more responsible budgeting, and approaches to broaden and deepen the government revenue base have begun. Following the unification of the exchange rate in 2012, a determined fiscal reform program to broaden the tax base and improve tax administration has led to a substantial improvement in government revenues, currently at over 20% of GDP. State economic enterprises have been made more responsible for their budget constraints, while exchange rate reform has given a more realistic value to revenues from resource extraction, especially for natural gas. Continued tax reforms and the projected increases in gas production and revenue should allow a healthy level of government income over the next several years. These changes were crucial in enabling the government to raise expenditure for badly needed infrastructure and social development. In the budget for fiscal year² (FY) 2013, health spending was raised to 1.1% of GDP (from 0.2% in 2011), while that for education amounted to 1.7% (compared with 0.8% in 2011). Government expenditure is projected to rise to over 25% of GDP in 2012 from about 16.6% in 2011, while the deficit in 2012 was about 4.6% of GDP, falling from a peak of 5.4% in 2010. On the expenditure side, the government has embarked on a program to improve public financial management, which includes a public expenditure review. In 2013, 3 years into the reform process, developments in the fiscal area appear positive. But given huge pent-up investment demand after several decades of underspending, much remains to be done. This will require continued improvements in revenue collection and the reform of state

² Myanmar's fiscal year ends 31 March. However, some government data use the calendar year. Where a fiscal year is not identified in this report, a calendar year should be presumed.

economic enterprises, while also managing fiscal decentralization.

The government has implemented various sectoral reforms and more are under way. It has established new basic regulatory structures for insurance and microfinance, and plans to ease restrictions on foreign banks entering into joint ventures with local banks and on opening branch offices. It has replaced antiquated laws on labor relations and designed policies to speed up the acquisition of skills. New special economic zones have been established and the new Foreign Investment Law enacted in November 2012 provides some clarity and security to foreign companies wishing to invest in the country. The government has not neglected the agriculture sector. New laws have clarified land rights, aided in land registration, and created the beginnings of a market for agricultural land. Significant reforms are also under way in governance and the trend of political liberalization may help develop policies that boost and broaden growth. Different forms of freedom of expression have expanded and initial anticorruption measures have been adopted.

The economy has responded

Reforms so far and reengagement with the international community have stimulated growth, and most economic and some social indicators have generally improved. In 2013, the economy grew an estimated 7.5% from 5.3% in 2010, led by increased gas production and exports, services, construction, and foreign direct investment (FDI). Short- and medium-term IMF projections suggest a progressive acceleration of growth above 7%, provided the momentum of reforms is maintained (IMF 2014).

Monetary aggregates and private sector credit have expanded. Credit to the private sector grew 60.1% in FY2011 and 50.5% in FY2012.³ It has slowed a bit since then, but private sector credit growth is estimated to remain rapid at around 30%. But faster growth and an influx of foreign investment fuels inflation.

³ The data were provided by the Central Bank of Myanmar in April 2014.

With the financial market still underdeveloped, large capital flows and increased private sector investment are putting strong upward pressure on prices of non-tradable goods, mainly land. Inflation has picked up, reaching almost 6% in 2013, up from 2.8% in 2012. Despite the reasonable size of the fiscal deficit, inflation is being kindled by rising prices for fuel, rent, and food. Asset prices in urban centers have also contributed to this trend. Inflation is expected to remain elevated in 2014 and 2015.

The most important driver for growth in the past decade was offshore natural gas production for export coming on stream. Natural gas has become by far the most important export and has attracted large volumes of FDI. Myanmar's balance of payments has improved significantly as a result, enabling the country to start accumulating foreign exchange reserves, while royalties and taxes led to a rise in government revenues. The mining sector is also expanding fast, with jade becoming another major export.

Despite fast-growing exports, however, import liberalization has resulted in growing current account deficits, which are financed by official inflows and FDI. These and other risks to the economy are real. Growth remains narrowly based and driven by exports of natural resources (mostly gas and mining products), construction, and tourism. An appreciation of the real effective exchange rate could therefore reduce export competitiveness and falling commodity prices precipitate a deterioration of the current account.

Weak infrastructure and poor education and health undermine growth potential

Investment, a major driver of growth, was well below 20% of GDP for a long period before 2009. The investment ratio picked up modestly after reforms started, growing from an estimated 23% in 2010 to about 30% in 2012. This compares with about 17% in Cambodia, 34% in Indonesia, 24% in Malaysia, and 31% in Viet Nam in the same period. Myanmar's prolonged underinvestment over several decades has led to deterioration of its capital stock and

basic infrastructure. Poor transport infrastructure in all areas, as well as the lack of modern telecommunications infrastructure and significant power shortages are impeding growth prospects as a result.

Low public expenditure on health and education in the past also pose a serious challenge to building strong foundations for growth. Public expenditure in these two areas has been less than 1% of GDP—one of the lowest rates in the world, according to data from the mid-1990s through 2011. While literacy is high at over 90%, the average schooling for adults aged 25 and over is only 4 years, below Cambodia and the Lao People's Democratic Republic. Myanmar ranks 149th out of 185 countries in the 2012 Human Development Index, also below Cambodia and the Lao People's Democratic Republic.

The need for public investment in infrastructure and in human capital and social development is huge, especially in power and transport infrastructure, and in education and health. Indeed, the scale and scope of the needed investments are considerable challenges to fiscal management.

Foreign trade expands, but imports compromise current account

Expanding foreign trade is perhaps the most encouraging recent economic development. Until 2000, the composition of exports evolved little, with traditional primary commodities typically accounting for about 70% of the total. The rapid emergence of offshore natural gas exports has since come to dominate trade, rising from \$171 million in 2000 to nearly \$3.6 billion in 2012, to constitute almost 40% of exports totaling \$7.5 billion. Myanmar also produces 90% of the world's rubies and 70% of jadeite (a variety of jade). Revenue from gem exports rose from about \$200 million in 2005 to \$650 million in 2008, while revenue from annual sales of jade rose from \$436 million in 2008 to almost \$1.8 billion in 2010. Exports of pulses and beans to India remain important and, as sanctions are lifted, garment exports are likely to rise rapidly.

As most imports have been liberalized, Myanmar's current account has deteriorated from a deficit of about 1.5% of GDP in 2010 to an estimated 4.4% in 2012. The external current account deficit is expected to widen further to about 5% of GDP in 2013 and 2014. The deficit is largely financed by FDI, representing about 5.0% of GDP in 2012 (IMF 2014). Despite the negative trade balance of recent years, foreign exchange reserves have grown steadily and were estimated at \$4.9 billion in 2013. As the current account deficit has widened, the pace of international reserve accumulation during 2013 has slowed. However, overall reserves remain above 3 months of imports, and reserves should continue to accumulate in 2014 as FDI and other inflows outweigh the current account deficit.

Vision 2030: Growth Targets and Scenarios

Growth is essential for poverty reduction

Rapid economic growth is imperative for alleviating poverty and improving living standards. As noted, with per capita income of about \$876, Myanmar is one of the poorest countries in Asia, along with Cambodia, Bangladesh, and Nepal. The latest Integrated Household Living Conditions Survey indicates that one in every four Myanmar citizens is considered poor (Ministry of National Planning and Economic Development [MNPED], Swedish International Development Cooperation Agency, the United Nations Children's Fund, and the United Nations Development Programme 2011), higher than poverty rates in Cambodia (21%), Viet Nam (21%), and the PRC (10%). The survey shows that 84% of poverty is in rural areas and disparities are pronounced across states.

Economic growth globally has been the most effective remedy for poverty and the evidence generally supports this effect (Ahluwalia, Carter, and Chenery 1979; Fields 1980; Deininger and Squire 1998; Ravallion 1994; Roemer and Gugerty 1997; and

Dollar, Kleineberg and Kraay 2013). Cross-country analysis also suggests that countries without significant growth have been unable to achieve significant poverty reduction. But the extent to which growth contributes to poverty reduction depends on a country's specific circumstances and policies. Growth alone is often found insufficient for effective poverty reduction.

That said, Myanmar's growth is uncertain and will depend on the speed of technical progress, changes in country-specific structural conditions, and, more importantly, on the implementation of economic reforms and policies. Several recent studies have proposed various potential growth paths. The Asian Development Bank (ADB 2012a) suggests that Myanmar could grow 7%–8% every year and achieve real per capita GDP ranging from \$2,000 to \$3,000 by 2030 (ADB 2012a). The McKinsey Global Institute (2013) argues that the country has the potential to achieve growth of 8% a year by tapping key sectors, particularly agriculture, energy and mining, financial services, infrastructure, manufacturing, telecommunications, and tourism. This would push GDP up to over \$200 billion, with per capita GDP at \$5,100 in purchasing power parity by 2030. Table 1.2 presents three growth scenarios (low, medium, and high).

Per capita GDP could reach \$3,500 by 2030 if growth is maintained at 7%–8%

A medium-growth scenario is based on the average growth of developing Asia in recent decades. The economies of Asia and the Pacific grew an average of 7.6% a year from 1990 to 2010. If Myanmar grows

at 7%–8%, its GDP per capita income would rise to \$2,992–\$3,603 by 2030, similar to the current income levels of Armenia, Georgia, Indonesia, and Mongolia. On the other hand, a low-growth scenario—a simple projection created by extending the current GDP growth rate of 5%–6% into 2030—would bring Myanmar's per capita income from about \$900 to \$2,051–\$2,479. With more modest growth, per capita income in 2030 would put the country at the lower middle-income level, in the same rank as India, the Philippines, and Viet Nam today. In a high-growth scenario, Myanmar could catch up to the PRC and Thailand, at the upper middle-income level today.

These income scenarios are simply based on projecting constant growth rates. While they offer a rough guide for discussing feasible growth, they do not pretend to provide a framework for analysis, and they provide no basis for examining the link between policy action and growth. A more systemic framework is required for a better understanding of growth potential and its link to the success of strategies in different sectors.

This section presents a new dynamic economic forecasting model to evaluate long-term growth prospects. An advanced policy simulation tool has been developed to model demand, supply, and resource allocation across Myanmar's economy, estimating economic outcomes annually over 2014–2030. The simulations are based on a single country computable general equilibrium (CGE) model, which uses a system of equations and detailed economic data that simulate price-directed interactions between firms and households in commodity and factor markets growth (Appendix 2 describes the CGE model).

Table 1.2: Growth Scenarios for Myanmar

| Growth Scenario | Projected Gross Domestic Product per Capita by 2030 (\$) | Changes in Per Capita Income from the 2010 Level |
|------------------------|--|--|
| Current growth (5%–6%) | 2,051–2,479 | more than 2 times |
| Medium growth (7%–8%) | 2,992–3,603 | more than 4 times |
| High growth (9%–10%) | 4,333–5,201 | almost 6 times |

Sources: For 2010 GDP: International Monetary Fund (IMF) (2012). For population projection: United Nations (2013).

It also includes the role of government, capital markets, and trading partners, with varying degrees of detail, to close the model and account for economy-wide resource allocation, production, and income determination. In CGE models, equations are solved for prices that correspond to market equilibrium of supply and demand. If such a system is precisely specified, equilibrium always exists and a consistent model can be calibrated to base period data. The resulting model is then used to simulate the economy-wide impacts under different policy and external event scenarios.

Nevertheless, no single economic model can capture all complexity and reality. As such, the scenarios discussed below should not be regarded as forecasts, but instead as structured, empirically-based, internally consistent evaluations of the potential growth contributions of different factors. In essence, the scenarios allow the quantification of the potential importance of different factors and as such may assist in setting priority for different policies and development goals.

Table 1.3 summarizes the model scenarios. None is viewed as more or less likely; rather by holding other factors constant, they allow evaluation of the potential contributions to growth of different factors. The initial scenario is a pre-reform baseline, assuming the continuation of pre-reform growth rates based on the average of historical growth rates over the decade prior to 2010 at 4.8% per year. Actual growth rates for 2010–2012 have also been accounted for in the model specification. Subsequent scenarios add various policy changes, or results of policy changes, in sequence to evaluate their incremental benefits.

Figure 1.1 illustrates potential growth trajectories deviating from the baseline by scenario. For example, if Myanmar simply maintains pre-reform growth rates of 4.8% until 2030 (the baseline scenario), real GDP will increase from 100 in 2010 to 252.8 in 2030. In scenario 2—which features rice yield growth of

2% annually, closing half the gap with the highest yield in Asia by 2030—real GDP will increase to 265.2 by 2030 instead, 4.9% higher than the baseline level. As additional changes (scenarios 3–15) are introduced, real GDP predicted by the model increases, reaching a maximum of 609.3 by 2030 in Scenario 15, which is 141.0% higher than the baseline.

Figure 1.2 presents the estimated average annual GDP growth rates for each scenario during 2010–2030. In the baseline scenario, the rate is 4.8%. As subsequent scenarios assume implementation of various policy initiatives, the country's potential GDP growth rates would increase. Full realization of the economy's potential could take annual average GDP growth from its pre-2011 baseline of 4.8% to as much as 9.5% by 2030.

The scenario results demonstrate the long-term benefits of expanding and deepening the reform process. Several important policy insights emerge from the analysis. First, although important for food security, expanding capacity in the rice sector should not be overrated for its aggregate growth benefits. Unless supported further by diversification and value-added growth efforts (as reflected in the “AgProd” and “AgVA” scenarios, in which there is yield growth for other crops and livestock and increasing total factor productivity in all of agriculture, respectively), the very low income elasticity of the rice sector will contribute little to demand-driven economic expansion. An agricultural strategy based on rice productivity alone is estimated to have a limited impact on growth (that is, 0.2 percentage points higher than the baseline scenario). Comprehensive agricultural reform to diversify the products and effectively link the supply and value chain to the global market will be essential to the sector's contribution to aggregate growth. Incremental growth contributions from industrial sector total factor productivity growth (scenarios 5–9) are also more modest than might have been expected.

Table 1.3: Scenario Summary

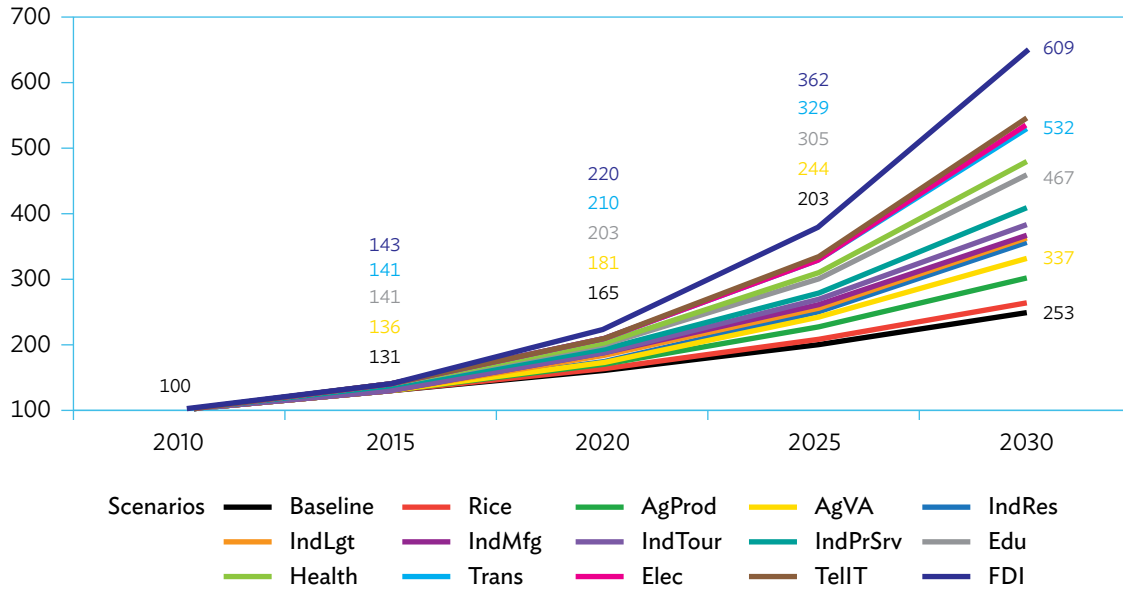
| Core Growth | | |
|---|---|---|
| Agriculture | | |
| 1 | Baseline | Pre-reform growth rates* |
| 2 | Rice yields (Rice scenario) | Rice yield growth of 2% annually, closing half the gap with the highest yield in Asia by 2030 |
| 3 | Diversification (AgProd scenario) | In addition to scenario 2, other agricultural productivity grows by 3% annually, including other crops and livestock |
| 4 | Value-added growth (AgVA scenario) | Assumes TFP growth is 50% higher than scenario 3 |
| Industry | | |
| In each of the following three scenarios, TFP growth for sector groups is comparable to other lower-income Greater Mekong Subregion economies | | |
| 5 | Resource based (IndRes scenario) | Forest products; fishery and aquaculture; oil, gas, and coal extraction; other mineral mining; paper products and publishing; refined petroleum products |
| 6 | Light industries (IndLgt scenario) | Processed food; beverages and tobacco; textiles; apparel and footwear; wood products |
| 7 | Manufacturing (IndMfg scenario) | Chemical products; nonmetal minerals; metal products; machinery; transport equipment; electronics |
| Services | | |
| 8 | Tourism (IndTour scenario) | Hotel, restaurant, and tourist services |
| 9 | Private services (IndPrSrv scenario) | Wholesale and retail trade; finance, insurance, and real estate; other private services |
| Support for Growth | | |
| Human Development | | |
| | Labor productivity | Assumes that Myanmar sustains growth rates of labor productivity, with rates for all countries converging to the regional average by 2030 |
| 10 | Education (Edu scenario) | Improved education induced labor productivity to grow 30% faster across skill levels by 2030 |
| 11 | Health | Improved health status accelerated average labor productivity growth by about 20% by 2030 |
| Infrastructure | | |
| 12 | Transportation (Trans scenario) | In addition to scenario 4, assumes that investments and institutional changes effect a 50% reduction in trade, transport, and transit margins based on the estimates for lower-income Asian economies |
| 13 | Energy (Elec scenario) | Real electricity costs decline 50% by 2030 |
| 14 | Telecommunications/ information technology (TellT scenario) | TFP growth in telecom/IT as scenarios 5-9 |
| 15 | FDI scenario | Assumes that Myanmar's stock of FDI reaches 6% of GDP by 2020 and maintains the same level up to 2030 |

AgProd = agricultural diversification, AgVa = value-added growth, Edu = education, Elec = energy, FDI = foreign direct investment, IndLgt = light industries, IndMfg = manufacturing, IndPrSrv = private services, IndRes = resource-based, IndTour = tourism, IT = information technology, TellT = telecom/IT, TFP = total factor productivity, Trans = transportation.

Note: * Pre-reform growth rates represent historical rates over the decade prior to 2010, averaging 4.8% per year, with the adjustment to incorporate more recent increases (5.3%, 6%, and 6.2% over 2010–2012)

Source: Roland-Holst and Park (2014).

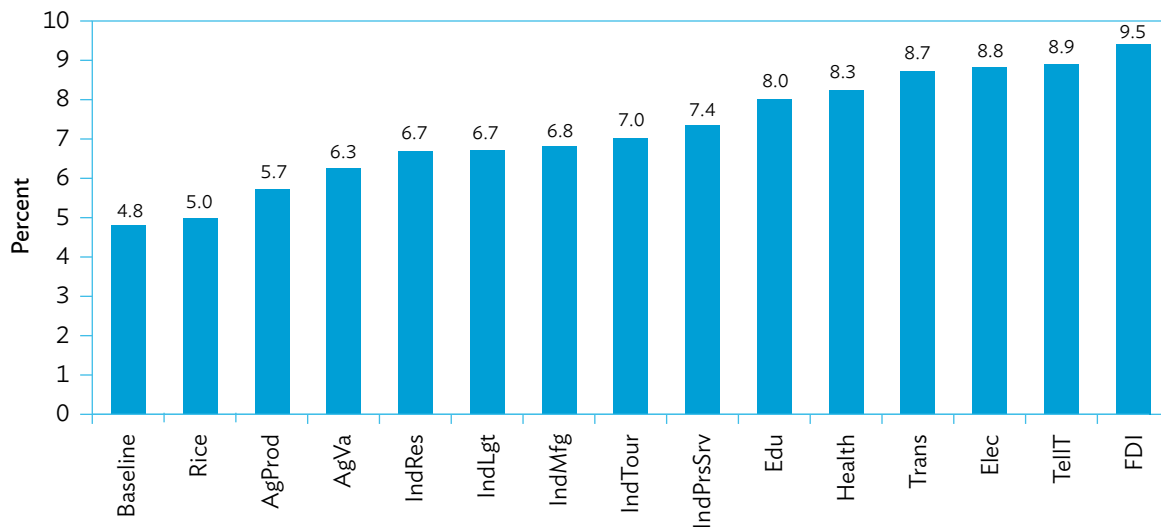
Figure 1.1: Growth Trajectory of Real Gross Domestic Product to 2030 by Scenario (indexed to 2010 = 100)



AgProd = agricultural diversification, AgVa = value-added growth, Edu = education, Elec = energy, FDI = foreign direct investment, IndLgt = light industries, IndMfg = manufacturing, IndPrSrv = private services, IndRes = resource-based, IndTour = tourism, TellT = telecom/information technology, Trans = transportation.

Source: Roland-Holst and Park (2014).

Figure 1.2: Average Annual Gross Domestic Product Growth Rates for Each Scenario, 2010–2030



AgProd = agricultural diversification, AgVa = value-added growth, Edu = education, Elec = energy, FDI = foreign direct investment, IndLgt = light industries, IndMfg = manufacturing, IndPrSrv = private services, IndRes = resource-based, IndTour = tourism, TellT = telecom/information technology, Trans = transportation.

Source: Roland Holst and Park (2014).

Unlocking growth potential depends on human capital, infrastructure, and FDI gains

The limits to the contribution of the industrial sector arise from the present condition of its two essential industrial growth drivers: labor productivity and domestic savings. While human potential is vast in Myanmar, education and skill levels remain low by regional standards. Domestic savings are also low, with most savings tied up in property assets. However, as labor productivity rises with education, and savings constraints relax with increased FDI, the industrial sector could develop rapidly, with new competitiveness allowing it to contribute more substantially to overall growth.

Labor is an essential input in nearly all sectors of the economy, and the results of the “Edu” scenario, in which increasing levels of education are assumed to contribute a 30% increase in labor productivity by 2030, reinforce the essential lesson that public and private investments in human capital can lead to large benefits for the overall economy. The incremental contribution to GDP from such education-driven productivity increases is estimated to be more than 20% by 2030.

Infrastructure is essential to growth, particularly transport infrastructure in the current development plans that draw on rapid integration into regional and global trade and value chains. Indeed, expanding road, rail, and other transport networks can provide economic benefits that are startling in their magnitude and distribution. The estimated contribution to growth of improved transport infrastructure is similar in scale to that of education. Because transport infrastructure lowers the costs of market access for most actual and would-be participants, transport assets can expand the horizon of profitability for investment wherever they go. The “Trans” scenario thus captures both the intent and the potential impacts of transportation reform and commitment to the development of transport networks.

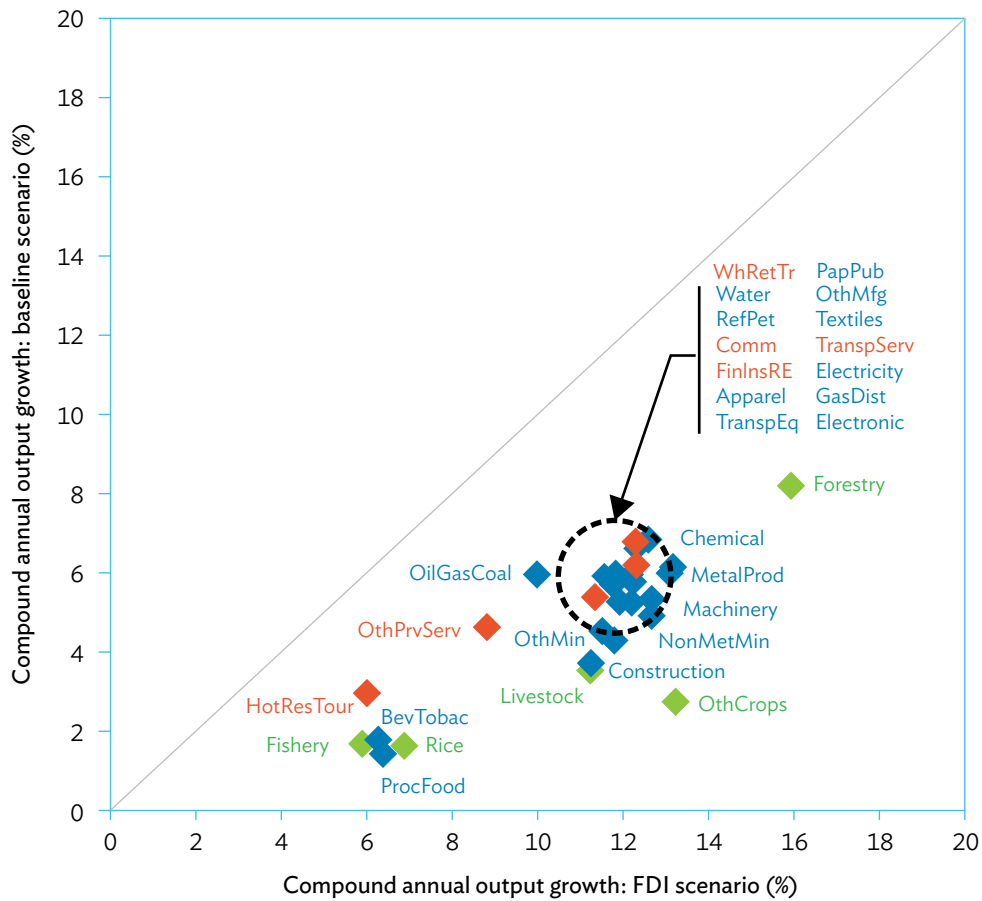
The “FDI” scenario shows a possible route by which Myanmar can complete the Asian dynamic growth

model. In this scenario, the stock of FDI is taken to reach 6% of GDP by 2020 and maintained at that level through 2030. The incremental contribution to 2030 GDP of such a successful FDI strategy is estimated to exceed 20%—an enormous cumulative impact that is greater than the incremental contribution of any other single factor analyzed. As a country with relatively low domestic savings, it would take Myanmar a long time for self-financed public and private investment to meet the levels achieved elsewhere using more open multilateral financial strategies. For lower-income economies, FDI and the partnerships that accompany it can confer a “holy trinity” of benefits—external savings for domestic investment, technology transfer, and export-market access. When FDI is properly used, these benefits could alter the entire growth dynamic as seen in other economies in the region. The scenario results suggest the same opportunity awaits Myanmar.

Figure 1.3 illustrates the growth dynamics for all 32 sectors of the Myanmar CGE model. Baseline average annual growth rates of value addition by each sector are represented on the vertical axis, while the horizontal axis shows corresponding growth rates under the more dynamic growth considered in the FDI scenario. These results suggest that different sectoral activities will respond differently to the policies considered. All sectors grow more quickly under the FDI scenario, but some more so than others. It should be noted that most industrial sectors (for example, garment and other manufacturing, machinery, transport, and electricity) cluster in a relatively high growth group. When open financial markets prevail, allocation of investment funds will be such as to equalize returns, and thereby access to growth prospects, across sectors.

The results of this analysis highlight the economic opportunities and policy challenges that Myanmar is likely to face in trying to achieve sustainable growth. They can also assist in the prioritization and targeting of policies that can facilitate the country’s growth and the transition to a more diverse market economy that delivers higher living standards.

Figure 1.3: Sectoral Growth Dynamics under Two Scenarios



BevTobac = beverages and tobacco; Comm = communication and information technology services; FDI = foreign direct investment; FinInsRE = finance, insurance, and real estate; GasDist = distributed natural gas; HotResTour = hotel, restaurant, and tourist services; MetalProd = metal products; NonMetMin = non-metal mineral products; OilGasCoal = oil, gas, and coal extraction; OthCrops = other crops; OthMfg = other manufacturing; OthMin = other mineral mining; OthPrvServ = other private services; PapPub = paper products and publishing; ProcFood = processed food; RefPet = refined petroleum products; TranspEq = transportation equipment; TranspServ = transportation services; WhRetTr = wholesale and retail trade; WoodProd = wood products.

Notes: Green refers to the agriculture, fisheries, and forestry sector; Blue refers to the industry sector; and red refers to the services sector.

Source: Roland-Holst and Park (2014).

Core Growth Strategies

Myanmar’s dramatic reopening and rapid reforms have attracted wide attention and led to several major strategic assessments in the economy from international groups over the past few years. The first was ADB’s special country report *Myanmar in Transition: Opportunities and Challenges* (ADB 2012a). It suggests three guiding principles for future growth: inclusiveness, regional connectivity, and environmental sustainability. The report draws attention to how essential it will be for the prioritization and proper sequencing of policies

for the country to successfully leverage its rich endowments—its natural resources, labor force, and geographic advantage—and address constraints to raising living standards and economic opportunities, joining local and regional economies, and pursuing environmentally sustainable development.

The McKinsey Global Institute (2013) report *Myanmar’s Moment: Unique Opportunities, Major Challenges* is geared largely to the interests of potential investors; it contains assessments of economic potential and forecasts of overall and sectoral developments.

The Organisation for Economic Co-operation and Development released the first part of its *Multi-Dimensional Review of Myanmar* in 2013 (OECD 2013a). The report offers an early assessment of the economy and contains important background information and an in-depth assessment of current environmental issues. It also identifies risks and potential problems in accelerating economic growth.

The overall development strategies and policy recommendations of these studies are broadly similar, and all touch on major reform areas. None of them, however, provides detailed sectoral strategies or planning within an integrated policy framework.

An integrated policy framework is urgently needed to achieve reform goals

A successfully integrated development policy framework for Myanmar will need to consider comprehensive development and reform planning and phasing. Figure 1.4 sets out a strategy for inclusive and sustained high growth. A wide range of policy reforms are called for, including effective governance and government capacity, macroeconomic stability, and implementation of regulatory and market institutions. Removing hurdles in accessing markets, funds, and productive inputs is the first step toward creating business and investment opportunities. The government also needs to create a business- and investment- friendly environment. The World Bank's Doing Business survey indicates some of the most pressing issues in this area. Laying the groundwork for longer horizons requires necessary policies in place today. For example, investing in physical, social, and financial infrastructure and human resource development may have a limited impact on growth in the short term, but will be crucial for sustained high growth in the medium to longer term.

Sensible development planning through spatial and sectoral strategies is essential for the economy to stay on track for a promising future. In the first stage

of economic transformation, possibly lasting over the next decade, agriculture and rural development will serve as a fundamental basis for growth and development and have strong poverty-reducing potential.⁴ Improvements in agricultural productivity will free productive resources for other sectors and increase domestic demand for manufactured goods. Dynamic industrial development will require longer-term commitments to skills development and external investment partnerships. The experience of neighbors in moving up value-added chains and achieving sustained high growth suggests that careful industrial policies should be considered even at an early stage of industrial development. This should be within a comprehensive development policy framework, which initially aims to build physical and social infrastructure, promote human development, and foster a business-enabling environment.

Delay in implementing forward-looking policies could easily constrain development. Accelerating economic growth is already drawing attention to the bottlenecks to broader and more sustainable growth. Important factors such as inadequate legal and institutional frameworks, limited fiscal resources, and pervasive corruption are limiting government capacity, and shortages of skilled labor are occurring in all major sectors of the economy. Regional and urban-rural disparities remain large, preventing growth from enriching and extending economic opportunities, which is a potential threat to economic balance and stability. Substantial weaknesses exist in all types of infrastructure, from the physical, such as electricity generation and distribution, to social infrastructure, such as education and health systems. The country will have to eventually address all of these. In the meantime, understanding the path of economic transformation and the sequence of sectoral evolution will be helpful for policy prioritization given the government's limited resources and capacities.

⁴ The FESR identifies food security and agricultural growth as one of 10 priority areas for the national development plan, while eight priority areas for agriculture and rural development have been specified in the National Strategy on Poverty Alleviation and Rural Development.

With many reforms under way and implemented simultaneously, the big challenge is coordinating these multilayered initiatives for effective support of growth and development. Poorly coordinated policies can waste valuable resources through duplication or policies working at cross-purposes. Worse, policies considered in isolation greatly risk creating perverse incentives that could cause markets to work poorly, inefficiently, or inequitably. A coherent strategic framework can help avoid the pitfalls by focusing on the overall picture and not letting the pressing needs of the moment get in the way of addressing issues that need to be managed for longer-term growth. In this context, the following presents eight core strategic pillars.

1. Accelerating governance and public sector reform

The World Bank's Worldwide Governance Indicators place Myanmar in the fourth percentile of government effectiveness, which captures "perceptions of the quality of public services, the quality of the civil service and the degree of its independence from political pressures, the quality of policy formulation and implementation, and the credibility of the government's commitment to such policies" (Kaufmann, Kraay, and Mastruzzi 2010). This may be one of the most complex and difficult issues Myanmar will face.

The government has already embarked on wide-ranging reforms to improve governance, from establishing laws and regulation, initiating comprehensive public administrative reforms, improving transparency, and fighting corruption. The FESR also lays out a series of government actions in this area; it highlights short-term priorities such as improving the national budget process and enhancing the transparency of extractive industries by adopting a global standard.

The reform of governing structures and institutions is another area that could improve government effectiveness by reducing inefficiency and mismanagement. Myanmar has a rather large number of ministries, which could complicate collective decisions and coordinated policy

implementation, thus hampering government effectiveness. Ministerial and cabinet-level appointments could be substantially streamlined and remaining institutions given greater independence of decision making in their areas of competency.

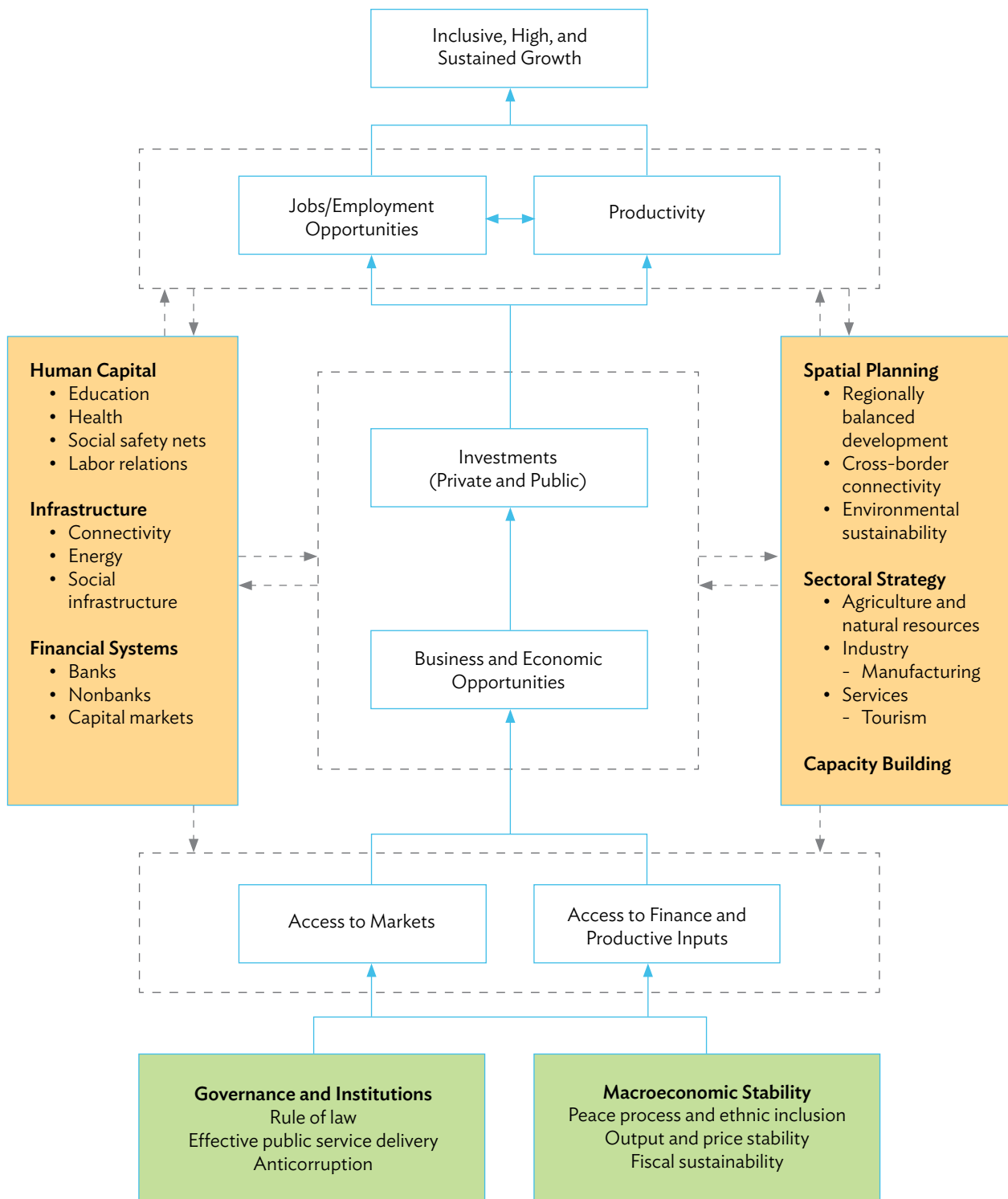
Capacity building and reform of public administration is urgently needed in policy decision-making bodies, particularly the ministries of national planning and economic development, finance, agriculture and rural development, education and health, and justice. Coordination among these ministries is essential for the effective design and implementation of reforms and the appropriate mechanisms are needed to facilitate this coordination. Civil service reform is equally urgent in these agencies. As the economy grows more quickly, economic opportunities are expected to flourish in the private sector. Innovative approaches beyond compensation schemes will be needed in civil service reform for these agencies to retain their most talented staff and prevent corrupt practices.

2. Ensuring macroeconomic and financial stability

A sound and stable macroeconomic environment is a precondition for successful transition to a market-based economy as well as for an open economy to pursue an export-oriented growth strategy. Macroeconomic stability requires effective monetary policy to keep inflation in check, a well-functioning banking and financial system to ensure credit availability and efficient financial resource mobilization, sound fiscal policies to mobilize government revenues to finance needed budgetary outlays while preventing fiscal deficits from leading to long-term instability, and a well-managed exchange rate.

The tremendous changes in economic policy present great opportunities for Myanmar, but they also increase the risk of economic instability. The experience in other Asian countries shows that as economies open and investment and growth accelerate, inflationary pressure and the risk of macroeconomic instability can increase sharply. As

Figure 1.4: A Development Strategy for Inclusive, High, and Sustained Growth in Myanmar



Source: Asian Development Bank.

noted, inflation is already rising in Myanmar, with prices of non-tradables such as land and buildings in urban areas soaring in recent years. Given the emerging signs of economic strains, it will be important to ensure macroeconomic stability for a predictable environment amenable to rapid short- and long-term development.

Another important objective of macroeconomic management in a small open economy is a stable exchange rate, which promotes international trade and investment, and hence is important for growth. Especially in Myanmar, where commodity exports are currently important sources of growth and foreign exchange earnings, excessive exchange rate volatility and terms-of-trade fluctuations can pose a serious economic threat. Resource-based export booms could also affect real exchange rates and lead to the Dutch disease, discussed later, if the influx of foreign capital is not managed properly. While a trade-off exists between exchange rate stability and flexibility, priority should be given to maintaining a degree of exchange rate stability through foreign exchange interventions and capital controls, if needed, for the time being given the weak capacity of the private sector for risk management.

3. Creating a business-enabling environment

Creating a vibrant private sector is vital for any development strategy targeted at sustained economic growth and poverty reduction. The latest World Economic Forum Global Competitiveness Report survey indicates a mixture of weak institutional, policy, and economic fundamentals topping the list of obstacles to development in Myanmar (World Economic Forum 2013). Although some improvement is evident in the recent data, the report suggests that local market participants rank their business environment poorly, especially on problems in access to financing, policy instability, corruption, and an inadequately educated workforce.

Overall, the government needs to take a more holistic approach to private sector development and provide a range of systemic support measures,

including improving the regulatory environment, investing in physical and social infrastructure, building human capital with a focus on strengthening the skills of the young, strengthening and deepening the banking sector and financial markets, and improving labor relations. Investment is an important gauge of successful private sector development. Significant government support aimed at removing barriers to business at the policy level and providing quality infrastructure will be essential to attract foreign investment and to promote domestic investment in industry.

The first step for promoting rapid development of the private sector is to build effective regulations and strong market institutions that make the rules of the game clear to all participants—firms, households, and the government alike—and help alleviate risk in their economic decisions.

Recognizing the importance of improving the regulatory environment for business in early reforms, the government has introduced a series of policy measures to reduce transaction costs for small and medium-sized enterprises along the entire business chain by streamlining the requirements for business registration, granting construction permits, employing workers, titling property, accessing credit, protecting investors, paying taxes, trading across borders, enforcing contracts, and closing a business (MNPED 2013). An assessment of the business and investment climate has been launched, with the support of the World Bank, to identify barriers to doing business, and is expected to suggest areas for further improvement. A comprehensive action plan could then be prepared.

The adoption of the new Foreign Investment Law in November 2012 to promote FDI was another important step. Several other related laws have been passed or are under discussion, such as the Myanmar Citizens Investment Law, which also aims to support the investment environment. While many new laws, including the above, provide an important legal foundation for private business and investment decisions, lack of clarity in relevant regulations and implementation guidelines often hampers success.

In a similar vein, at least two remaining areas—the labor market and land use—require close follow-up in policy and regulatory setup. In the labor market, while many new laws are being enacted and old ones amended, more clarity is needed for regulations on labor protection, working conditions, the role of trade unions, and labor-dispute resolution procedures. Land acquisition and property rights also remain a significant concern for investors, and there is considerable scope for the government to intervene in this area by setting clear rules, clarifying ownership, and improving market transparency for industry, particularly in special industrial zones.

Quality infrastructure is another critical area for improving doing business and unlocking the economy's potential. Considerable gaps in Myanmar's infrastructure reflect a long period of underinvestment, both public and private. Decades of economic isolation resulted in the neglect and underdevelopment of the country's infrastructure stock. The latest World Bank Logistics Performance Index ranks Myanmar low in the overall index at 145th out of 160 countries, and quality of infrastructure at 137th (International Bank for Reconstruction and Development/World Bank 2014).

Transport networks, through better connectivity, support the logistics requirements of goods and services and the movement of people. Yet, decades of neglect and underinvestment in this area have left all modes of transport—roads, inland waterways, ports and airports, and railways—in need of urgent improvement if they are to provide an adequate service for a growing population and the expected increase in trade of goods and services within and beyond Myanmar's national borders.

The government is finalizing a long-term National Transport Development Master Plan with the assistance of the Japan International Cooperation Agency.⁵ This will cover policies, strategies, and plans for all transport modes until 2030. Based on a thorough review and assessment of the sector, priority areas have to be identified for immediate

policy attention and support, while a corridor-based approach should be considered for the medium-term strategy. This will strengthen connectivity to growth centers, help enable the development of regional economies, and provide the necessary transportation to meet future traffic and investment demand.

Provision of adequate, reliable, and affordable power is another top investor concern. As noted earlier, Myanmar has abundant energy resources, including hydropower and natural gas, but per capita electricity consumption—at 160 kilowatt-hours in 2013—is among the lowest in the region. Estimates suggest that 10 million–15 million people have no access to electricity and some 12 million rely on traditional biomass for energy. The government needs to undertake substantial rehabilitation work in power generation, transmission, and distribution, and to make strategic investments in new projects. Both should be conducted in line with the long-term energy master plan being formulated by ADB and the long-term power sector development plan being formulated by the Japan International Cooperation Agency. With limited financial resources, the government has taken initial steps, including amending the Electricity Law, to facilitate private sector participation in the energy sector. But there is also an urgent need to reform the pricing mechanism for electricity and petroleum products to enhance energy efficiency.

Information and communication technology (ICT), likewise, falls well short of what is needed, with Myanmar having the lowest internet, mobile, and telephone usage rates in Southeast Asia. Because of the lack of basic ICT infrastructure, the country lags in the globalization process, limiting its chances to leapfrog and accelerate growth. The government is preparing an ICT master plan and, despite high up-front costs, installing ICT infrastructure could increase productivity across the economy and boost efficiency in the delivery of public and private services.

⁵ An interim report on the transport master plan was published in January 2014.

4. Leveraging rich endowment

Myanmar's development experience has shown the potential of its agriculture sector, with its rapid response to market and price reforms. Promoting agricultural growth could immediately contribute to a substantial acceleration of income growth, exports, and poverty reduction. Because the majority of the population is employed in the sector, this should also help alleviate rural poverty, especially among the ethnic minorities. Agricultural and rural development should therefore be a strategic, short-term priority. Over the medium and long terms, the development of a competitive, export-oriented agro-industry, assisted by opening opportunities for FDI and entry to global agricultural value chains, could help provide sustained economic growth.

Yet, as in other areas, agricultural productivity trails far behind Myanmar's neighbors, causing high indebtedness among farmers, and malnutrition and low levels of education in rural areas. Multiple factors have held back agricultural development, including low investment, outdated technology, unpredictable government policies, poor water control and management, inefficient and unbalanced land distribution, high transportation costs, weak rural financial institutions, and exports of low-value unprocessed products alongside a lack of diversification in export markets.

Reviving agriculture, as elsewhere, requires a multipronged approach and careful sequencing to realize rapid gains. As a first step, land tenure, land use, and rules for the protection of smallholders should be further clarified since they have a direct bearing on investment decisions and access to agricultural financing. Major improvements in extension services and research are also needed, as well as improvements in access to affordable and high quality seeds and fertilizers. Large investments in rural infrastructure, including rural roads and irrigation schemes, could facilitate market access and reduce postharvest losses. Policy support to facilitate the development of agro-industries and agricultural value chains can raise productivity and the value of agricultural products. Support for the development of a workable agriculture credit

system, which could ease the persistent problem of lack of credit for farmers, is another priority.

Given the country's rich endowments of natural resources, resource extraction is likely to remain the fastest-growing sector of the economy, and the biggest source of exports. Gas and mining have become the most important export sectors and have already attracted considerable foreign investment. Their production grew an average of 15% a year over 2001–2010, far faster than overall GDP growth. Although Myanmar has relatively modest proven natural gas reserves, at 7.8 trillion cubic feet, representing less than 2% of all known reserves in Asia and the Pacific, the additional potential for natural gas in deep offshore waters is large, with many promising areas still unexplored. The country is also endowed, with a variety of other mineral resources and substantial quantities of high-quality gems and other precious stones. Exploitable reserves of industrial minerals are also significant.

A major contribution to the broad economy of the natural resource sector will be the foreign exchange it generates that can be used for investment in other sectors. However, the employment potential of the natural gas and mining export industries is rather limited, and developing value-added linkages—for instance, to petrochemical products and fertilizers—may take time and depend on the ability to attract FDI. Nevertheless, with FDI now less restricted, a flurry of new projects in extractive industries is anticipated.

A large inflow of foreign exchange associated with a surge in FDI drawn to the rich natural resources, if not managed properly, presents two important challenges to the country's development process: the risk of Dutch disease and environmental degradation. Dutch disease is generally associated with a discovery or rapid price increase of natural resources. A fast-paced development of the sector accompanied by large inflows of foreign capital could lead to an appreciation of the real exchange rate that weakens the competitiveness of other export sectors. Such an effect could lead to a shift in capital and labor to the natural resource sector and away from other economically important sectors such

as manufacturing. The development of an export-oriented manufacturing sector will be important for creating an opportunity for “learning by doing” and technology transfer, thereby enhancing long-term growth potential. Dutch disease of course would hamper such an opportunity.

It will also be important to intervene in foreign exchange markets at times to prudently manage the influx of foreign capital, prevent export competitiveness from eroding sharply, and prevent the buildup of reserves from leading to inflation. To help manage the wealth generated from resource extraction, and cushion income variations arising from fluctuations in commodity prices, setting up a central bank account or a national wealth fund based on resource earnings could be an option. Other resource-rich countries have found such funds useful for managing new wealth prudently for future growth and development.

Because the development of Myanmar’s natural resources is in its early stages, there is plenty of scope for fostering the sustainable and responsible use of these riches. This should include the efficient use of resources, environmentally responsible and sustainable consumption and production, and climate-resilient development. There is now an urgent need to develop environmental regulations on natural habitat conservation, pollution, waste treatment, and remediation, and to strengthen enforcement capacity. Without a proper regulatory framework, safeguard processes at the project level remain the only effective tool available for mitigating the potential environmentally destructive effects of such projects.⁶ This means establishing appropriate regulations to ensure exploration and exploitation of natural resources are environmentally and socially sustainable, while providing time to build domestic capacity for value-added production in these industries.

⁶ ADB’s safeguard policy framework consists of three operational policies on the environment, indigenous peoples, and involuntary resettlement that seeks to avoid, minimize, or mitigate adverse environmental and social impacts, including protecting the rights of those likely to be affected or marginalized by the development process in general or investment projects in particular.

5. Fostering internationally competitive sectors—manufacturing and services

Broadening and diversifying the economic base through the development of internationally competitive manufacturing and services sectors will be the cornerstone of a successful strategy for sustained high growth and job creation. With its large population and relatively low labor costs, Myanmar has the potential to develop a rapidly growing manufacturing sector for domestic and export markets. A longer-term growth strategy could be anchored in the development of trade-oriented small and medium-sized enterprises, which could create the capacity to absorb technology. This would ideally begin with one or several industrial clusters that can generate technological spillover.

The manufacturing sector would benefit from large and diverse market bases, starting from its large domestic markets and then the broader markets of Asia and the markets of the advanced economies. The local market offers substantial opportunities for domestic and foreign investors in some industries. Industries such as food and beverages, household products, construction-related industries, and transport equipment could expand rapidly with the right logistic support and an attractive FDI environment. Myanmar’s strategic geographic position means that it is well placed to benefit from a new wave of Asian FDI and integration into ASEAN-based production networks. And as sanctions are lifted, exports to advanced economies could experience strong growth, as was once the case for the garment sector. Although thriving over a decade ago, garment exports slumped because of sanctions. Although they have since become the largest manufacturing export, they still accounted for only 7.9% of exports at \$884.7 million in FY2013 (MNPED 2014).

The services sector, which currently accounts for about 38% of GDP, holds tremendous promise given Myanmar’s vast tourism potential. Tourism is now a relatively small component of the economy. But with the diversity of the country’s attractions, tourism is poised to become one of the fastest growth

sectors, providing a significant source of foreign exchange and creating many jobs. The sector's expansion requires less in the way of specialized skills and infrastructure than most other service industries, since the key resource is the interest in and attractiveness of the country itself. Right now, inadequate infrastructure, especially the limited availability of accommodation and poor transport links, is the most urgent constraint.

6. Enhancing regional connectivity and integration

Greater integration with regional and global economies is a major thrust of ongoing economic reforms. Many developing countries in Asia have relied on outward-oriented growth strategies by focusing on trade and FDI to boost demand for competitive products, allowing for cheaper and greater varieties of production inputs, integrating with global and regional production networks, and fostering technology transfer and productivity growth. Given Myanmar's geographic advantages, natural resource endowments, and potential for developing internationally competitive sectors, deeper regional integration offers substantial growth opportunities.

With the lifting of sanctions and outward-oriented reform, Myanmar's economy has the opportunity to quickly integrate with regional production networks. The country is also well poised to become an important destination for FDI and profit from the benefits of these flows. Yet tapping into these benefits will be challenging because of its poor infrastructure and connectivity, weak trade facilitation, and limited industrial and commercial base.

Attention to transport infrastructure and transit corridors is critical to the success of economic integration with regional and global communities. High transport costs undermine the potential gains from trade liberalization and can negate the price effects of reductions in tariffs and non-trade barriers. While development and improvement of physical infrastructure is fundamental, studies have noted that the missing links and bottlenecks in

transportation infrastructure are highly problematic, preventing the country from effectively integrating with the regional economy and exploiting its advantage as a natural bridge between South and Southeast Asia. Here, the first step would be for Myanmar to play its part in improving physical connectivity in ASEAN to reduce trade costs and enhance trade competitiveness, as well as to improve mobility.

Measures to enhance trade facilitation are vital to trade and development strategies. Trade facilitation generally refers to measures to simplify practices for moving goods across borders, with a specific aim to reduce trade transaction costs. Steps to enhance trade facilitation include streamlining document requirements for imports and exports, reducing the number of border agencies, removing hidden trade barriers including nontariff barriers and behind-the-border practices, and enhancing governance and transparency to avoid corruption and unofficial payments.

Myanmar needs to build a strong industrial and commercial base with a vibrant private sector that is internationally competitive. Trade and FDI liberalization will allow the country to improve the utilization of its factor endowments and productivity, and to promote growth, development, and poverty reduction. But it is private sector capacity that will ultimately enable the country to unleash the potential of trade and FDI and their attendant benefits. Wide-ranging reforms to create a business-enabling environment will be important in this regard and should complement reforms that promote trade and FDI.

ASEAN provides an important entry point for Myanmar's integration into regional and global economies, their production networks, and global value chains. The benefits from a single market of ASEAN economies by 2015 under the ASEAN Economic Community (AEC) could be immense. Myanmar may be able to attract regional FDI in manufacturing and tourism-related services, and benefit from skilled labor from other ASEAN countries. Most commitments under the AEC Blueprint are expected to be met by 2018 and all undertakings implemented by 2020. To this end,

Myanmar should accelerate economic, regulatory, and institutional reforms and prioritize fulfilling these commitments.

7. Promoting human development and poverty reduction

Myanmar's relatively young population, with the 15–29 age group accounting for nearly 40% of the working-age population, is a notable strength. Yet without substantial investment in human capital development—in education, health, and other social development—the potential demographic dividend could turn into a demographic curse. Such investments, while generating benefits beyond their pure economic aims to provide valuable factors of production, are critical for sustained economic growth. An educated, healthy workforce is more productive and, as the economy transforms, demand for highly skilled and educated workers will soar. Increasing the skills of its workforce will allow the country to move up global value chains, better absorb technologies and ideas, develop its own entrepreneurial culture, and retain more of the benefits from FDI.

Given prolonged neglect and underinvestment in education, raising educational standards and the qualifications and skills of the labor force is a huge task. Apart from the short-term measures needed to support skills upgrading and vocational training, comprehensive reform of the education sector at all levels is needed to support higher medium- and long-term growth. Similarly, there is a need for investment and institutional reforms in the public health system. A framework must be put in place for private sector participation in the health sector alongside financing for quality and affordable health facilities. Because human capital development is in many ways a long-term process, it is also important to have a vision of growth to guide these reforms; for example, having skilled workers ready for when the manufacturing sector becomes more sophisticated.

More broadly, however, pervasive poverty, which is closely associated in Myanmar with geography and ethnicity, is a significant concern. There is

a very considerable imbalance between income levels in the river valleys and coastal regions where most of the majority ethnic “Bamar” or “Burman” population lives, and the upland interior and border regions, home to the major indigenous minority populations, such as the Shan, Kachin, and Chin. These areas merit special attention.

Priority should be given to concluding peace agreements with the various ethnic minorities. Negotiating a peaceful resolution among all conflicting interests is crucial to balancing the aspirations for local autonomy with a unified national state. Such a process should elicit a greater sense of participation and ownership by ethnic groups in the entire reform process.

Regionally balanced growth is critical to peace building and thus vital for sustained reform efforts and the resulting economic development. The equitable participation of ethnic minorities in development and, in particular, the equitable sharing of revenues from natural resources is an important consideration. Fortunately, border areas with the PRC and Thailand can take advantage of opportunities for business and trade. Areas on the northern border with the PRC have valuable forest reserves and jade mines, with jade in high demand in the PRC. Channeling these resources to make a contribution to both national and state economies will help improve regional disparities in income and promote more balanced growth across states.

8. Pursuing environmentally sustainable growth

Asia's development experiences show that prolonged periods of rapid economic growth put enormous stress on the environment that is difficult and costly to rectify. As Myanmar's economy strengthens, the environment will come under severe pressure from increasing industrialization and overexploitation of natural resources, principally through forest conversion for commercial agriculture and water diversion for hydropower. Deforestation is a major cause of land degradation, biodiversity loss, declining water quality, and greenhouse gas emissions.

To ensure environmental sustainability, priority should be given to developing best-practice legislation and regulations for environmental protection and building institutional capacity to implement and enforce these rules. Although high-level commitments to sustainable economic growth have been made, the legal and regulatory frameworks to control environmental threats remain underdeveloped. Environmental safeguards and standards are expected to be approved soon, but mechanisms for implementation still need definition. Economic incentives need to be aligned with the social goals of sustainable development, perverse incentives for resource destruction eliminated, and strong penalties on water pollution and the discharge of untreated waste imposed.

But given weak institutional capacity, monitoring and enforcing environmental safeguards and regulations will be a challenge. Technical assistance, perhaps through collaboration with environmental protection agencies in advanced countries, could assist with the development of greater capacity. Human and financial resource allocation to regulatory implementation will need to increase as well.

Myanmar is also vulnerable to climate change effects as seen in the devastating experience of Cyclone Nargis in May 2008. It is also prone to a range of

natural disasters and its economic dependence on rain-fed agriculture exacerbates the economic impacts of these disasters. Salinity intrusion and rising sea levels already threaten the Irrawaddy delta, the most productive farming area. Climate change risks therefore need to be considered in major infrastructure investments, which need to build in greater climate resiliency.

Climate adaptation and mitigation measures in partnership with the international community are needed. Extensive forest cover makes the country globally significant for carbon sequestration, which more than offsets all of its other emissions. If appropriate and cost-effective institutional arrangements for Reduced Emissions from Deforestation and Forest Degradation (REDD)⁷ can be identified, carbon storage could generate substantial revenue. Preparedness for this nonetheless requires significant investment in capacity, institutions, markets, and accountability mechanisms.

⁷ REDD is a greenhouse gas emissions mitigation mechanism under negotiation by the United Nations Framework Convention on Climate Change since 2005, which intends to reduce emissions from deforestation and degradation and sequester greenhouse gases through enhanced forest management in developing countries. REDD is envisaged to receive substantial international financial support through carbon markets and/or international public funds under a future global climate agreement.

CHAPTER 2: ECONOMIC GOVERNANCE

Governance and Institutions

Governance is a concept that encompasses both formal rules and norms governing public affairs and rests on three pillars: the legal and regulatory framework, bureaucratic and administrative capacity, and government transparency and engagement with civil society. More important than any conceptual and institutional framework, it is the process through which public authorities conduct public affairs, manage public resources, and protect human rights against corruption, abuse of authority, and injustice, all of which should be done with due regard for the rule of law. Good governance—or the efficient and transparent conduct of these functions—is therefore fundamental for peace and stability in any country and hence for long-term economic growth and development.

Broad governance reform with institution building is required for the new era

With remarkable transitions in its political, social, and economic systems, Myanmar has a unique opportunity to engage in broad governance reform and to develop the institutions needed in a fast changing economy. Economic governance refers to the system that “support(s) economic activity and transactions by protecting property rights, enforcing contracts, and taking collective action to provide appropriate physical and organizational infrastructure” (Dixit 2008, 1).

Many view governance issues such as policy instability and corruption as among the most serious obstacles to business activity and economic progress in Myanmar. The World Economic Forum’s Global Competitiveness Report puts governance

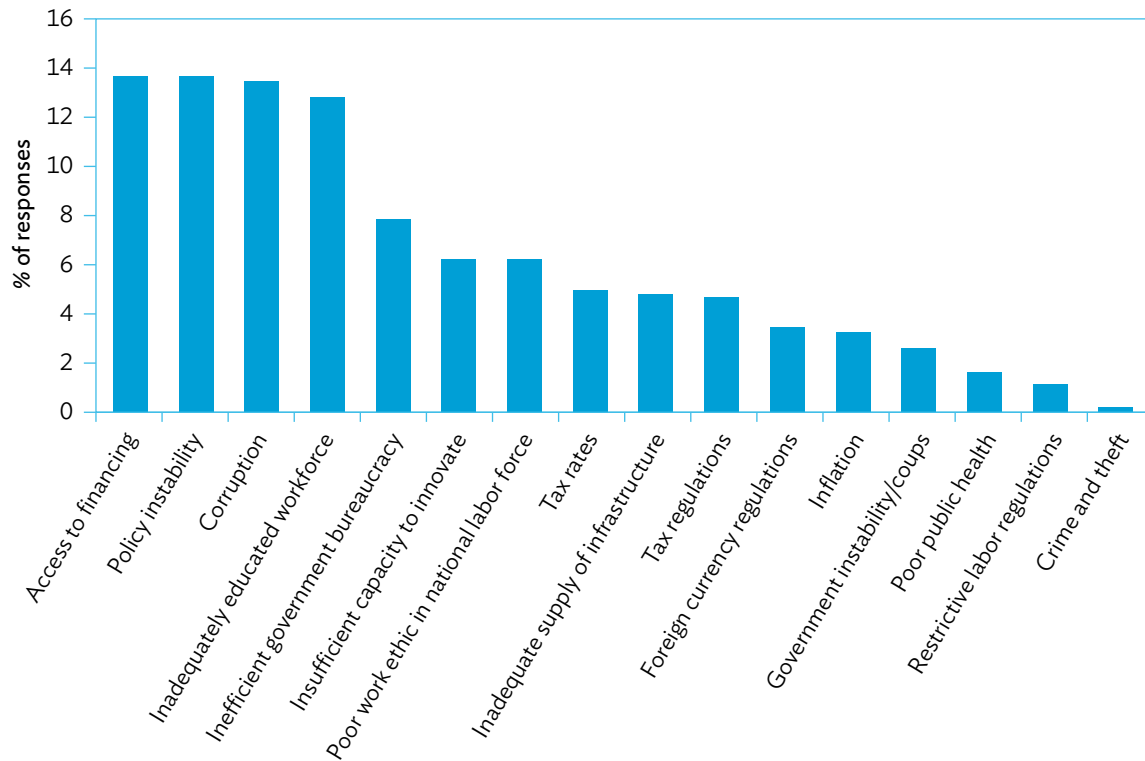
issues as the top obstacle to the country’s economic growth and development (World Economic Forum 2013). Despite some progress on this front, the country lags significantly behind countries with similar income levels. Figure 2.1 shows its ranking on the World Economic Forum’s “most problematic factors for doing business.” Four indicators stand out: access to financing and policy instability (both with a weighted score of 13.7), corruption (13.5), and an inadequately educated workforce (12.9). The next most problematic factors are inefficient government bureaucracy (7.9), insufficient capacity to innovate and poor work ethic in the national labor force (both 6.2), tax rates (4.9), inadequate supply of infrastructure and tax regulations (both 4.7), inflation (3.4), foreign currency regulations (3.2), government instability/coups (2.4), poor public health (1.5), restrictive labor regulations (1.1), and crime and theft (0.1).

The many governance-related reforms made or under way can be broadly categorized into three areas: establishing the rule of law, public administration reform and capacity building, and fighting corruption. Further reforms need to focus on four basic elements of good governance: accountability, participation, predictability, and transparency.

Establishing the rule of law

The rule of law refers to a comprehensive and transparent framework of laws and regulations as well as their uniform, competent, reliable, and fair enforcement. It is widely recognized that the rule of law is an essential prerequisite for economic development. For any market-based economy to function properly, a clear legal and regulatory framework, enforcement of contracts, effective market institutions, and supporting infrastructure are musts.

Figure 2.1: The Most Problematic Factors for Doing Business in Myanmar



Note: From the list of factors, respondents were asked to select the five most problematic for doing business in their country and to rank them from 1 (most problematic) to 5. The bars in the chart show the responses weighted according to their rankings.
 Source: World Economic Forum (2013).

In Myanmar, reforms since 2011 have covered wide-ranging economic governance areas, building legal foundations for a market-based economy, and addressing gaps in legal and regulatory frameworks. Further reform should focus on strengthening procedures for enforcing rights and resolving disputes by providing the necessary resources and institutions. Here, two areas require particular attention: land and labor markets.

First, the functioning of the land market remains problematic and needs to be addressed to make land-ownership and use clear for investors, domestic and foreign, and to allow them to manage risks effectively. Constitutionally, the state owns all land residually. But land use and ownership registration remain inadequate, leading to many disputes. In response, the government in September 2013 formed the Central Committee on Land Use Management and set a 1-year deadline for resolving 745 targeted disputes.

The Farmland Law (2012), while representing progress, is not adequate. It allows farmers use-rights, excluding the extraction of subsoil minerals, and strengthens protection for farmers from land grabbing by private entities, while maintaining the government’s right to exercise eminent domain in exchange for “suitable compensation” (Nehru 2014). However, the danger still exists that large corporations or well-connected individuals can take land for their own use. There have also been issues with the use, or misuse, of forest land and urban and industrial land, notably in industrial parks.

Ultimately, the solution to land-use problems is not just a more efficient legal system, but also systematic programs to ensure that large-scale development projects are inclusive and address the legitimate interests and needs of local residents, and that those residents are afforded stable land rights that are not subject to abrogation by politically connected interests. To spur industrial development, the state

should lease industrial land at competitive rates to those prepared to build factories and provide employment. One option is for industrial land to revert to the state if a factory closes.

Concurrent with a new system for leases, the Ministry of Finance should conduct a comprehensive land survey—security conditions permitting—to establish a current cadastre map of the country’s territory and promote transparency in land use and tenure.

Second, a number of major labor legislations, while having a positive impact on the labor market, require clear implementing rules and regulations, support institutions, and all stakeholders’ capacity building. For example, as seen in the highly contentious legislation of the Minimum Wage Law, it is important that all stakeholders—employers, unions, and government bodies—discuss the wide range of issues and challenges constructively, that this feeds into policy decisions, and that expectations are well managed through education and awareness programs.

The country’s dispute resolution system is also at an early stage of development. The Settlement of Labor Dispute Law (2012) replaces the Trade Disputes Act (1929). It safeguards workers’ rights and establishes procedures, including conciliation and arbitration, for the orderly settlement of labor relations disputes. However, labor courts, arbitration, and other support need to be introduced in a structured manner.

The Trade Union Law (2011), liberal by regional standards, allows trade unions and protects the employment of workers joining a union or participating in a strike. Activists, however, have complained of problems in its implementation. As of March 2014, about 1,040 organizations, including 955 basic labor organizations, had been formed and the previous tendency to wildcat labor action was being transformed into legal strikes.

Public administration reform and capacity building

Myanmar’s bureaucracy urgently needs reform and capacity building. Good governance requires

that the government is accountable for its policy making and that it ensures transparency and predictability in the application and enforcement of rules. Myanmar trails its regional peers and other low-income country groups on various measures of government effectiveness and government revenue statistics (Noland and Hendrix 2013). To improve governance, the president established the Public Services Performance Appraisal Task Force “to review the operations of all government ministries dealing with the public, cut red tape, streamline decision making, restructure organization where necessary, and change organizational culture to improve the delivery of public services” (Clapp and DiMaggio 2013, 4).

Emerging from 25 years of military rule—during which the State Peace and Development Council, formerly the State Law and Order Restoration Council, exercised control over all three branches of government—Myanmar has a legacy of centralized decision-making and hierarchical administrative processes. In a highly militarized bureaucracy, vertical lines of communication and accountability prevailed, hampering horizontal coordination of policy making within and across different ministries.

The current government structure may also be more complex than desired, with 36 line ministers and cabinet-level appointments, compared with the median of 22 for other Association of Southeast Asian Nations (ASEAN) countries (CIA database). As cabinet size increases, collective decisions and coordinated policy implementation become more challenging, with evidence pointing to a significant deterioration of government effectiveness once the threshold of 20 line ministers is passed (Klimek, Hanel, and Thurner 2009). Without effective interministerial consultation and coordination, it is difficult to develop a coherent national development plan.

In view of its legacy and of current complications, Myanmar’s public administrative reform needs to pay special attention to the following four factors. First, the bureaucracy suffers from significant structural inefficiency. The size of the government far exceeds its desirable efficiency level. The large number of ministries breeds inefficiencies, risks duplication,

and complicates coordination. Extensive past military penetration into the bureaucracy has also left excessive centralization of decision making, lack of interministerial collaboration, and a talent pool mostly trained at the Defense Services Academy, which has limited diversity and innovation. Compounding these structural challenges are constraints on resources and staffing at ministries: several have seen their mandates grow much faster than their budgets.

Second, there is no clear mechanism for policy coordination at the ministerial level to carry out joint policy initiatives with a common strategic goal. While some ministries appear to collaborate effectively—such as the Ministry of National Planning and Economic Development (MNPED) and the Ministry of Finance jointly harmonize capital and current budgeting—others do not. The Ministry of Energy and the Ministry of Electric Power are currently developing separate master planning documents without interministerial coordination. Education policy falls under the purview of at least a dozen ministries or agencies. While the MNPED appears to be in a position to oversee policy harmonization across ministries, it has neither the budgetary power nor the mandate to do so.

Third, pay for bureaucrats remains low despite 20% salary increases in each of the last 2 years. Low public-sector salaries hamper recruiting “the best and the brightest” and can exacerbate corruption (Van Rijckeghem and Weder 2001). Even though the fiscal year (FY) 2013 budget includes an additional 23% increase in public-sector wages, this problem is likely to become more intense with the expansion of the private sector and increasing foreign investment (OECD 2013a). With businesses forecasting significant wage increases for skilled workers, it will be increasingly difficult for the government to recruit and retain quality workers. This will be especially true for ministries that rely on highly sought-after technical skills, such as the Ministry of Finance and the Central Bank of Myanmar (CBM).

Finally, the challenges of decentralization are significant, with policy coordination between the central government and state and regional

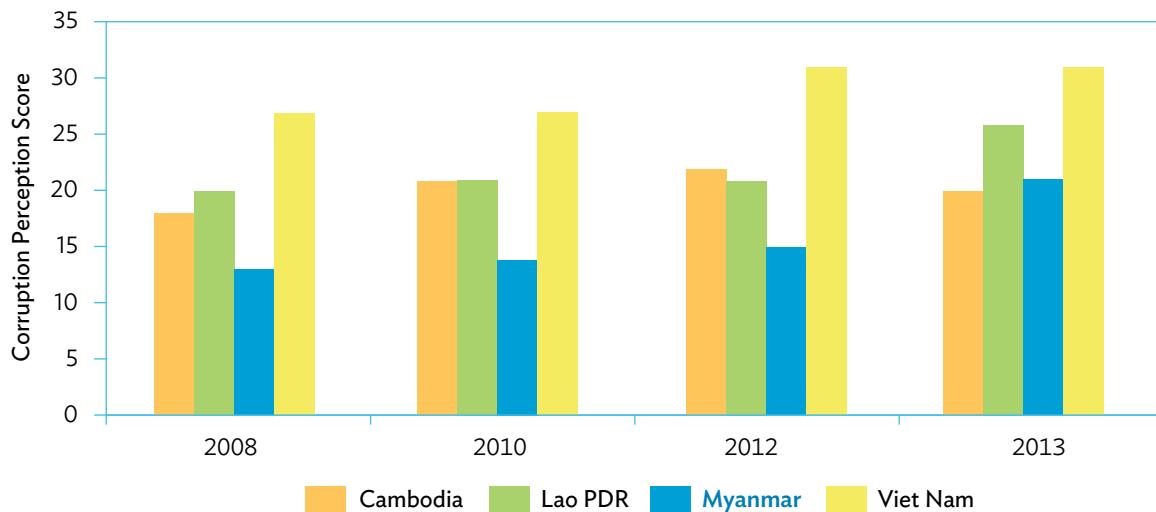
governments becoming an increasingly important issue. The 2008 constitution established state and regional governments, each with the constitutional power to levy excise, land, and water taxes, as well as toll fees and royalties on marine fisheries. Moreover, state and regional governments will be responsible for implementing central government directives alongside central government ministries. Additional staffing demands will therefore be significant. The state and regional governments will form their own cabinets, with ministers drawn from the elected state and regional *Hluttaws* (assembly or legislative body), and subject to final approval by the president. However, these regional ministries will not have direct power over hiring and promotion in these bureaucracies, which will be conducted by national line ministries. This blurs the lines of delegation, with bureaucrats potentially receiving conflicting directives and assignments from national and state- and regional-level ministers. Moreover, regional ministers will be fewer than line ministries, meaning that individual regional and state ministers will have to shoulder multiple portfolios with a single ministry’s staff and resources (Nixon et al. 2013). The situation is also ripe for greater corruption, as blurred lines of delegation complicate oversight.

Effective strategies for fighting corruption

Although it is difficult to establish a direct link between corruption and economic performance, empirical evidence is building that corruption hampers investment and retards economic development. Myanmar has trailed its regional peers on corruption indicators, although the country has shown a noticeable improvement in 2013’s ranking of the Transparency International’s Corruption Perceptions Index, surpassing Cambodia (Figure 2.2).

To combat corruption, the president established an anticorruption committee and signed the Anti-Corruption Law (2013), and initiated the process of being admitted to the Extractive Industries Transparency Initiative.⁸ He has announced the

⁸ The Centre for Economic and Social Development, the economic wing of the Myanmar Development Resource Institute, is assisting the application process.

Figure 2.2: Transparency International Corruption Perception Scores, Selected Countries, 2008–2013

Lao PDR = Lao People's Democratic Republic.

Note: Scores on a scale from 0–100 beginning in 2012, and 0–10 in prior years. All scores have been adjusted to 2012 scaling. 0 means that a country is perceived as highly corrupt and 100 means it is perceived as very clean.

Source: Transparency International Corruption Perceptions Index 2013.

country's intention to join the Open Government Partnership,⁹ a multilateral initiative aimed at securing “concrete commitments from governments to promote transparency, empower citizens, fight corruption, and harness new technologies to strengthen governance.” A working group has also been formed in the president's office “to make necessary preparations to meet these standards for transparency, accountability, citizen participation, and technology and innovation” (Clapp and DiMaggio 2013, 4).

Given the weaknesses of domestic institutions and their capacities, international institutions can provide a useful supplement for promoting internal reforms, reinforcing credibility, and locking in commitments. In particular, the Extractive Industries Transparency Initiative and other international anti-corruption efforts can be used to help enhance sustainable management of the country's rich natural resources. Joining this initiative can help address the institutional challenges of resource management. It works off two components:

disclosure, which is supposed to generate the information needed to reduce corruption, and the establishment of country-level, multi-stakeholder bodies, which in principle absorb and propagate this information to create accountability.

Myanmar could use this initiative, or similar ones such as the United States Foreign Corrupt Practices Act, to leverage its own reform efforts while building its indigenous institutional capacity. Many countries have adopted international anticorruption statutes. Specifically, the government may consider more favorably bids by firms based in jurisdictions with strong anti-bribery laws and enforcement, which will allow it to piggyback on the more rigorous standards of foreign partners. If foreign firms under the jurisdiction of governments with anticorruption laws break them in Myanmar, then the government could appeal to these foreign governments for support in prosecuting their corrupt activities. When evaluating potential foreign participants in resource extraction, the government may give preference to firms subject to the laws of the United States, the European Union, or other jurisdictions with strong anti-bribery laws and histories of extraterritorial legal cooperation.

⁹ See the Open Government Partnership at <http://www.opengovpartnership.org/about>

An inclusive process of political governance reform is crucial for peace building

Finally, the history of social unrest has cost Myanmar significantly on economic development. Conflict in border areas has complicated efforts to combat narcotics production, illegal mining and logging, and arms smuggling. Apart from a substantial loss of export and government revenue from these, concerns about political instability drive down foreign direct investment (FDI) more generally. While there have been sporadic peace agreements and ceasefires, conflict could easily resume if the underlying issues are not addressed. In this regard, it is crucial to build a workable mechanism for enhancing political representation of various identity groups with appropriate power sharing between the central and regional authorities in the peace process. Institutional reforms are required for fair representation of these groups.

The agenda for continued reform remains extensive

The pace of reform since 2010 has been stunning, although an extensive agenda remains. In that view, the following will be crucial for enhancing government effectiveness and locking in recent gains:

- i. Streamline the number of line ministries, avoiding duplication and overlaps in responsibilities, while strengthening interministerial coordination. For example, the government may consider consolidating the Ministry of Energy and the Ministry of Electric Power to unite strategic planning for power sector development, while avoiding duplication and unnecessary conflicts in energy policy. Similarly, the Ministry of Transport and the Ministry of Rail Transport can be merged. Other examples are also possible.
- ii. Explore ways to enhance and retain talent in public administration. One option is

to increase wages in the public sector. However, this strategy may be difficult to pursue given fast-growing private sector productivity and the inflationary implications of such wage increases. Other countries have tried a variety of alternatives, including attractive pensions and retirement benefits, longer-term allegiance to bureaucratic careers among desirable workers, and enhanced hiring efforts targeted at disadvantaged or discriminated groups. Another option can be to develop an elite cadre of senior civil servants to create a desirable, high-status career path. Career-based elite civil services, such as those in the Republic of Korea and Malaysia, can be staffed via entry-level recruitment according to performance on an elite exam, with small proportions nominated to serve from within the existing civil service (World Bank 2012a). If successfully implemented, this would endow the government with a young, cohesive cohort of civil servants that could be induced to stay long-term by informal social bonds.

- iii. Use the Extractive Industries Transparency Initiative (EITI) to leverage internal governance reform efforts in the extractive sector and, more broadly, exploit opportunities to anchor broader policy reforms, including anticorruption efforts, in international best practice. Being admitted to EITI will allow Myanmar to access revenue information from extractive industry companies by company disclosure, look favorably on bids by EITI stakeholder firms committed to transparency, and participate in EITI+ and EITI++ extending the transparency initiative upstream to contracting and procurement as well as downstream to expenditure.
- iv. Reform electoral law to encourage the development of more broad-based political parties that have support across ethnic and regional lines. This can be done either by requiring parties to run candidates in all constituencies or by introducing some form

of preference voting. In preference voting systems, voters rank their preferences over candidates within their district (Reilly 2002). The idea is to encourage parties not just to campaign for first place votes, but to court second-place votes as well, pooling votes across ethnic lines and thus decreasing ethnic identity as a salient driver of political affiliations.

- v. Foster greater involvement of the private sector in the policy formation process, including the participation of private industry, think tanks, and independent educational institutions.

Macroeconomic Management and Stability

Balancing economic growth and macroeconomic stability is a major challenge. Traditionally, discussions in this area have focused on three policy areas: fiscal, monetary, and exchange rate. Policies to improve the stability and resilience of the financial system could be added as a fourth in light of the recent global financial crisis and a 2003 financial crisis in Myanmar, as well as its past development experience. Changes in the past few years have radically altered the economic policy environment and the following sections look at ways to address the new challenges in these four policy areas.

Fiscal Policy

Since the monetary policy framework began to develop only recently in Myanmar, fiscal policy will remain the main instrument for managing macroeconomic stability and growth in the short to medium-term. At the same time, as rapid economic growth and social development require urgent budgetary planning and support, fiscal policy management should also consider longer-term development issues.

Myanmar has a long history of large budget deficits and their monetization. For an extended period in the 1990s and 2000s, the CBM printed money to finance consistently large budget shortfalls. This inevitably led to high inflation, while a massively overvalued official exchange rate damaged the economy in a variety of ways, including distorting the level of revenues from state-owned economic enterprises. With recent reforms, the government has restored fiscal discipline and improved budget transparency. But to achieve the ambitious fiscal objectives laid out in the Framework for Economic and Social Reforms 2012–2015, further reforms should focus on improving the strategic allocation of government resources, new resource mobilization, fiscal decentralization, macro-fiscal links, and the overall public financial management system.

Table 2.1 presents a summary of fiscal accounts, with and without state-owned economic enterprises. State-owned economic enterprises have contributed substantially to the government budget for many years through rapid expansion in the natural resource sectors. Their contributions to the budget are primarily based on (i) the profit tax, which is applicable to all enterprises (both public and private) at a 25% rate and (ii) a direct transfer of their profits (20% of the total) to the government budget in the form of the union dividend. While state-owned economic enterprises are quite profitable in aggregate, many of them are still loss-making. Recent efforts to improve the efficiency of state-owned economic enterprises are, however, paying off. Most of them are now operating under strict budget constraints, without recourse to transfers from the government or from the central bank for their deficits, and are therefore mitigating potential fiscal risk.

Strategic use of fiscal expenditures can accelerate growth and reduce poverty

International experience confirms the importance of government investments in infrastructure and human capital in the early stage of development,

Table 2.1: Myanmar Fiscal Accounts (% of GDP)

| | FY2008 | FY2009 | FY2010 | FY2011 | FY2012 ^a | FY2013 ^b |
|--|--------------|--------------|--------------|--------------|---------------------|---------------------|
| Consolidated Accounts (with state-owned economic enterprises) | | | | | | |
| Total revenue | 13.1 | 10.7 | 11.4 | 12.0 | 23.3 | 22.3 |
| Total expenditure | 15.5 | 15.6 | 16.9 | 16.6 | 27.2 | 27.2 |
| Recurrent expenditure | 9.6 | 8.7 | 8.8 | 9.8 | 17.5 | 18.5 |
| Overall Balance | (2.4) | (4.9) | (5.4) | (4.6) | (3.8) | (4.9) |
| General Government (without state-owned economic enterprises) | | | | | | |
| Total revenue | 7.3 | 5.8 | 6.3 | 6.5 | 9.6 | 9.8 |
| Total expenditure | 7.9 | 9.1 | 11.0 | 10.4 | 14.5 | 14.9 |
| Recurrent expenditure | 3.3 | 3.3 | 3.9 | 4.5 | 7.5 | 9.0 |
| Overall Balance | (0.6) | (3.3) | (4.6) | (3.9) | (4.9) | (5.2) |

() = negative, GDP = gross domestic product.

^a Estimated, ^b Projected.

Sources: International Monetary Fund (IMF) (2012, 2013, 2014).

both for growth and for poverty reduction. But to ensure the overall efficiency and effectiveness of public expenditure, it is important to carefully review their level and sectoral allocation, the balance between capital and recurrent expenditure, and the relationship between public and private expenditure. This, in turn, requires significant planning and budgeting.

It will take many years to address the huge backlog of investment needs in priority sectors, requiring an increase in expenditure. In education, for example, public expenditure is expected to increase from 1% of gross domestic product (GDP) in recent years to 3% by 2015, and to be maintained at that level for the next decade (estimates follow in Chapter 4). In infrastructure, the country faces an investment gap estimated at between \$2.3 billion and \$3.6 billion per

year (under the low GDP growth target) or between \$2.9 billion and \$4.7 billion per year (under the high GDP growth target; see page 148).

Government expenditure has been rising in recent years, but its ratio to GDP remains significantly lower than in other countries (Table 2.2). In particular, expenditure going to investments for future growth must be increased; currently the share for education and health, while increasing, is much less than that in most neighboring countries, while the share going to defense is much higher (Table 2.3). The ratio of recurrent expenditure to GDP was about 8% in 2012, much lower than in some other Asian countries (Figure 2.3). To maintain infrastructure investments and finance the provision of other public services, recurrent expenditure must be increased. On a related point, the salaries of government

Table 2.2: Government Expenditure (% of GDP)

| | FY2010 | FY2011 | FY2012 ^a | FY2013 ^b |
|-----------------------|--------|--------|---------------------|---------------------|
| Myanmar ^c | 11.1 | 10.4 | 14.6 | 15.0 |
| Cambodia | 20.6 | 20.6 | 20.0 | 20.0 |
| Indonesia | 16.2 | 17.4 | 18.2 | 17.9 |
| Malaysia ^d | 25.5 | 25.9 | 26.1 | 25.4 |
| Thailand | 17.7 | 20.7 | 20.5 | 20.1 |

GDP = gross domestic product.

^a Estimate, ^b Projected, ^c Without state-owned economic enterprises, ^d Federal government data only.

Sources: World Bank (2012b), International Monetary Fund (2013, 2014).

Table 2.3: Public Expenditure by Sector, Selected Countries, 2011 (% of total public expenditure)

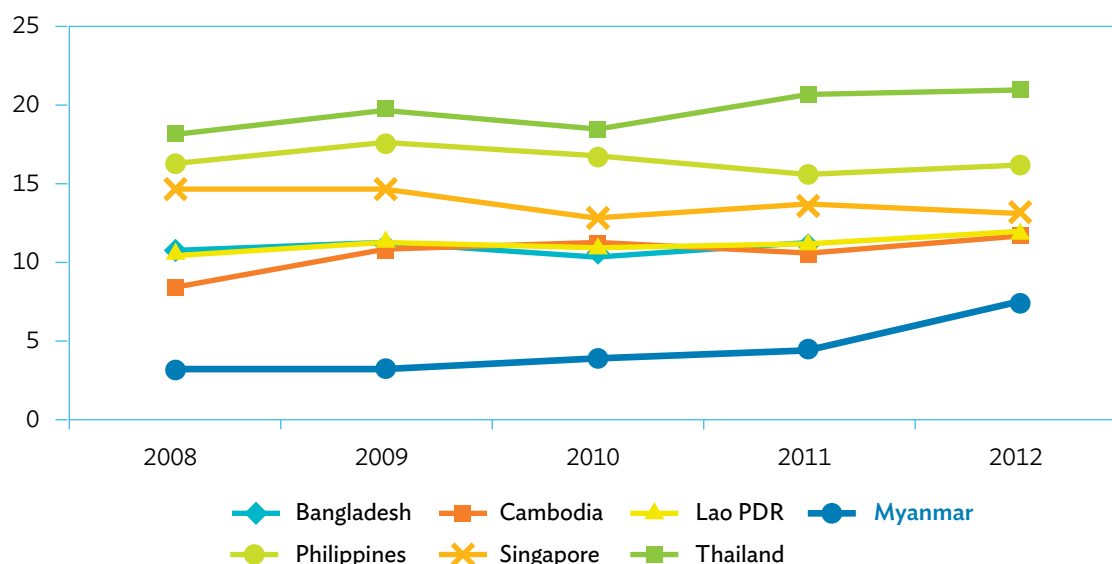
| | Cambodia | Malaysia | Myanmar ^a | Philippines | Thailand |
|-----------------------------|------------|------------|----------------------|-------------|------------|
| Agriculture | 1.6 | 2.6 | 4.6 | 5.5 | 1.9 |
| Education | 13.7 | 21.6 | 3.7 | 13.9 | 21.2 |
| Health | 12.2 | 7.5 | 1.1 | 2.5 | 10.5 |
| Infrastructure ^b | 1.1 | 10.4 | 31.0 | 18.6 | 1.8 |
| Defense | 22.7 | 11.1 | 16.6 | 5.2 | 14.4 |
| Others ^c | 48.7 | 46.8 | 43.1 | 54.3 | 50.2 |
| Total | 100 | 100 | 100 | 100 | 100 |

^a In fiscal year 2013–2014, education and health expenditure increased to 11.6% and 6.3% of total public expenditure, respectively.

^b The Infrastructure line item includes transport, communication, electricity, gas, and water.

^c The Others line item includes industry, housing committee, social security and welfare, general public service, economic services, and others.

Sources: Asian Development Bank (2013a); Union Government of Myanmar, Myanmar Union Budget Law (2011–12); Union Government of Myanmar, Myanmar Supplementary Union Budget Law (2012–2013).

Figure 2.3: Recurrent Expenditure, Selected Countries, 2008–2012 (% of GDP)

GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic.

Sources: World Bank, *World Development Indicators* (accessed June 2014); International Monetary Fund (2013, 2014).

employees as a percentage of government expenditure remains low at around 11%, although the latest increase put the salary level in line with other low-income countries in the region.

Leveraging public-private partnerships can help alleviate budget constraints

In view of the limited resources and needed expenditure to meet the social and economic

objectives, the government could review the potential for private sector participation to complement or supplement public expenditure, depending on specific sector conditions. While there is no universal guideline for appropriate levels of private sector participation in public services, the government should consider a proper balance between public and private provision of public services depending on national and sector specific conditions. In the health sector, for instance, private expenditure is significant and the emphasis needs to be on increasing public and total expenditure as

a percentage of GDP, which is currently very low compared with other ASEAN countries.

Public–private partnerships (PPPs) have the potential to attract more private investment and should be encouraged. That said, it is important to proceed cautiously and ensure that an appropriate regulatory framework is in place. International experience in PPP development, even within ASEAN, varies greatly and suggests that the government needs to give careful consideration to the sectors that may benefit from PPPs, the nature of the partnerships that would be most advantageous, and the regulatory framework that needs to be in place to maximize the chance of success (Box 2.1). Even with a strong emphasis on PPPs, the bulk of infrastructure and social sector investment will likely remain a government responsibility.

Better resource mobilization is urgent for growing public expenditure needs

Mobilization of resources needs to be significantly increased. Government revenues have been rising in recent years, but the ratio of these revenues (excluding state-owned economic enterprises) to GDP, at below 10%, remain low compared with those in other ASEAN countries, which range from 15% to 21% of GDP (Table 2.4). The government benefits from a broad range of revenues directly or indirectly related to natural resources, in particular from oil and gas projects. Part of these revenues goes to the government, while state economic enterprises such as the Myanmar Oil and Gas Enterprise retain a portion as well. In FY2012, total tax revenues were about \$3.4 billion, while total revenues (including

Box 2.1: The Potential of Public–Private Partnerships: International Experience

Sectoral Coverage. Public–private partnerships (PPP) can be used in a range of sectors, including economic and social ones, as well as those with varying levels of competition. PPPs are more widely used in the economic sectors, especially infrastructure. However, wherever they are used, they should be seen as fostering and supplementing—but not a substitute—for the role and obligations of the state in ensuring populations have access to vital services such as transport and education.

Spectrum of PPP Models. There are a broad range of PPP options. For infrastructure, the options range from design–build to outright privatization, whereby the government transfers all responsibilities, risks, and rewards for service delivery to the private sector. Within this spectrum, PPP options can be categorized based on the extent of public and private sector involvement and the degree of risk allocation, with an operation and maintenance PPP, for example, involving less private sector involvement and less private sector risk than a design–build–finance–maintain–operate PPP.

Preconditions for PPPs. While there are varying perspectives on the notion of preconditions for implementing PPPs, most experience would suggest that a clear and transparent legal and regulatory framework is essential to prevent abuses (including corruption), ensure that social and environmental issues are addressed, enhance the effectiveness and efficiency of PPPs, and ensure an appropriate balance of risks and rewards between the public and private sectors. In assessing the desirability and feasibility of a PPP, it is especially important that the level of public risk, including from the guarantees associated with PPP projects, is well understood and reflected in the budget.

Potential. It is also important to manage expectations regarding what can be expected from private participation in infrastructure and other sectors, with respect to the size of the private sector’s contribution and the time required for processing PPP operations. While the private sector can significantly contribute to public service provision, international experience suggests that the government will remain primarily responsible for most infrastructure and social sector investment. For example, in the Republic of Korea, Spain, and the United Kingdom (all countries where PPPs have been active for at least a decade), PPP projects account for no more than 10%–20% of public sector investment. Also, designing PPPs is more complex than public procurement and will require a longer lead time.

Sources: Myanmar Development Resources Institute, Center for Economic and Social Development (2013); Amram and Crawford (2011); Alexander (2012); and Shendy, Kaplan, and Mousley (2011).

Table 2.4: Myanmar Government Revenues (% of GDP)

| | FY2009 | FY2010 | FY2011 (preliminary) | FY2012 (estimated) | FY2013 (budget) | FY2013 (projected) |
|--|-------------|-------------|-------------------------|-----------------------|--------------------|-----------------------|
| Tax revenues | 3.1 | 3.3 | 3.9 | 7.1 | 4.4 | 7.1 |
| Transfers from SEEs | 2.3 | 2.0 | 2.3 | 1.6 | 1.6 | 1.5 |
| Other nontax revenues | 0.5 | 1.1 | 0.4 | 0.9 | 0.6 | 0.8 |
| Grants | 0.0 | 0.0 | 0.0 | 0.1 | 0.2 | 0.3 |
| Government Revenues | 5.8 | 6.3 | 6.5 | 9.6 | 6.8 | 9.8 |
| SEE receipts net of transfers to Union Government | 4.9 | 5.1 | 5.5 | 13.7 | 12.1 | 12.5 |
| Total Revenues | 10.7 | 11.4 | 12.0 | 23.3 | 18.9 | 22.3 |

GDP = gross domestic product, SEE = state-owned economic enterprise.

Note: Total may not add up due to rounding.

Source: International Monetary Fund (2013, 2014).

transfers from state economic enterprises to the government and other state economic enterprise receipts) were about \$11.1 billion. There are four main areas for policy consideration to improve resource mobilization: revenues from resource exploitation, reform of state economic enterprises, tax reform for higher tax revenue, and effective donor coordination for budget support.

Revenues from resource exploitation

Although expanding the government's revenue base beyond resource exploitation is critical, the government needs to ensure that revenue flows from this source contribute to sustained and equitable growth and that it avoids the resource curse and Dutch disease (Box 2.2). Increased transparency and accountability in revenue flows from extractive industries will aid in fiscal policy management, as noted, with help from the Extractive Industries Transparency Initiative and other measures.

Careful consideration is needed of the macroeconomic implications of strategies for investing and saving revenues from natural resources. The government could employ formal analytical tools, such as a model-based sustainable investing tool, to help evaluate the macroeconomic and fiscal effects of investing the natural resource revenues and assess the rate of returns to such investment against absorptive capacity constraints, the possibility of Dutch disease, and risk of resource price fluctuations. The government could also

consider options to smooth revenue flows from resources by accumulating funds during good times and disbursing them when revenues are lower. This could include using instruments such as stabilization and sovereign wealth funds. A problem with reliance on extractive industries for government revenue is that these revenues depend on the price of the exported resources. Prices of commodities have historically been highly volatile, making such revenues, likewise, volatile and unpredictable. This is a main reason why expanding and improving the tax system needs to be given priority to ensure fiscal stability.

Reform of state economic enterprises

State economic enterprises are expected to contribute substantially to the central government budget for many years to come and need to be effectively managed. Since 2011, a significant reform of state economic enterprises is under way with focus on improving their efficiency and profitability and reducing the fiscal burden. Privatization of many loss-making entities has been undertaken and many more privatizations, corporatizations and PPPs are planned. As of FY2014, only 40 state economic enterprises remain, of which 36 are "budgetary units"¹⁰ and four are "autonomous units"

¹⁰ State economic enterprises that are budgetary units have separate revenues and expenditure from their supervising ministry, and are for further transition to being autonomous units.

Box 2.2: The Resource Curse

The resource curse is “the puzzling paradox suggesting that resource-rich countries tend to grow more slowly than resource-poor ones,”^a such as Angola, Congo, Nigeria, and Sudan. International experience and economic theory outline several dynamics underlying this missed growth potential. The most common are:

Volatility in commodity prices

Volatility in international commodity prices could translate into volatility of public revenues and gross domestic product and increase the risk of macroeconomic crises.

Low economic diversification

The high profitability of the extractive industry in developing countries could result in the crowding out of scarce stock of capital from other economic sectors, most notably manufacturing. The result is an economic structure characterized by little diversification and, hence, more exposed to world price fluctuations and shocks.

Social instability and conflict

Struggles over the ownership of natural resources have often resulted in social instability and civil war between neighboring countries or ethnic factions within a state.

Dutch disease

When world prices rise sharply or significant new reserves of natural resources are discovered, countries could be affected by a phenomenon that has come to be known as Dutch disease. A surge in the inflow of foreign currency can generate intense real currency appreciation, depressing non-extractive export-oriented industries and generating inflation.

Intertemporal allocation of spending

Both public and private sector spending choices might be skewed toward the present in resource-rich countries. The total size of reserves might be unknown, boosting optimism and current spending. Moreover, political dynamics might distort the intertemporal allocation of resources toward consumption, leaving too little capital or a too-high stock of debt to future government. Similar considerations apply to the effect of resource wealth on household expenditure in poor countries. Poverty is usually associated with high intertemporal discount factors, pushing households to prefer current consumption (lower taxes, higher public spending) rather than saving or investment.

^a Brunnschweiler and Bulte (2008), 248.

Sources: Myanmar Development Resources Institute, Center for Economic and Social Development (2013); Auty (1998); Van der Ploeg and Venables (2013).

in the process of being corporatized.¹¹ However, the remaining state economic enterprises are still very large. In aggregate, their gross revenues are expected to reach 9 trillion kyats (MK), or \$9 billion, in FY2013) and they cover a wide range of sectors including the extraction of natural resources, which account for almost half of total state economic enterprise activity, power, telecommunications, and industry (Table 2.5).¹² The scope for further privatization needs to be carefully considered and the privatization process itself needs to be reviewed in light of the experience of other countries.

¹¹ The four state economic enterprises that have been made autonomous units are all under the Ministry of Transport: Inland Water Transport, Myanmar Ports Authority, Myanmar Shipyards, and Myanmar Airways.

¹² State economic enterprises under the Ministry of Defense are excluded from this analysis due to unavailability of data.

Tax reform for higher tax revenue

Myanmar has one of the lowest tax yields in the world, at just 5% of GDP. It is therefore vital to accelerate resource mobilization as fast as possible, with particular emphasis on strengthening tax revenues. Meeting the government’s objective of increasing the tax yield to 10% of GDP by 2018, while feasible, urgently requires diversifying revenue sources and simplifying the system. The current one depends largely on income taxes, with little revenue from consumption and no taxes at all on property (Table 2.6). With this limited base, the government relies heavily on nontax revenues, mainly from gas exports and other transfers from state economic enterprises.

Table 2.5: State Economic Enterprises, Selected Ministries

| Ministry | FY2012 | | | | | FY2013 | | | | |
|---------------------------------------|--------------------|------------|--------------|------------|--------------|--------------|------------|--------------|------------|------------|
| | Revenues | | Expenditure | | Balance | Revenues | | Expenditure | | Balance |
| | Kyats (MK) billion | % of total | MK billion | % of total | MK billion | MK billion | % of total | MK billion | % of total | MK billion |
| Energy | 3,158 | 44 | 1,809 | 35 | 1,349 | 4,341 | 48 | 3,168 | 39 | 1,173 |
| Mines | 284 | 4 | 159 | 3 | 124 | 303 | 3 | 162 | 2 | 141 |
| Environmental Protection | 287 | 4 | 212 | 4 | 75 | 385 | 4 | 320 | 4 | 65 |
| Finance and Revenue | 645 | 9 | 649 | 13 | (4) | 707 | 8 | 653 | 8 | 54 |
| Construction | 227 | 3 | 100 | 2 | 127 | 352 | 4 | 374 | 5 | (22) |
| Industry Nos. 1 & 2 | 1,118 | 16 | 889 | 17 | 229 | 610 | 7 | 792 | 10 | (182) |
| Electricity Power No. 1 | 154 | 2 | 354 | 7 | (200) | 1,319 | 15 | 1,641 | 20 | (322) |
| Communications, Posts, and Telegraphs | 914 | 13 | 538 | 10 | 376 | 623 | 7 | 537 | 7 | 86 |
| Others | 387 | 5 | 457 | 9 | (69) | 399 | 4 | 511 | 6 | (112) |
| Total | 7,174 | 100 | 5,168 | 100 | 2,007 | 9,039 | 100 | 8,159 | 100 | 880 |

(-) = negative.

Source: Union Government of Myanmar, Myanmar Union Budget Law, Official Gazette.

Table 2.6: Myanmar Government Tax Revenues

| | Kyats Million | | Growth | % of Total | | % of GDP | |
|---|---------------|--------------|-----------|------------|------------|----------|----------|
| | FY2012 | FY2013 | % | FY2012 | FY2013 | FY2012 | FY2013 |
| Domestic products and public consumption tax | 869 | 1,200 | 38 | 53 | 46 | 2 | 2 |
| Tax on income and property | 685 | 1,265 | 85 | 42 | 48 | 1 | 2 |
| Customs | 85 | 135 | 59 | 5 | 5 | 0 | 0 |
| Tax on usage of national properties | 5 | 8 | 63 | 0 | 0 | 0 | 0 |
| Total tax revenues (excluding transfers from SEEs) | 1,644 | 2,608 | 59 | 100 | 100 | 3 | 5 |

GDP = gross domestic product, SEE = state-owned economic enterprise.

Note: These are the original budget numbers. The final numbers for the year, after taking account of the supplementary budget, are significantly higher.

Source: Union Government of Myanmar, Myanmar Union Budget Law, Official Gazette.

The tax structure must be simplified and exemptions reduced. The current system is extremely complicated and this, together with low capacity in tax administration, means the tax that individuals and businesses actually pay is often arbitrary. This complexity, coupled with weak enforcement, has also created perverse incentives and encouraged rent seeking. Simplifying the tax structure would help increase compliance and make collection more cost effective. Income and profit taxes have undergone significant improvement under the 2014 Union Taxation Law, with the number of tax rates reduced from 12 to five and a minimum threshold

of MK2 million per month introduced for paying tax. Through changes such as these, the government can reduce incentives for tax avoidance and boost the tax base. Harmonizing income tax over the sources of income—salary, profits, interest, and others—would provide further incentives for compliance and reduce the risk of double taxation.

To maintain compliance and reduce administrative costs, the government should generally avoid using the tax system for nonrevenue purposes. It is generally better to make subsidies explicit rather than to attempt to tilt incentives using the tax system.

Modernizing tax collection and administration will increase revenue and the fairness of the system.

Broadening the tax base will help with resource mobilization. To do this, it may be best for the government to consider shifting the balance toward indirect taxes through more widespread enforcement of a flat and simpler consumption tax. Although this type of tax can have a regressive impact on income distribution, such an effect is unlikely to be important, at least in the medium term. This is because the tax will mainly be enforced in urban areas and in the modern sector, and could potentially include a zero rate for basic consumption items. Furthermore, the central and regional governments should consider the significant benefits to be gained from the introduction of a tax on property. This could increase the overall progressivity of the tax system and, as a tax that is better administered at the subnational level, foster fiscal decentralization.

Effective donor coordination for budget support

Finally, a bigger effort is needed to increase the volume and effectiveness of donor support and ensure that it is well integrated into the budget. The government and its international development partners can build on positive developments and move to successful implementation of agreed principles and actions. This will require, among other things: (i) the preparation and approval of sound sector strategies that are government-owned and for which donors can provide coordinated support, preferably on a program basis and using government systems; (ii) ensuring that technical assistance from external partners is focused on building national capacity, not substituting for it; and (iii) focusing on donor support in grants or low-interest loans, with non-concessional borrowing used solely to finance economically viable projects in priority sectors.

Fiscal policy needs to support stability in the context of a broader macroeconomic framework

With Myanmar's history of macroeconomic instability, it is essential that the links between

fiscal policy and broader macroeconomic policies are well understood and managed in a way that they support stability as well as growth and poverty reduction. This means resource mobilization needs to be accelerated, as mentioned earlier, with public expenditure on social sectors and infrastructure prioritized. The budget deficit should be maintained at around 5% of GDP over the medium term. At the same time, fiscal risks need to be assessed, correctly managed, and incorporated into the budget process. A clear policy framework needs to be put in place for assessing whether the government should take on a particular fiscal risk and how that risk can be best mitigated. Finally, the legal and administrative framework to regulate the government's overall exposure to fiscal risks must be developed.

Foreign financing is expected in the medium term to cover about 60% of the government's deficit. The rest will be financed domestically, with an increasing proportion coming from the bond market and less and less from central bank credit. A better-developed market in government bonds will help stabilize government finance and contribute to the CBM's effectiveness in conducting monetary policy. The government has been issuing 3- and 5-year treasury bonds since 1993 and it now also issues bonds with a 2-year maturity. But the market is still at an early stage of development. Developing the government bond market requires policy support and building systems and market infrastructure in issuance, trading, clearing and settlement, and regulation. This will also be important in creating a benchmark yield curve for the private sector and an effective money market.

In the context of a broader macroeconomic framework, public debt management needs considerable strengthening by articulating the objectives for managing debt and putting in place the institutional framework to implement effective debt management. The costs and risks of different debt strategies must be analyzed. Developing domestic government securities markets and minimizing market uncertainty about government financing activities would all support a sound debt management strategy.

Fiscal decentralization needs to be carefully designed

Fiscal decentralization is an important component of the government's overall plans for regional development and decentralization, and to strengthen local governance. International experience suggests that fiscal decentralization leads to significant benefits for economic growth and poverty reduction without endangering overall economic stability, so long as the process is carefully designed and well implemented.

Careful management of the links between political, administrative, and fiscal decentralization is a must. Currently, political decentralization is moving ahead of administrative and fiscal decentralization and lack of clarity in administrative responsibilities is complicating fiscal decentralization. To better link political, administrative, and fiscal decentralization, it is important to develop (i) an overall vision of where the country wants to go with decentralization and what it expects to accomplish, (ii) a framework that defines the main components of the system and the links among them, and (iii) a strategy for implementation.

Four main pillars of fiscal decentralization are needed over the short and medium term. First, expenditure responsibilities need to be defined clearly and in detail, and they should use the subsidiarity principle (that is, government functions should be assigned to the lowest level that can efficiently undertake them). Second, local governments should be assigned stable sources of revenue that are easy to administer and separable across jurisdictions. Third, intergovernmental transfers need to be reviewed with respect to their purpose, form, and universally accepted principles of transfer design. And fourth, a well-defined framework for any local borrowing that may be permitted needs to be developed. Over the next few years, in moving toward fiscal decentralization, processes and capacity for preparing, approving, and implementing budgets need to be developed.

Discussions on decentralization need to be well coordinated with the peace-building process.

Wealth-sharing arrangements should be carefully designed and implemented, including defining what is to be shared and how, generating and sharing accurate information, making the negotiation process as inclusive as possible, and presenting wealth sharing as an incentive for peace.

Increasing transparency, accountability, and the effectiveness of public expenditure remains a priority of fiscal policy reform

Delivering on Myanmar's fiscal objectives will require major reforms in the public financial management system. To this end, the government has finalized a Public Financial Management Reform Strategy to develop a fiscal management standard that will meet regional standards initially, and international and Organisation for Economic Co-operation and Development standards in the long term. The government is expected to continue using the transparency and accountability dimensions of public financial management reforms to drive the overall reform process. The commitment to the Extractive Industries Transparency Initiative is a case in point. This will significantly enhance the quality of government programs and their impact on broader development goals. To be effective, transparency initiatives must link to accountability mechanisms, including regulatory structures, judicial oversight, civil society, and media engagement.

The new strategy will focus on reforming public financial management systems, procedures, and rules. Budgeting and planning need to be much more closely integrated and budgets directly linked to the implementation of the government's priority policies and programs. At the same time, the government should pursue stronger cost-benefit analysis of major projects, greater integration of capital and recurrent budgets, and a medium-term expenditure approach. It can strengthen the budget process through improvements in budget formulation, reducing the significance of supplementary budgets, making the financial position of state economic

enterprises more transparent, and enhancing budget comprehensiveness. Stronger top-down controls, including flows of funds to regions and states; minimizing use of supplementary budgets; improving tax administration; strengthening and aligning cash and debt management; and introducing guidelines on critical dimensions of spending, such as procurement and payroll management, would all strengthen budget execution. Furthermore, the accounting, recording, and reporting dimensions of public financial management should focus on providing information for active management, and the audit and external scrutiny dimensions need to concentrate on enhancing the effectiveness of the Office of the Auditor General and the public accounts and planning and finance committees of parliament.

Institutional restructuring is required to support public financial management reforms in order to ensure that the stability, growth, and poverty reduction objectives of fiscal policy are achieved. This will need to include clarification of the respective policy responsibilities of the President Office, the Ministry of Finance, MNPED, and the CBM. Another important area is to enhance the coordination responsibilities of the Ministry of Finance and MNPED relative to other ministries.

Best practices in other Asian countries can be looked at. In this context, the strengthening of the CBM and the institutional restructuring of the Ministry of Finance and MNPED will be important, for example, in establishing a new Treasury Department, expanding the responsibilities of the Budget Department, and refocusing the work of other departments in the Ministry of Finance and MNPED. Ultimately, sector ministries and lower levels of government will also need to be restructured to ensure they can carry out their public financial management responsibilities under the new reform strategy. Major efforts are needed to move quickly on capacity building across ministries and at all levels of the system. This will be important not only for budgetary purposes, but also to create an environment conducive to overall growth and development.

Attaining fiscal stability and ensuring effective macro-fiscal links will require further enhancements to the planning and budgeting system. It will be important to clarify roles and responsibilities and ensure that the necessary coordination mechanisms are in place so that the Ministry of Finance, the CBM, and MNPED can conduct policies consistent with each other and in keeping with fiscal stability.

It will be important to strengthen coordination between national, regional, and local planning and to enhance planning and budgeting capacity at all levels in the system. To this end, there should be clear assignment of functional and expenditure responsibilities among the levels of government. Unfortunately, the existing legal framework is ambiguous about expenditure responsibilities. For effective fiscal control, defining responsibilities clearly and in detail is critical.

Effective control of budgets, and thus of fiscal stability, requires fiscal transparency. Steps taken so far to increase transparency, while important, are not sufficient. Many government entities still do not fully report their financial operations, and there is still wide use of “other accounts.” This, together with large supplementary budgets, limits the government’s ability to budget effectively. Changing these practices will be an important step forward. Furthermore, although the budget is now made public, it would be helpful if more documents that go toward the design of the budget were disclosed to make the budgeting process more open, inclusive, and responsible.

Monetary Policy

Myanmar’s current macroeconomic policy framework, especially the conduct of monetary policy, is not yet fully supportive of a modern market economy. The main deficiencies are in the current structure of the monetary policy regime and the weak institutions to complement the working of a market-based economy.

A Stronger CBM is the backbone of the monetary and financial system

While recent reforms have accomplished a great deal, broad-based improvement and capacity building in various areas of macroeconomic management and institutional support, including monetary policy and central banking functions, have yet to follow. With the separation of the CBM from the Ministry of Finance, its role in macroeconomic stabilization should increase over time. However, the CBM's history of acting as a quasi-fiscal arm of the government—financing government deficits—has limited its capacity to perform effective monetary policy and other central banking functions that support economic growth and stability. The most important capabilities in this context are to operate monetary policy, manage a stable financial market, and maintain economic and financial stability.

Efforts on three fronts will be required to build a new monetary policy framework and central banking capacity at the CBM that will support economic growth and stability. The first is to dismantle existing nonmarket arrangements, especially in the finance sector, that have inhibited the efficient functioning of financial markets and efficient allocation of financial resources. The second is to install a monetary policy framework and procedures suitable for managing and supporting a market-based economy. The third is to bring the policy capabilities of the CBM up to scratch with such an economy by enhancing its policy processes, central banking functions, and institutional roles.

From the reform experience of the central banks of Cambodia, the Lao People's Democratic Republic, and Viet Nam in the 1990s, this will require reform in three consecutive steps:

- i. Equip the central bank with a basic monetary policy process and capability for performing essential central banking functions. The monetary authority should have a policy framework and process backed by adequate capacity to make policy operative. The new monetary policy framework needs to focus on price stability in a manner consistent with a managed-float foreign exchange regime. At this first stage, some controls of market transactions and prices, including deposit and lending rates, may still be required to limit volatility and ensure orderly market adjustment and stability.
- ii. Build a well-functioning monetary policy framework based on market-based instruments and mechanisms to the extent possible. This step presupposes that a set of institutions and a certain level of financial market development are already in place. At this stage, market-based policy instruments will play a larger role than direct controls in the operation of monetary policy. However, the effectiveness of monetary policy is typically hampered by the evolving nature of a country's financial markets, which at this stage would tend to lack completeness, depth, and scale. With the monetary policy framework in place, however, the central bank should be able to conduct monetary operations that are generally effective in maintaining economic stability. The current states of monetary policy operations in Cambodia, the Lao People's Democratic Republic, and Viet Nam are exemplary of the economies in ASEAN operating at this stage.
- iii. Operate monetary policy and other central bank functions fully through the markets, as they are in Thailand and Malaysia. At this level, the effects of monetary policy on the economy are transmitted through all key channels of the transmission mechanism, including price, quantity, and expectations. The depth and complexities of such financial markets are typical of emerging markets that are fully integrated with the global financial markets. At this stage, global financial markets and policy spillover become a significant influence on monetary policy formulation.

With implementation of the managed-float exchange rate, the move to liberalize the banking sector, and the passing of the new Central Bank Law, Myanmar has paved the way for the CBM to conduct full-fledged central banking functions, including monetary policy, banking supervision, and payments and settlement oversight. In this new role, the CBM faces five main challenges: (i) the increasing inflationary pressure associated with higher growth and deep structural transformations, (ii) the need to channel credit to priority sectors through banks, (iii) a rising savings–investment gap that is reflected in the widening current-account deficit that originated from the opening of the economy, (iv) potential financial instability linked to volatile capital flows, and (v) securing appropriate funding levels for the government from sources other than the CBM. All these challenges will form part of the central bank’s policy agenda in its role as guardian of economic stability. And they will need to be addressed through the CBM’s roles in monetary policy, exchange rate management, and financial market development.

Progress on several fronts will be needed for effective monetary policy

Monetary targets and operating procedures

For better monetary policy management under the managed-float exchange rate regime, a well-defined monetary policy framework is required to complement the new exchange rate system. This will require the CBM to achieve the right combination of foreign and domestic assets for stabilizing against possible external shocks. For this reason, the central bank must clearly recognize that these foreign and domestic assets are vital components of the target monetary aggregate that will serve as the basis for allowing the exchange rate to adjust against the volatility.

As the first step toward achieving this objective, the CBM has to carefully choose its monetary target and craft the appropriate policy for implementing it. Evidence suggests, however, that

at this stage monetary policy is not yet fully defined or formally equipped for implementation. The main obstacles are inadequate financial market infrastructure and institutions for implementing a market-based monetary policy. Right now, the financial market is narrow and lacks depth, while the banking system has not been fully developed to support the real economy. Indeed, the level of money supply (measured by the currency in circulation and demand deposits, or M2) relative to GDP in Myanmar is among the lowest in the ASEAN region.

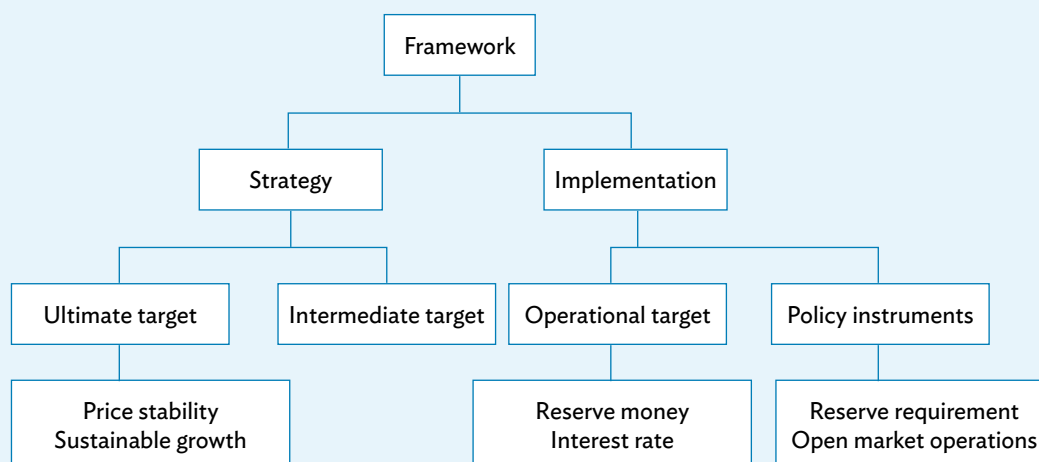
Under these circumstances, and given the CBM’s current resource endowment and operational capacities, a suitable target for monetary policy is reserve money, or the sum of all of the central bank’s money and reserve balances. This is because the central bank has more control over these compared with broader monetary aggregates. As the economy develops and the financial system matures, a move toward inflation targeting could be an attractive alternative.

The CBM’s day-to-day management of monetary conditions must be consistent with the overall stance of monetary policy. This is because any CBM action could, for good or bad, influence the movement of reserve money and, hence, the final outcome for economic stability and inflation. The CBM should therefore be on constant alert to financial market and private sector responses to its policy actions.

As for its policy goals, the CBM should initially set a broad combination of price, growth, and external stability, which are the three most important during economic transition. To implement reserve-money targeting (Box 2.3), the CBM must be able to make projections for economic variables, particularly GDP, price, balance of payments, and fiscal financing, and translate these projections into an appropriate reserve-money target.

Good quality data, available on a timelier basis, will enhance the CBM’s ability to reduce risk in monetary policy operations and increase operational efficiency. The central bank needs data daily and in real time on money market activity, price and trading

Box 2.3: Reserve-Money Targeting under a Monetary Policy Framework



As depicted, the monetary policy framework consists of two steps: (i) making a strategic choice about the ultimate and intermediate target, and (ii) implementing the policy to achieve the target by employing monetary policy tools.

In Myanmar, one reasonable approach for managing monetary policy in the short to medium term would be to use reserve money as an intermediate target. The idea is to guide monetary policy toward ultimate targets, which usually involve a combination of low inflation, sustainable growth, and exchange rate stability. An intermediate target is used because prices, output, and exchange rates, while all deeply influenced by monetary policy, do not have simple relationships with central bank actions and directly targeting them is difficult. An intermediate target provides a compromise: a measure that is more controllable by policy actions, though less related to ultimate economy-wide goals.

The first practical step is to estimate the demand for base money, the sum of reserves and currency in the hands of the nonbank public. This is needed to relate ultimate goals, such as prices and output, to the targeted measure, in this case reserves. Standard economic theory can provide a framework to statistically estimate the money demand relationship, and central banks around the world estimate such relationships. If the money demand relationship, relating measures of money and important macroeconomic variables, is or becomes unstable, then managing monetary policy by intermediate targeting will be more difficult.

The simplest approach to money targeting uses the so-called quantity of money equation:

$$\begin{array}{rcl}
 M_d & = & P \cdot Y / V \quad \text{Money demand is proportional to nominal income (P \cdot Y)} \\
 P & = & \text{price} \\
 Y & = & \text{real GDP} \\
 V & = & \text{velocity of money}
 \end{array}$$

This relationship essentially defines velocity. In the case of reserve targeting, the object of interest is the demand for base, or reserve, money. The standard procedure is to pick a target price level for the next period, often a quarter, usually based on a relatively low inflation rate. The level of real GDP can be chosen similarly based on a targeted growth rate. The last element required is a forecast for V . Here the simplest approach is to extrapolate recent trends in velocity, or to use an econometric forecasting equation for V based on its own recent past values. With target values for prices and GDP and a forecast for the velocity of money, the quantity equation will give a value for the quantity of money that can be used as an intermediate target.

Usually, data for forecasting velocity are available at most quarterly and perhaps only annually. For day-to-day operations, more frequent guidance on at least a monthly basis is needed. The monthly or weekly money targets can be determined most simply by geometric interpolation of the quarterly or annual targets.

continued on next page

Box 2.3 (continued)

Once a target has been set, the central bank needs to make decisions regarding the volume, maturity, and frequency of operations designed to manage and balance market liquidity. Liquidity forecasts can help make those decisions.

Reserve money can be viewed from either the asset or liability side of a central bank balance sheet. On the asset side, it is net foreign assets, plus the net claim on government, plus the net claim on the private sector, plus other net assets. On the liability side, it is currency in the hands of the nonbank public, plus commercial bank reserves, which can be divided into free reserves and required reserves. Liquidity forecasting consists in forecasting the components of the central bank balance sheet. This helps estimate the level of monetary intervention needed to hit the targeted level of reserve money. For example, the quantity of free reserves arises not directly from central bank policy, but from commercial banks' decisions about their own liquidity needs. The simplest approach is to extrapolate short-term trends in the different components. Note that the simplified central bank balance sheet below is appropriate for use in liquidity forecasting, but it may not match well to the pro forma balance sheet of commercial banks. Developing an appropriate translation for liquidity management and forecasting may require coordination of policy and accounting operations at the central bank.

Temporary liquidity management can be conducted via short-term, open-market operations instruments, but only once private asset markets, and particularly the government bond market, have developed sufficient market liquidity. In the more immediate term, a substantial amount of monetary control comes from changes to the quantity of currency in circulation and from the deposit auction. Once markets have reached a more advanced state of development, it will be possible to use different maturities for open-market operations. If liquidity imbalances are more structural, then longer-term instruments would be more appropriate.

| Simplified Central Bank Balance Sheet | |
|---------------------------------------|---|
| Assets | Liabilities |
| Net foreign assets (NFA) | Currency in circulation (CC) |
| Net claim on government (NCG) | Deposit from financial institution (DD) |
| Net claim on private sector (NCP) | of which: Required reserves (RR) |
| (liquidity injection/absorption) | Free reserves |
| Other net assets (ONA) | |

GDP = gross domestic product.
Source: Nijathaworn et al. (2013).

volume in the foreign exchange market, and local currency transactions in the money market. Its staff also needs greater capacity for doing quantitative analysis and forecasting.

Money market development

The CBM needs to develop market-based policy tools to support monetary policy operations and liquidity management in the first phase of reform. This will require the development of short-term money markets, including an interbank market for domestic liquidity, a bond market to support open market operations, and a repurchase market to support liquidity management. These tools are essential for the transmission mechanism of monetary policy.

The lack of active money markets in Myanmar is a major constraint on market-based monetary policy. The interbank market is illiquid, with only a few banks participating, and banks adjust their liquidity with the CBM through the deposit and credit auction window. For the time being, the CBM administratively sets interest rates on deposits and credits. Nonmarket interest rate setting and the underdeveloped nature of the money market, however, seriously inhibit monetary policy effectiveness because changes in policy cannot be transmitted to the real sector. This means that even though the CBM could meet the reserve-money target, it is uncertain that the corresponding output or price trajectories could be achieved without a link between the policy rate in the deposit/credit auction and the interest rate in the credit market.

The money market, including the interbank market, is typically over the counter, and interbank loans are for maturities of one week or less, mostly overnight. But the CBM's discount window facility discourages banks to use the interbank market to manage liquidity. To encourage interbank market activity, which is essential to the longer-term development and resilience of banks, the CBM should transform the facility into a last-resort window. The banks should then be encouraged to adjust their short-term liquidity needs through the interbank market, and penalty interest rates applied to banks seeking funds from the window. A repurchase market should also be established to enable banks to better manage their liquidity. This would make the repurchase market another money market that banks could use to adjust their short-term liquidity, with the proviso that transactions in this market should use treasury bills for collateral.

New policy tools for liquidity management

In general, monetary policy instruments can be classified into three broad groups: reserve requirements, open market operations, and standing facilities. But the CBM's monetary policy tools are limited for now. The main instruments of monetary policy include (i) direct controls on lending and deposit rates, (ii) credit ceilings for quantitatively controlling credit, (iii) central bank bills, (iv) prescribed liquid asset ratios or reserve requirements, and (v) moral suasion. The deposit auction and interest rate ceiling are the two main instruments used for policy operations, while it uses reserve requirements mainly for macro-prudential purposes and not for monetary policy. For the time being, given the limitations, the reserve requirement can be used for the conduct of monetary policy, while the liquidity ratio could serve the need of prudential regulation.

The central bank needs to strengthen its open market operations. Its only liquidity management tool at the moment is a loan window, which is a liquidity injection operation conducted at a rate fixed to the CBM discount rate (10%). A liquidity absorption tool has become necessary now that the foreign exchange auction is in place and the CBM

may need to buy foreign exchange and to conduct open market operations. Because the CBM and the banks hold plenty of treasury bills that can be used for this window, the central bank could also issue central bank bills to sterilize interventions in the foreign exchange market.

Further deregulating the foreign exchange market can foster businesses

The next key policy reform in Myanmar is the deregulation of the foreign exchange business. Banks and their customers must be allowed to purchase and sell foreign exchange based on transparent rules and limits set by the CBM. This is to ensure the private sector's orderly and open access to foreign exchange for trade and investment needs, which can be supported by the country's foreign exchange reserves.

Reform in this area thus far has benefited the business community, while ensuring economic and financial stability. The new foreign exchange management law allows commercial banks to conduct foreign exchange transactions without restrictions. Authorized dealer licensed banks are now allowed to trade foreign exchange through interbank foreign exchange market. Restrictions on the withdrawal of foreign exchange by foreign nationals have been also relaxed. Since November 2012, the CBM has developed instructions and guidelines governing all foreign exchange transactions, including (i) documentation for purchase, sale, and transfer of foreign currency; (ii) obligations for repatriation of export proceeds; and (iii) permission for residents to hold foreign currency accounts. With the consolidation of these guidelines, the CBM has prepared the regulations of the foreign exchange management law and is expected to adopt these regulations in 2014. Transactions not satisfied the authorized dealers should require special CBM approval on a case-by-case basis.

The exchange rate plays important roles in small and open economies. It is a channel for monetary policy transmission and an effective shock absorber for

unfavorable external volatility. However, excessive exchange-rate volatility could be a serious threat to the businesses. The CBM may want to maintain a certain degree of exchange rate stability by keeping volatility at levels that the private sector can manage. If needed, foreign exchange intervention should, in general, focus on keeping volatility at a level that will give economic agents time and room to adjust; and, in times of large and sudden volatility, it should be supported by a set of capital account measures, including capital controls if needed. As the guide to foreign exchange operations, the CBM must constantly be on the lookout for misalignments in economic fundamentals (such as a marked deviation of the exchange rate from an estimated equilibrium level). Thus, for policy management purposes, the central bank needs to get a clear view of the equilibrium levels of the exchange rate. It must have a data system to allow it to closely monitor conditions and developments in the foreign exchange market, particularly exchange rate movements and the activities and behavior of market participants. Timely and reliable data with a full range of coverage would be required for fully informed exchange rate interventions.

The CBM should be fully empowered to operate the managed-float foreign exchange regime. From both policy and operations perspectives, Myanmar's transition to a new foreign exchange system went smoothly and the unification was hailed as a great success. However, the current system has limitations that need to be addressed to improve the effectiveness of foreign exchange management. Among these are (i) the inadequacy of CBM international reserves, which could be addressed by reserve pooling; (ii) limited access to global money markets; and (iii) weak markets and instruments for banks to manage liquidity, the creation of which would require expansion and improvement of the CBM deposit auction facility.

For effective foreign exchange management, the CBM needs to increase its foreign exchange market intervention capacity by centralizing or pooling all reserves at the CBM. A CBM-supported swap facility for the interbank foreign exchange market should be developed to enhance the ability of banks to manage liquidity. This would facilitate the access

of commercial banks to global foreign exchange markets and allow them to manage their foreign exchange exposure autonomously.

Capital account liberalization requires a careful approach

Myanmar faces widening current-account deficits that need to be financed either by FDI or by other forms of foreign capital. Along with these current-account deficits, capital inflows could pose the following serious stability risks: (i) the macroeconomic risk of overheating, inflation, and asset price bubbles; (ii) the financial stability risk associated with the soundness of the banking sector; and (iii) the risk of a sudden reversal in capital flow. These need to be monitored and managed.

A cautious approach to capital account liberalization is advised. This is to ensure that prudent regulations and necessary risk management systems are in place and that capital inflows are managed effectively. Successful experiences in the region suggest a stepwise approach, beginning with a small opening of the capital account, and then gradually increasing its scope. This applies to both the liberalization of capital inflows by foreigners and that of capital outflows by residents. The steps must be properly sequenced following this rule of thumb: Long term before short term, FDI and other non-debt before debt, and inflows before outflows. The sequencing must be done in such a way that the preconditions underlying each step are clearly identified. Instituting conditions on capital account transactions will help the CBM manage the exchange rate and ensure the effective transmission of monetary policy. However, the CBM must first establish and demonstrate the capacity to manage the domestic financial markets before it can move from step to step in the foreign financial markets.

The CBM needs to develop a reserve management strategy and its operational structure

Reserve management is a key function of most central banks, the CBM included. Box 2.4 illustrates

a reserve management strategy for a central bank and the required operational structure. Typical of these objectives are (i) ensuring sufficient liquidity for implementing monetary and exchange rate policies, (ii) facilitating international trade and finance, (iii) creating a store of wealth, (iv) enhancing market confidence, and (v) providing a backup for currencies in circulation. Once these objectives are defined, managing reserves can be conducted in terms of multiple tranches that have different asset compositions and durations to meet specific objectives. The CBM also needs to provide modern back-office support and an accounting system for reserve management.

Coordinating monetary with fiscal policy will improve stability

Monetary policy becomes more effective when markets clearly understand policy objectives and the links between monetary policy measures and these objectives. Transparency also plays a critical role in conveying the idea that the central bank stands accountable for its policy objectives and operations. The issue here is to build a monetary decision-making process that is independent, transparent, and credible in the eyes of the market. To achieve this, the CBM could adopt and use the same transparent monetary policy committee process that central banks use for inflation targeting for its reserve-money targeting.

Monetary and fiscal policy need to be well managed and better coordinated to help achieve economic objectives. Even though the new central bank law separated the CBM from the Ministry of Finance, and gave the CBM more functional independence to operate monetary policy, the central bank should closely coordinate with the ministry on the financing of the budget deficit and its implications. A structured institutional and operating arrangement that allows the two institutions to formally share views and set policy directions must support this coordination.

The CBM must clarify its role as a lender of last resort

The CBM's role also extends to ensuring financial stability. Central banks in emerging markets typically perform this role more extensively, covering monetary and financial stability as well as development roles. A stable financial system is able to better absorb shocks and effectively process payments in the economy. Central banks in particular have a keen interest in ensuring the stability of the banking system and the safety and efficiency of the payment and settlement system. The CBM, which has a mandate for financial supervision, needs to perform two main roles in this regard: ensuring the solvency of individual banks through effective banking regulation and supervision, and ensuring the soundness and stability of the whole financial system through macro-prudential supervision and the oversight of the payments system.

Central banks ensure financial stability mainly by acting as lender of last resort. This includes providing liquidity, which has a two fold objective: to support individual financial institutions experiencing exceptional funding difficulties and to cover temporary shortfalls in settlement balances that can arise in the daily settlement of payments. This function aims to overcome a shortfall in liquidity in an individual financial institution that may pose a systemic risk or cause a domino effect.

To fulfill this role, the CBM could introduce standing facilities and emergency lending facilities. Central banks provide the former as a liquidity facility that financial institutions can borrow from or deposit their funds to overnight to help adjust their liquidity positions at the end of the business day. Banks temporarily experiencing shortfalls in liquidity can borrow funds by pledging securities as collateral, while institutions with excess liquidity can deposit funds at the central bank and earn interest. Interest rates on standing facilities should equal the policy rate plus or minus a certain margin, depending on whether financial institutions borrow from or

Box 2.4: A Strategy for Central Bank Reserve Management and Operational Arrangement

1. Investment Strategy

The following is an outline of a typical strategic framework for effective reserve management:

- 1.1 Return on investment: Reserve management can be accomplished through either one or a combination of these approaches.
 - Passive management (or indexing): A benchmark portfolio can be determined in consideration of strategic asset allocation based on long-term risk and return trade-offs given the reserve management objectives and constraints. A passive approach to reserve management is to invest as close to the benchmark as possible. This approach will generate the investment return very close to the benchmark return. This may be preferred if it is assumed that the benchmark is already an optimized allocation and, given market efficiency, it will not be easy to create additional return over and above the benchmark without access to other information. This approach is also the least costly.
 - Enhanced indexing: Given that the market is not always efficient, and experiences anomalous episodes, opportunities may arise to deviate from the benchmark over time to capture swings in asset prices. With this slight deviation, reserve managers are taking on market risk that can be measured in terms of track error or the amount that portfolio return is expected to deviate from the benchmark return. Typically, decisions to deviate are based on a combination of differences in asset price from their fundamental value or from market assessment. Both of these could change over time. Hence, this approach will require increased costs for analysis and for the manpower required to monitor and manage exposure.
 - Active management: Typically found in the realm of private sector fund managers, this involves active deviation from the benchmark or the utilization of track error to achieve greater returns. This approach is costly, not only in terms of the operating cost needed to reward fund managers, but also in the possibility of market losses relative to the benchmark as a result of the deviation. As such, it may not be fully suited to a central bank.

In addition to the investment approach, another dimension that can contribute to return on investment is the choice between internal and external management. Factors that need to be taken into consideration include fees, technology transfer, and mandate.

- 1.2 Liquidity for immediate uses: The size of the liquidity tranche needs to be identified based on policy-making needs. The larger the tranche, the greater the ammunition to achieve desired monetary and exchange rate policies. However, excessive size of the tranche can be costly, as shorter-date assets generally have lower returns. Construction of the benchmark for this tranche will be a product of policy needs as well as diversification along different maturities. Also important will be the issue of operational burden: too short an average maturity will increase the frequency of rollover.
- 1.3 Risk management strategy: A number of risks need to be monitored and managed, including market risk, country risk, counterparty risk, and settlement risk. It is important to begin with an understanding of the various dimensions of exposure. Each risk will have its respective matrix to capture exposure. The middle office can set out risk management guidelines, while the compliance officer constantly monitors adherence to these guidelines.

2. Governance and Work Process

Internal work process can be classified into three functional groups:

- 2.1 Front office: responsible for investment decisions covering the assessment of economic and financial outlooks, forecasting and valuing financial instruments, formulating investment strategy, and dealing to capture trading opportunity or to rebalance portfolio.
- 2.2 Middle office: responsible for risk management that includes constructing the benchmark; setting investment limits; and compliance, monitoring, and reporting of risk exposure. It is necessary to create different reporting lines between the front and middle offices to create checks and balances. However, a potential drawback to segregation will be a loss of efficiency.
- 2.3 Back office: responsible for trade settlement and record keeping of transaction and portfolio holding. This function can be either combined with the middle office or be part of a bank-wide accounting department. The functions of settlement and fund transfer are integral to the process even though they may be in different departments. Either way, the process needs to be close to the front and middle offices. Information systems to support trade-flow operation are also needed. The back office, in conjunction with the middle office, is responsible for the foreign exchange custodian function, which needs to work in tandem with the counterparty custodian to settle trades. Transparency and accountability must be built into the reserves management process.

Source: Based on Nijathaworn et al. (2013).

deposit funds at the central bank. The rates should be such that they encourage first market participants to obtain liquidity from the money market.

Emergency lending facilities provide longer-term support to solvent financial institutions experiencing severe and persistent liquidity problems that could lead to insolvency and bank runs. Basically, a central bank provides the facilities to deposit-taking institutions vulnerable to sudden loss of depositor confidence. In designing an emergency lending facility, the CBM should consider that confidence is essential for financial system stability, that potential moral hazard has to be minimized, and that a clear and credible crisis-resolution mechanism is crucial to facility success.

Payments system oversight needs to be improved

A safe and efficient payments system is fundamental to economic and financial activities, to monetary policy implementation, and to overall financial stability. Ensuring efficiency in the payments system is a key responsibility of a central bank. To achieve this, the CBM should develop relevant short-term and long-term payments system strategies. It should consider establishing a payments system committee, which could develop consistent payments system policies that use best-business practices and are technologically up to date. To support economic expansion, the CBM should take a leading role in developing electronic-based payments systems, including an electronic check clearing system, electronic funds transfer, and a real time gross settlement system. Some of these developments are already under way.

The CBM's role as a development bank should be considered carefully and made clear

In less developed economies in which the domestic financial system is not yet mature, the central bank often has an additional role in ensuring alignment between monetary policy and government development policies.

Myanmar's domestic banking sector is still developing and not yet able to effectively perform intermediary functions and the number of entrepreneurs with access to credit is still very limited. In this context, the CBM could guide the extension of credit by commercial banks so that it aligns with the country's development plans and prevailing economic conditions. In providing credit in this way, the central bank could consider establishing a rediscounting system whereby it extends credit to the economic sectors in the form of rediscounts of promissory notes at preferential interest rates.

In its development role, the CBM must ensure that the main responsibility of a central bank to safeguard macroeconomic stability is never compromised, and that it should play this role only in the early stages of economic transition.

The CBM needs organizational development and capacity building

To carry out its main duties reliably, the CBM needs an efficient organizational and management structure. It should review its current structure and align it with changing needs and responsibilities. The task ahead is to equip the monetary authority with the capacity and work processes, as noted, for monetary policy formulation and implementation, banking supervision, and operation of the reserve management and payments systems.

Within the CBM, an appropriate monetary policy process must be put in place for making policy decisions in a structured and credible manner. This should be supported by a capacity-building program for CBM staff, including senior staff, by the development of an up-to-date data reporting system by all banks, and by the acquisition of analytical tools to assess financial market and economic conditions.

The CBM must also rapidly build its institutional capacity to assume all of its responsibilities under the new law. To this end, it should formulate a sequenced and detailed capacity-development program for senior officers and staff, then coordinate

its capacity-building efforts with institutions such as the Asian Development Bank, the International Monetary Fund, and the World Bank.

On data management, centralizing activities are recommended. Data collection and compilation should be separated from policy formulation to increase transparency and efficiency in data management. Indeed, a big benefit of centralized data management is the reduction of interdepartmental bureaucracy in information sharing, thus providing clear accountability among those who collect the data and those who use them.

Recommended central bank reforms

Nine main areas of reform are needed for the CBM to carry out required central banking functions:

- i. building a well-defined monetary policy framework that is operationally consistent with the managed-float regime,
- ii. developing a set of market-based policy instruments to implement monetary policy,
- iii. setting up essential financial markets to enable monetary policy operation and to support the transmission mechanism,
- iv. setting up a monetary policy process to guide structured decision-making,
- v. centralizing holdings of official reserves at the CBM to facilitate exchange rate management,
- vi. introducing a system of approval-based foreign exchange controls to allow greater private sector access to foreign exchange,
- vii. installing liquidity-supporting facilities to strengthen the CBM's role as lender of last resort and payments system overseer,

- viii. organizational change and capacity building to support new roles, and
- ix. data development and management as part of capacity building.

Financial Sector Reform Policy

Myanmar's financial sector has made great strides in the past 2 years. Many reform initiatives are under way, and the government has made important progress in the policy and institutional environment for the financial sector. Some of these important financial sector reforms for central banking operations have already been discussed above. However, much more is needed to develop a well-functioning financial system that can support the country's rapidly growing economy. To achieve the rapid yet stable development needed, the government needs to prepare a comprehensive financial sector development strategy. As a starting point, it can use the master plan under preparation with support from the International Monetary Fund and World Bank. The strategy should begin with a feasible and ambitious vision of the financial sector that can serve as the reference point for all sector development policies. This could include policies to increase banking system efficiency, promote stability of the financial system, and enhance financial inclusion.

Urgent reforms are needed to accelerate finance sector development

The financial system comprises 4 state banks, 22 private banks (9 are semi-government institutions), 42 representative offices of foreign banks and foreign finance companies, 1 state-owned and 12 newly licensed insurance companies, 4 private leasing companies, and a nascent capital market (Figure 2.4). The CBM is the main supervisor of the banking system, including state and private banks, finance companies, mobile payment

Figure 2.4: Banking System Structure



Note: AEON Credit Service Company is a representative office of a finance company, not a bank. The last seven foreign banks were issued licenses in March-April 2014 and had yet to commence operations as of June 2014.
Sources: Nehru (2014); Central Bank of Myanmar (2014).

businesses, and money changers, while the Ministry of Finance has supervisory responsibilities for microfinance supervisory enterprises, insurance, and securities and capital markets. While the four state banks dominate, private bank assets in aggregate have been growing rapidly in recent years.¹³ The new Myanmar Microfinance Bank and the Construction and Housing Development Bank have been established and more policy bank license applications are being considered to help farmers gain access to credit and financial services.

Significant reforms have taken place in the banking sector since 2012, including liberalization of foreign exchange operations, the gradual lifting of bank regulations on capital requirements such as the deposit-to-capital ratio and additional capital requirements for branch expansion, the easing of bank operations such as more flexibility in deposit and lending rates, eligible collateral, and loan ceilings to farmers. Private banks are now allowed to offer foreign exchange operations at par with state banks. As of the end of May 2014, 3 state banks, 22 private banks, and 162 nonbank companies are licensed to carry out currency exchange business.

By most measures, however, the formal financial system is underdeveloped compared with other countries. The asset size of the financial system remains small compared with its regional peers, despite the rapid increase in the past few years (Table 2.7). The four state banks continue to dominate the domestic banking market, with their total assets accounting for more than two-thirds of total banking sector assets. The assets of the private banks have been rising rapidly over the past few years, but their total assets now command only about one-third of the banking market. Rural areas have limited access to banking services—bank lending to agriculture is largely restricted to the state-owned Myanmar Agricultural Development Bank, which faces financial and operational challenges of its own and covers only a small share of the financing needs of farmers. The new microfinance bank, Myanmar Microfinance Bank, and the Construction

and Housing Development were established as development banks and more policy bank license applications are being considered to support small-scale farmers.

In addition to its small size, Myanmar's banking system faces many other challenges. Collateral-based lending inevitably restricts lending only to those with land holdings, although the government expanded collateral options recently to include key agricultural export goods. State-imposed social responsibilities encumber state banks, which consequently have little incentive to manage risk and are financially weak. Private banks also have their shortcomings. Most are owned by closely integrated private commercial groups, and consequently their loan portfolios tend to be concentrated within this group and can mask large risks.

Capital market development is at a very early stage. A committee of capital market development was established in July 2008, but any meaningful work was only begun in June 2011 with technical assistance from the Japanese Daiwa Institute of Research and the Japan Exchange Group which has been financially supported by the Japan-ASEAN Fund for the Technical Assistance. There is no stock exchange or corporate bond market of note in Myanmar. With the enactment of the Securities and Exchange Law in July 2013, Myanmar has laid the legal foundation for the development of its first stock exchange in Yangon, which is scheduled to open in 2015. While the CBM issues treasury bills and bonds, there is no secondary market where they may be traded.

Weaknesses in basic institutional systems and infrastructure constrain financial system growth in general and the banking system in particular. As a priority described in the previous section, the financial system needs an automated payments clearance system, a money market system comprising an interbank market, a bond market, a repurchase market for modern liquidity management, and an electronic real-time data system that connects commercial and development banks with the central bank (Nijathaworn et al. 2013).

¹³ The central bank supervises only three out of four state banks, excluding the Myanmar Agricultural Development Bank.

Table 2.7: Size of Myanmar's Finance Sector by Total Assets

| | March 2010 | | March 2011 | | As of March 2012 | | March 2013 | | Feb 2014 | |
|------------------------------------|-----------------------|--------------|-----------------|--------------|---------------------|--------------|------------------|--------------|------------------|--------------|
| | Kyats (MK) billion | % of GDP | MK billion | % of GDP | MK billion | % of GDP | MK billion | % of GDP | MK billion | % of GDP |
| Banks | 3,905.85 | 11.52 | 6,163.81 | 15.50 | 8,414.29 | 18.17 | 22,337.83 | 43.62 | 26,722.46 | 45.69 |
| State banks | 1,959.87 | 5.78 | 2,519.15 | 6.33 | 3,205.05 | 6.92 | 15,296.25 | 29.87 | 17,760.11 | 30.36 |
| Private banks | 1,945.98 | 5.74 | 3,644.66 | 9.16 | 5,209.24 | 11.25 | 7,041.58 | 13.75 | 8,962.35 | 15.32 |
| Non-banks | | | | | | | | | | |
| Total bonds outstanding | 940.64 | 2.78 | 1,311.46 | 3.30 | 1,838.09 | 3.97 | 2,033.40 | 3.97 | 2,800.31 | 4.79 |
| Market capitalization ^a | | | | | | | | | | |
| Total | 4,846.49 | 14.30 | 7,475.27 | 18.79 | 10,252.38 | 22.14 | 24,371.24 | 47.59 | 29,522.77 | 50.48 |

GDP = gross domestic product.

^a Myanmar enacted the Securities and Exchange Law in July 2013 to pave the way for the launch of the country's first stock exchange, scheduled in October 2015. Simultaneously, the country is working on the formation of a securities and exchange commission. Companies to be listed are currently undertaking preparations.

Source: Central Bank of Myanmar.

The highest priority in the financial system is to build strong institutional foundations for the banking system to improve the efficiency of financial transactions and financial safety and security. Such a foundation should be built upon:

- i. **An automated clearance system**—the authorities are implementing this with the assistance of the Japan International Cooperation Agency and other international financial institutions. Banks spend a lot of time moving large amounts of cash from bank to bank, branch to branch, or to and from the central bank—and a lot of time and labor is devoted to counting money at each point (which is prone to errors despite counting machines). Introducing a check clearance system will significantly improve banking efficiency.
- ii. **An automated payments system**—the CBM is also introducing this with the help of Japan International Cooperation Agency and other international financial institutions, in tandem with the clearance system. Both systems have to be fully consistent to ensure that transfers between banks occur immediately after checks clear.
- iii. **Introducing a money market system**—as described in the monetary policy section. The challenge in developing a money market system is the excess liquidity in the banking system. Deposits exceed loans significantly. Although the CBM allows banks to deposit excess liquidity for 14 days, at an interest rate capped at 4% due to budget limitations, this low interest rate provides little incentive for banks to avail themselves—especially because banks have other ways to use their excess liquidity, including purchasing treasury bonds from the CBM. Immediate next steps should include the introduction of market-based monetary instruments (such as CBM bills issued through auctions) that will help banks in managing their liquidity based on price incentives. The CBM's primary objective should be to encourage banks to trade money and other liquid financial instruments among themselves; only when these prove inadequate should the CBM provide funds through its own liquidity facilities.
- iv. **A credit information system**—features of this should include legal protection to

encourage its activities, integrity of the database, information only used to advance public policies, privacy, and enforcement and supervision.

- v. **Financial accounting standards**—all banks and corporates must eventually use the Myanmar Financial Records Standard and publish audited bank balance sheets and income statements.

Carefully managed FDI in banking could improve efficiency

Myanmar had not yet permitted FDI in banking as of June 2014, when this report was finalized. As a result, 42 representative offices of foreign banks in Yangon provide only liaison support to clients operating in the country. However, the authorities plan to offer banking licenses to a limited number of foreign banks in September 2014, although they will not be allowed to engage in domestic retail banking—that is, offering services to individual customers such as personal loans and accounts, mortgages, and services provided directly to customers.¹⁴ The first group of foreign banks can take the form of (i) a locally incorporated subsidiary with 100% foreign ownership, (ii) a branch of a foreign bank, and (iii) a joint venture with local banks.

While the entry of foreign-owned banks into the financial system is desirable because of the potential benefits for banking system efficiency and modernization, the authorities need to ensure at this stage of financial development that this does not breed systemic financial sector risks. Potential risks exist in the weak portfolios of many domestic banks and the absence of a strong regulatory and institutional framework supportive of stability and risk management in the banking system; authorities need to exercise caution in liberalizing the finance sector.

¹⁴ A committee was formed in May 2014 to select 5–10 out of 42 foreign banks that have opened representative offices in Myanmar. Foreign banks rushed to open representative offices because they would be granted an opportunity to invest in the banking market. Between March and April 2014 alone, banks opened seven foreign representative offices to meet the deadline for application.

They could begin by encouraging strategic partnerships and joint ventures and then gradually phasing in the entry of foreign banks, even as they are expected to issue licenses for foreign banks later in 2014. The pace of this policy transition should take into account the development of the institutional and regulatory system and the speed with which domestic banks acquire adequate financial and competitive strength. In consideration of the allowance of full foreign ownership of banks and banking licenses at this early stage of finance sector development, authorities may need to apply ceilings on the market share that foreign banks can attain to give room for domestic banks to grow in the initial years, while preventing their entry from generating systemic risks in the domestic financial system.

Restructuring and consolidation of the banking system could enhance financial efficiency and stability

Given Myanmar's stage of development, the number of commercial banks appears ample. In Thailand, for example, there are 30 commercial banks and 6 specialized financial institutions, with 2012 GDP in current US dollars of \$366.0 billion, in comparison to Myanmar's 26 banks for a \$55.8 billion economy. The country's banks also have much smaller asset sizes in general. Allowing more banks to enter the market at this stage would lower franchise values, encourage risky behavior, and increase the probability of bank failures. The authorities should instead encourage mergers between banks to reduce their number but to strengthen their balance sheets—and start with the state banks.

To encourage competition, the CBM and government should ensure all laws and rules relating to the financial sector apply equally to state and private banks. They could also allow banks that bid successfully at foreign exchange auctions to indicate an account for depositing the auction-bought foreign exchange. The central bank should regularly consult with the private banks, the public, and enterprises to identify other efficiency enhancements.

Restructuring of state banks should be a priority. Currently, state banks are overburdened with development mandates and quasi-fiscal activities. In due course, the government should return to the CBM and the Ministry of Finance all central banking and treasury functions performed by state banks, to allow state banks to focus exclusively on banking activities. In addition, state banks—as well as the nine semi-government financial institutions—need to undergo thorough international-standard financial and performance audits. The audit results should be the basis for preparing a forward-looking strategy for their restructuring, which could include closure, merger, privatization, or transformation into one, or at most two, well-financed and clearly focused development banks or credit guarantee agencies (see pages 57–60).

Gradual liberalization of interest rate policy will allow more efficient banking

Liberalizing interest rates in the absence of a strong financial infrastructure and supervision and risk management system can lead to risky bank behavior and exacerbate systemic risks. The authorities should consider the sequencing of these actions carefully. The CBM may continue to determine the interest rate structure administratively for the time being, but needs to make sure that depositors earn positive real returns on deposits and banks have an adequate intermediation margin. When the CBM's capabilities are well developed and suitably supportive financial infrastructure is in place, the central bank could consider replacing the fixed interest rate structure with a floor for lending rates and a ceiling for interest rates—which will gradually introduce some competition between banks on the price of capital (at the margin).¹⁵ Finally, after the establishment of a strong money market system and sufficient financial sector development, the government could consider liberalizing lending rates first, and, at a later date, liberalizing deposit rates.

¹⁵ In fact, the CBM recently allowed all banks to set deposit and lending rates within a band. At the time of writing, the minimum deposit rate was 8% and the maximum lending rate 13%.

Strengthening and improving CBM supervision will aid financial sector development

The CBM, with possible support from development partners, should consider hiring a certain number of banking experts/supervisors from neighboring Asian countries for a specified period, say about 5 years, who are familiar with financial sector development experiences and Asian financial market conditions. These supervisors could kick-start the CBM's supervisory capacity and the adherence of banks to the Myanmar Financial Records Standard, as well as train CBM supervisors to take over all supervisory responsibilities after the 5-year period.

The CBM's reform of its regulatory framework should focus on moving from direct, ex ante approvals of transactions to indirect, ex post supervision to ensure banks operate responsibly and within central bank guidelines. In addition, the CBM should conduct an audit of all bank regulations and eliminate those that serve little purpose. This will be an ongoing process and authorities could seek the support of advisors from the international financial institutions as well as from neighboring central banks.

Authorities should not wait until insolvent institutions become illiquid and precipitate a systemic banking crisis. Instead, in addition to the measures already proposed, the authorities should consider establishing a department within the CBM that identifies insolvent banks; assists in the orderly winding down of their operations; and ensures that depositors, especially small depositors, are protected and that risks are not transferred to other banks or financial institutions.

A deposit insurance system may be considered to enhance public confidence in the banking system

Depositors have limited information about the risk and value of bank assets, which, in times of financial stress, can lead to bank runs and contagion that spreads from one bank to the next. Furthermore,

the history of demonetization during the past military regime and banking crises of 2003 and 2008 made a considerable dent in public confidence in the banking system. Deposit insurance can be considered to help restore confidence and limit the risk of bank runs by guaranteeing depositors that they will receive some, or all, of their deposited funds if their banks become insolvent or illiquid. But this protection can only be successful if there is an effective supervisory, regulatory, institutional, and financial framework—this will take some time to develop. In the meantime, with the assistance of international financial institutions, the government should study the feasibility of a deposit insurance scheme and start to build its foundations, borrowing from good practice in other countries at a similar stage of financial development.

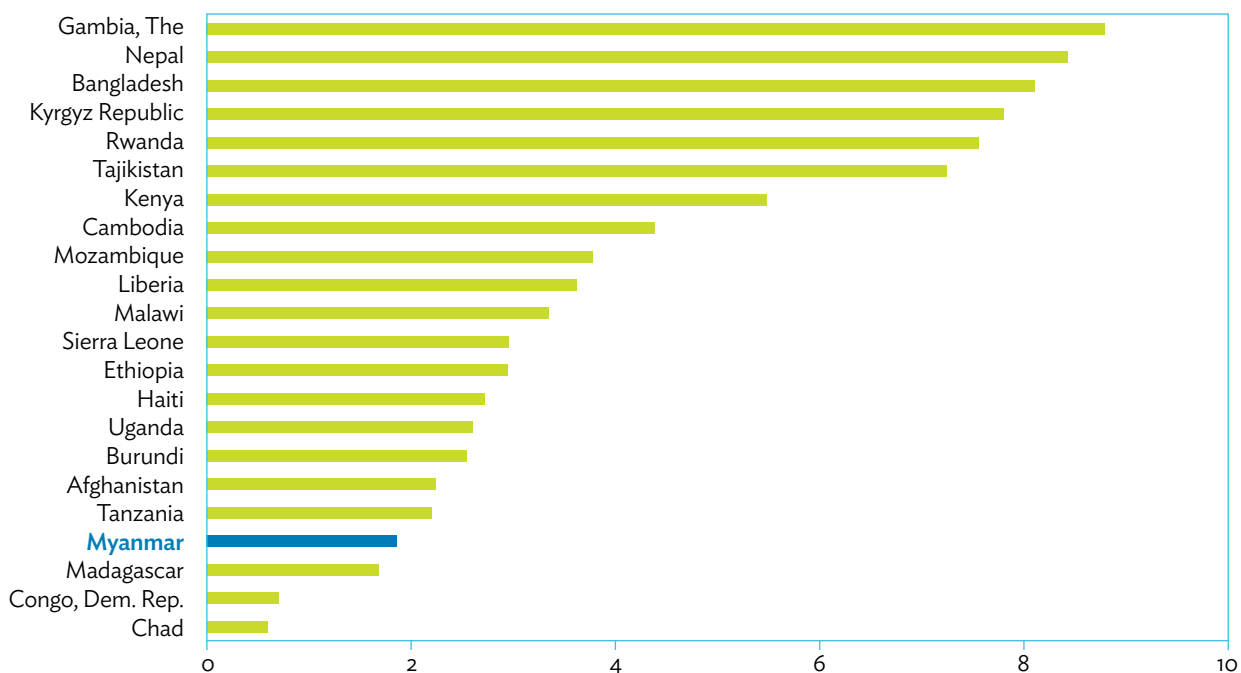
Making the financial system more inclusive should be a priority

By 2030, Myanmar should have a strong, stable, competitive, and inclusive financial system that provides access to financial services for the entire population and that contributes to growth by

efficiently channeling domestic and foreign savings toward productive investments. At the moment, however, access to banks is limited, as shown in the cross-country comparison in the number of commercial bank branches per 100,000 adults (Figure 2.5). Financial services can be made more available to all through a healthy set of microfinance institutions and one or two large, independent, well-financed, and professionally managed development banks.

More branches will obviously bring banking to more of the population. Because the CBM has significantly eased the regulatory requirements to open new branches and operate ATMs, the number of both has increased significantly in the past few years. As of the end of May, there were 1,329 bank branches (state bank branches of 553 and private bank branches of 776) and 700 ATMs. Myanmar Payment Union was established in September 2011, issuing debit cards for domestic services as well as facilitating credit card usage of international travelers. The central bank needs to recognize that private banks have every incentive to identify branches that will improve service standards and ensure prudential safeguards. The central bank

Figure 2.5: Commercial Bank Branches in Low-Income Countries, 2012 (per 100,000 adults)



Source: World Bank, World Development Indicators (accessed June 2014).

should focus on overall prudential standards for banks and, in on-site inspections, determine whether bank systems meet CBM standards.

Branchless banking can have substantial benefits, and many of Myanmar's private banks are already gearing up to introduce various types of branchless banking. With rapidly increasing mobile phone penetration, mobile banking could play a major role for expanding the reach of financial services. National mobile network operators—as well as two international mobile service providers, namely Telenor and Ooredoo—have established an increasing number of points of sale, which could function as branchless banking agents. As of end May 2014, 2,813 points of sale were in place. Expanding mobile access through such innovative approaches will help increase banking efficiency and public access to finance. There are concerns over the early adoption of high technology and innovation and the attendant risks that are yet to be known. However, financial instability could be avoided if the authorities combine appropriate regulatory and supervisory safeguards with market liberalization policies. One issue in particular needs careful handling—the central bank must continue to emphasize “know-your-customer” requirements for financial institutions to comply with international standards for anti-money laundering and combating the financing of terrorism.

Policies on microfinance institutions need careful consideration

A challenge facing policy makers is how to increase the access of small firms, farms, and individuals to financial services, especially their access to credit. The 2003 banking crisis and other shocks to the financial system led to an understandable emphasis on stability and prudence and on the use of collateral to underpin all loans. Consequently, banks deny loans to those without land as collateral even if their investments could potentially generate high rates of return. Instead, the lion's share of loans go to those who own land and are arguably in least need of financing. Against this backdrop, it is not

surprising that the government places a high priority on microfinance.

The Microfinance Law was enacted in November 2011 to provide a legal background for the establishment of fully privately owned microfinance institutions by both local and foreign investors among other things. Since then, there has been a proliferation of microfinance institutions and, due to extremely low capital requirements, there are 189 licensed microfinance institutions in operation as of end May 2014. The rapid expansion of a microfinance network poses risks to the overall financial system. The Myanmar Microfinance Supervisory Enterprise has been designated to license and supervise microfinance institutions, but has very limited capacity to do so. Many microfinance institutions are also allowed to collect deposits, effectively making them banks without proper supervision in place.

The government may want to place an immediate though temporary moratorium on granting new licenses for microfinance institutions. It is also recommended that the government review developments in the sector as well as current institutional arrangements for licensing and supervision. Based on the review's findings, it should rethink its microfinance development strategy more carefully as for providing support for the sustainable and vibrant microfinance system.

Strategic use of state development banks can enhance financial inclusion

The government has placed considerable emphasis on extending loans to those who cannot afford collateral—and serious consideration is being given to a state-owned credit guarantee agency that will underwrite loans to small enterprises. Such agencies are only one of many kinds of specialized state-owned development banks (SDB). These are established in the belief that investments yielding high social returns can sometimes be ignored or underserved by the private sector because of externalities and unattractive private returns.

SDBs can specialize in one sector, cut across many sectors, or focus purely on external trade as export-import banks.

International experience shows that only those SDBs (including credit guarantee agencies) with clearly defined mandates, high corporate governance standards, strong risk management capability, proper regulation and supervision, and strong management are successful (Box 2.5) (De Luna-Martínez, and Vicente 2012). Indeed, several SDBs around the world have failed due to unviable business models, poor lending decisions, weak management, a large share of nonperforming loans, undue political interference, capture by interest groups, and lack of well-defined mandates (see Gutierrez et al. 2011).

This is not to say that SDBs cannot be successful. In fact, there are a number of examples of SDBs that are making a development impact and remain financially sound, and their experiences suggest innovative ways whereby SDBs can improve the chances of success. These include introducing a legal obligation to achieve a minimum return on capital, placing the development bank in the private sector under a management contract, adopting legislation preventing the government from bailing out the development bank in case of failure, sharing some lending risks with the private sector, and placing independent finance professionals on the boards of directors (de la Torre, Gozzi, and Schmukler 2007).¹⁶

Any decision to establish a development bank should be linked closely to the state-bank restructuring program. Those state banks that survive should focus on development banking, leaving commercial banking to the private sector. If the government does decide to proceed with a development bank arrangement (such as a Credit Guarantee Scheme for lending to small and medium-sized enterprises), it could consider partnering with international financial institutions such as the International Finance Corporation or the Asian Development Bank, and build on the experience of other Asian countries, such as Indonesia, Malaysia, and Thailand.

¹⁶ Also see Gutierrez et al. (2011) and Čihák and Demirgüç-Kunt (2013).

Appropriate sequencing of reform is important for financial stability

Financial sector reforms should be sequenced properly to address the binding constraints to economic growth and development while ensuring stability. The reform process must also not overburden Myanmar's scarce administrative and banking skills. Sequencing should initially emphasize building the financial infrastructure underpinning the banking system, finalizing the legal framework, introducing clearance and settlement systems, strengthening the central bank (especially its supervision capacity), establishing a money market, easing restrictions on banking activity, and preparing the ground for deeper structural changes in the banking system. Authorities should ensure that foreign investment in the banking system proceeds in stages to be consistent with the strength of the regulatory framework and the efficiency and reach of domestic banks. Similarly, interest rate reform should move forward in stages; in the early years, the interest rate structure can be determined administratively but adjusted periodically to keep interest rates positive in real terms as macroeconomic conditions demand.

The second stage of reforms over the following 3 years should focus on broader structural changes in the finance sector. These would include:

- i. restructuring the state banks and semi-government financial institutions and either closing, merging, or transforming them into only a few SDBs;
- ii. implementing a revamped microfinance strategy with an operational framework to deal with systemic risks;
- iii. establishing a government bond market and its prerequisites, including legal, regulatory, and institutional infrastructure;
- iv. preparing the regulatory and legal framework for branchless banking; and
- v. putting a deposit insurance system in place.

Box 2.5: State-Owned Development Banks: Lessons of Experience

Despite the wave of privatization of state-owned development banks (SDBs) since the 1980s, SDBs still comprise, on average, 25% of the total assets of banking systems around the world. In developing countries, their market share tends to be higher. Governments have established SDBs to provide credit and other financial services to individuals, firms, and strategic sectors of the economy that private financial institutions were unable or unwilling to serve to the extent policy makers desired.

During the global financial crisis in 2008–2010, SDBs acquired a new role—providing countercyclical credit to private borrowers temporarily unable to access loans from private banks or capital markets.

An SDB is a state-owned financial institution that has the mandate to promote socioeconomic development by financing specified economic activities, sectors, or markets. The classic justification for SDBs is that they achieve public policy goals by correcting market failures that restrict credit to certain areas of the economy considered important for development and social welfare. Traditional target sectors are infrastructure, agriculture, and small and medium-sized enterprises. Less frequently targeted sectors include renewable energy, climate change adaptation and mitigation, education, low-income housing, microenterprises, innovation, and production chains.

The *raison d'être* of SDBs is to correct for information asymmetries, which occur when banks cannot obtain accurate information about the ability and willingness of borrowers to repay a loan. A common example is small borrowers who may not have financial statements (let alone ones that are audited) and thus lack adequate information to demonstrate their creditworthiness. Another market failure could be the absence of systems guaranteeing compliance with financial contracts, especially because the costs of contract compliance are higher for small borrowers than for large firms. The externalities associated with lending to a particular sector for which private banks often overestimate the risk or underestimate the benefits or both is yet another market failure.

The best way to resolve this is through regulatory reforms that improve market information, increase creditor rights, ensure contract compliance, promote innovation, and expand collateral options. Governments should regard SDBs as a temporary solution to increase access and serve a neglected sector while broader finance sector reforms mature. SDBs must therefore be a complement, not a substitute, for systemic financial reforms. Without these, SDBs could crowd out private banks, incur financial losses, be a drain on the budget, and have little development impact. To combat pressure from political interests to maintain SDBs even after they cease to be useful, the government could create sunset clauses stipulating when an SDB should close or make it costly to extend its existence.

SDBs do not have to provide financing directly—they can instead guarantee private lending to target sectors. State-owned credit guarantee agencies operate in many countries and have several advantages. They encourage competition between private banks, which will help ensure the most efficient lending outcomes. The credit guarantee reduces the burden on the borrower to offer collateral. The government can serve several target sectors through one institution and can therefore concentrate scarce expertise and ensure sound risk management. And as conditions change and new priorities emerge, credit guarantee agencies can accordingly alter the guarantee choices they offer private banks without incurring significant adjustment cost.

Most SDBs are capitalized through tax revenues, although low-cost foreign loans and aid can also be used. Budgetary sources of finance increase the financial autonomy of SDBs, avoid competition with other regular sources of bank funding (such as deposits and bonds), and allow SDBs to provide long-term finance for development projects at below-market rates. Indeed, the SDBs that are able to separate subsidies from their financing sources can function more as development agencies than as financial intermediaries. For example, if government financial support is in the form of an initial endowment, then SDBs will have an incentive to provide their services in a financially sustainable manner. In addition, limiting the ability of SDBs to assume financial liabilities, including by taking deposits, may limit the potential fiscal costs for the government down the road.

Many SDB failures in the developing world have been caused by weak risk assessment capabilities, poor management, inadequate monitoring capacity, poor lending decisions, high nonperforming loans, undue political interference, capture by interest groups, lack of well-defined mandates, widespread corruption, and negative real interest rates leading to open-ended state subsidies.

continued on next page

Box 2.5 (continued)

International experience also shows that good-practice policies applied to SDBs tend to increase their chances of success. Governments should oblige SDBs to achieve a minimum return on capital, and transfer SDB management to the private sector and protect them from political influence by guaranteeing independence. Governing boards should be comprised entirely of independent, professionally qualified members. Boards could establish incentives supportive of good development outcomes through performance contracts and performance indicators. And they should insist that management use sunset clauses when launching a new program. Laws should explicitly prevent the government from bailing out SDBs when they fail. Management should encourage the private sector to share the risk of lending to under-served markets and to use pro-market instruments when supporting SDBs.

SDBs in Myanmar can potentially play a role in broadening access to finance and as a vehicle for countercyclical monetary policy. The legal, institutional, and incentive framework, however, needs to be crafted carefully to increase their probability of success and to minimize their burden on the exchequer. The government must also create organizational capabilities to manage these institutions professionally and without political interference and implement pro-market programs that supplement private sector initiatives, not substitute for them.

Source: Based on Nehru (2014).

Financial sector reform should be considered in the overall reform context

Myanmar will be reforming its financial sector alongside other sectors, and it is important that the reforms in each are consistent and well-coordinated. Pragmatism demands that the government should move ahead with financial sector reforms even as real sector reforms proceed, while ensuring that any disruptions in the real sector do not raise banks' nonperforming loan

ratios above prescribed prudential limits. More importantly, policies to strengthen fiscal performance will have an important bearing on the outcome of financial sector reforms. Strengthening the government's fiscal position will reduce pressure on the financial system to play a quasi-fiscal role. It will also ensure adequate government resources are available to finance state bank restructuring and the establishment of a development bank, deal with systemic risks in the banking system, and prevent crowding out of the financial sector.

CHAPTER 3: SECTORAL STRATEGIES FOR DYNAMIC AND INCLUSIVE GROWTH

The experiences of Asia's dynamic growth are highly relevant to Myanmar's growth models. Much of the region has been transformed from an agriculture-based economy into an industry and service-based one, underpinned by export-oriented manufacturing and, in recent decades, intensified regional production networks. For Myanmar, increasing agricultural productivity will be vital for economic growth and reducing poverty in the initial phase of its economic transformation, and to enable a large-scale transfer of resources from agriculture to manufacturing and services. The development of higher-productivity manufacturing and tradable services should immediately follow to create jobs and promote sustained growth.

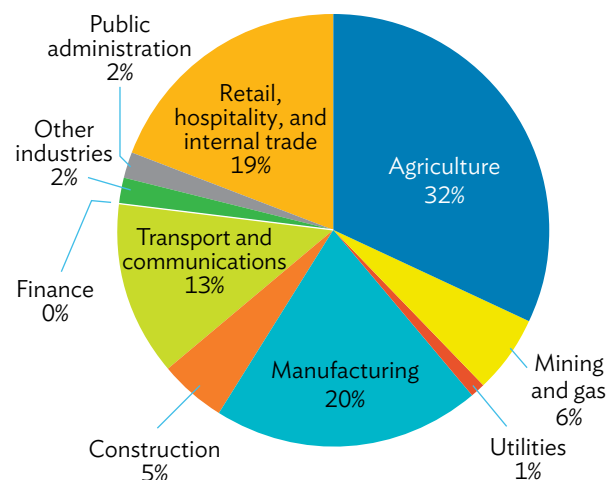
Over the course of this structural transformation, however, several sectors will present opportunities for economic growth given their potential to build on existing resources and capacity to create jobs in urban and rural areas, and to extend linkages with other sectors, both domestically and with neighboring economies. To take advantage of this, sector strategies have to be developed to integrate government, private sector, and donor community efforts to maximize the efficient use of limited financial and human resources for sector and overall economic development.

This section assesses the major growth drivers—agriculture and natural resources, manufacturing, and tourism—that will likely lead Myanmar's economic transformation, and offers policy recommendations for developing each of these sectors.

Agriculture, Natural Resources, and Rural Development

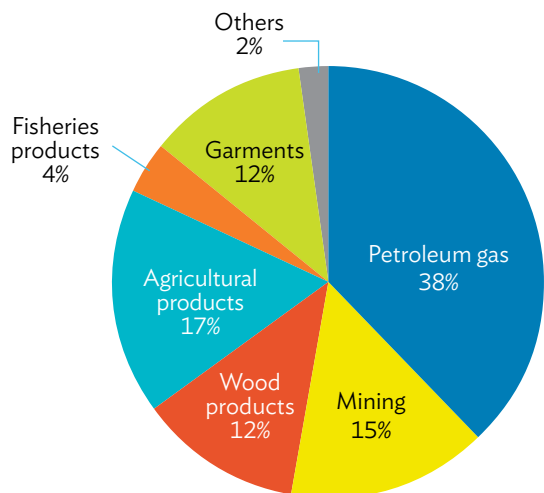
Myanmar's economy is heavily dependent on natural resources, with 39% of gross domestic product (GDP) derived from primary industries (Figure 3.1). This pattern is mirrored in exports, which are even more concentrated in these industries, of which 86% are from primary industries (Figure 3.2). The country has also received substantial foreign direct investment (FDI) in many natural resource related sectors, which clearly shows that the private sector recognizes the opportunities these sectors present. Hydropower has the largest share of cumulative FDI, followed by oil and gas. With the inclusion of mining, livestock, and agriculture, these sectors account for 80% of FDI (Figure 3.3).

Figure 3.1: Composition of Gross Domestic Product, 2011



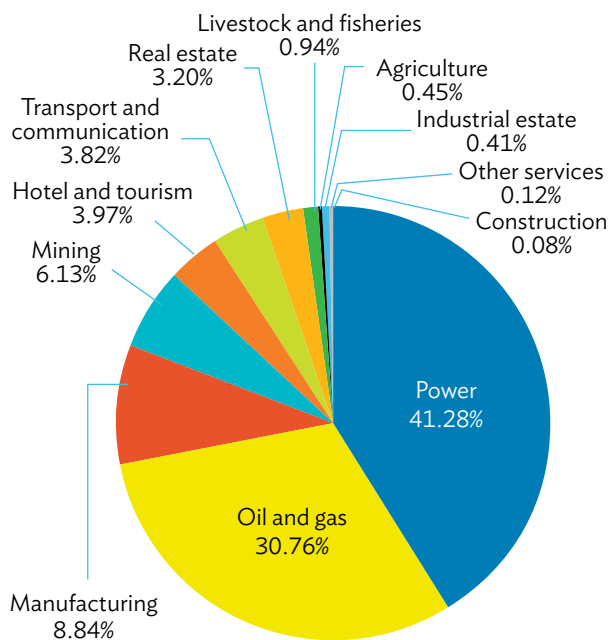
Source: ADB Statistical Database System (accessed April 2014).

Figure 3.2: Composition of Official Exports, 2011



Source: Massachusetts Institute of Technology Observatory of Economic Complexity (accessed April 2014), drawn from International Trade Database (BACI) trade estimates of Centre d'Etudes Prospectives et d'Informations Internationales (CEPII).

Figure 3.3: Composition of Foreign Direct Investment



Note: Up to 30 June 2014, the accumulated pledged amount of foreign direct investment is \$46.7 billion.
 Source: Directorate of Investment and Company Administration (2014a) (accessed July 2014).

Agriculture and rural development has to be central to the overall economic development strategy

Agriculture remains the backbone of the economy, with nearly 70% of the population living in rural areas, with the sector accounting for about 30% of GDP, more than 50% of employment, and 20% of exports. By supplying affordable food, generating farm incomes, and providing employment, the sector can play an essential role in economic progress and poverty reduction. And because the majority of Myanmar’s ethnic groups are agriculturally dependent, developing the sector will contribute to inclusive and regionally balanced growth and social stability.

The government recognizes the importance of agriculture to economic development, as reflected in recent reform initiatives. The National Strategy on Poverty Alleviation and Rural Development identified eight priority areas for agriculture and rural development. The Framework for Economic and Social Reforms identified 10 priority areas, one of which is food security and agricultural growth, while many of the other areas indirectly relate to agriculture and rural development. The National Comprehensive Development Plan laid down three targets for the agriculture sector¹⁷ and five short-term objectives to achieve them.¹⁸ To build on recent reforms in the sector, the government still needs to craft more specific policy measures to be introduced in an appropriate sequence over the short and medium terms to foster inclusive growth. The government’s mission statements and strategies for the agriculture sector development can offer some guidance for the direction of such specific reform (Box 3.1).

¹⁷ The targets are to build a competitive agriculture comparable to that of more developed neighboring countries, to keep up with the level or rural knowledge and technical know-how of neighboring developed countries, and to develop rural industrial productivity and social infrastructure similar to those of neighboring countries.

¹⁸ These objectives are to accelerate the primary productivity of the agriculture sector; to increase the productivity of rural agriculture-based small and medium-sized enterprises; to attract the inflow of FDI into the agriculture sector for advanced technology, investment, marketing, and employment opportunities; to improve domestic and export market access as well as market information infrastructure; and to develop the activities of pure research and applied research in the agriculture sector.

Box 3.1 Mission, Strategy, and Policies for Agriculture Development

Mission

- Attain maximum market share in regional and global markets for agriculture-based value-added agriculture and specialty food products
- Improve food security and poverty alleviation, particularly in rural areas
- Manage green growth

Strategy

- Secure linkages among research and development, extension, and markets
- Develop efficient supply chains and industry clusters
- Assure sustainable land tenure
- Establish efficient systems of:
 - Inputs (seed, fertilizers, and chemicals and machinery)
 - Credit
 - Guaranteed purchase and price
 - Insurance on crops and climate
- Establish efficient buffer policy and system
- Promote contract farming
- Develop infrastructure:
 - SME laws and regulations
 - Wholesale markets
 - Rural access roads
 - Rural electrification and bioenergy

Policies

- Production and utilization of high-yielding and good-quality seeds
- Training and education activities for farmers and extension staff
- Research and development activities for sustainable agricultural development
- Transformation from conventional to mechanized agriculture, production of crops appropriate to climate, and extending irrigated areas
- Amendment of existing agricultural laws and regulations to reflect current situation

SMEs = small and medium-sized enterprises.

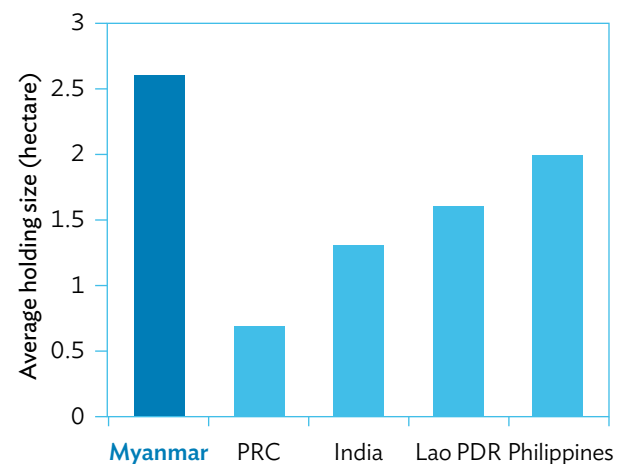
Sources: Ministry of Agriculture and Irrigation (2013). Tin Thut Oo, chairman, National Economic and Social Advisory Council contributed to the box.

Myanmar has key competitive advantages in agriculture

Myanmar's abundant land, water and labor resources, and proximity to major emerging food markets offer very considerable competitive advantages. Cultivated land, covering 12.8 million hectares, has the potential to be increased by nearly 50% using fallow areas. The country's diverse topography and ecosystems allow farmers to produce a range of cereals, pulses, horticultural products, and fruits, as well as livestock and fishery products. Reflecting the relative abundance of land, the average size of holdings is high compared with other developing Asian countries (Figure 3.4), even with a large share of Myanmar's workforce in agriculture.

Water resources are considerable and centered on four major river systems, which supply more than

Figure 3.4: Average Farm Size in Selected Asian Countries



PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic.

Sources: Ministry of Agriculture and Irrigation (2013); Food and Agriculture Organization (2010b).

19,000 cubic meters per capita of renewable fresh water each year, about 9 times the levels available in the People’s Republic of China (PRC), 16 times those of India, 5 times Viet Nam, and 30 times Bangladesh. Moreover, three of the four major river systems originate within the country, giving it exclusive control. Even so, not even 10% of these resources have been exploited, giving Myanmar a significant competitive advantage. Labor is also plentiful and inexpensive compared with other Asian countries. Mechanization is very limited, but abundant labor helps keep the production costs low.

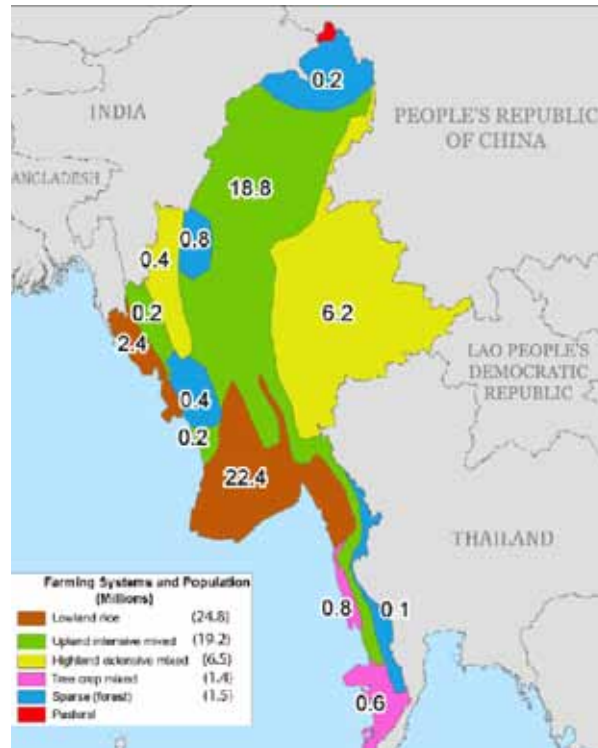
Given its location between the enormous regional markets of the PRC and India, Myanmar’s farmers and agribusinesses are well positioned to compete in regional and global agricultural markets—if the right investments are made in institutions and infrastructure. Myanmar’s proximity to the fastest growing food markets in the world should help keep transportation and transaction costs low for agricultural products, and this should be further aided by an improving transport infrastructure.

Agriculture performance is well below potential

Of Myanmar’s three principal agro-ecological zones (delta and coastal, dry, and hill regions), agricultural production and population are concentrated in the first two (Figure 3.5). In the delta, which is the most densely populated, monsoon rains and easy access to water make rice and fish production the predominant agricultural enterprise. The dry zone lies in a rain shadow zone, so that productive agriculture is principally in river valleys, where a mix of rain-fed upland crops and paddy are produced. The hill regions have more tree and horticultural crops, and are less intensively cropped.

Rice is dominant, as Figure 3.6 illustrates. Of the top 20 commodities, it accounts for 43% of agricultural production value, nearly five times as high as chicken, the second highest value commodity. After rice, there is fairly even distribution of production value among many commodities.

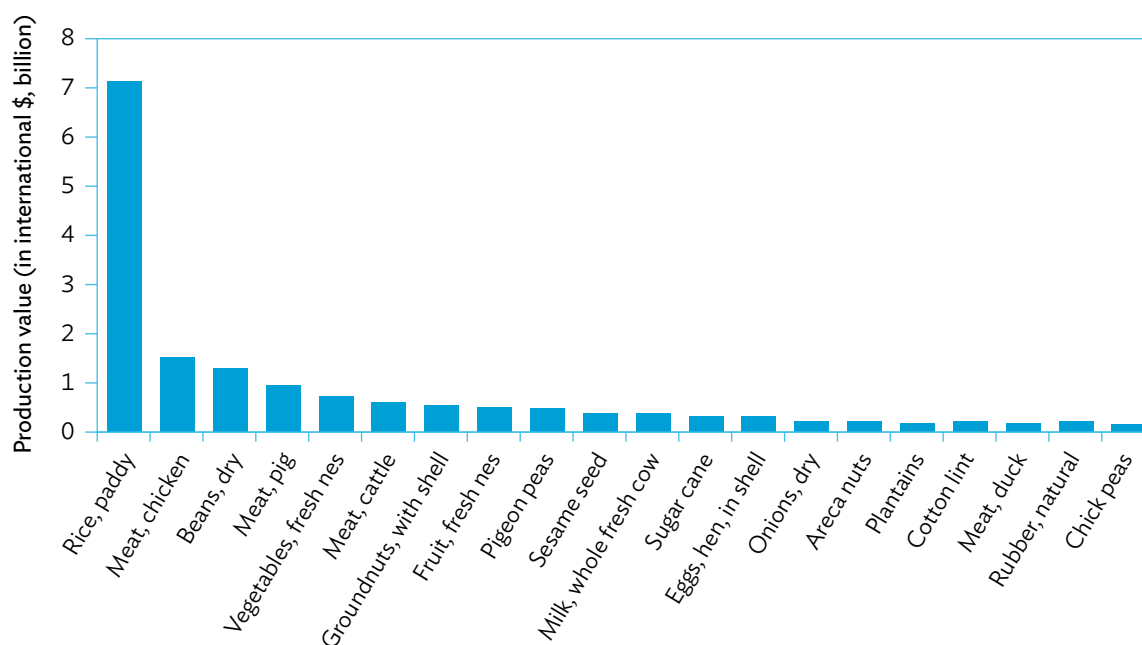
Figure 3.5: Distribution of Major Farming Systems and Population



Source: Haggblade et al. (2013) based on Food and Agriculture Organization data for farming systems and LandScan population data.

Yield growth varies considerably across crops. Table 3.1 shows the yield performance of selected crops for fiscal year (FY) 1995—FY2012, according to official statistics (see Box 3.2 for Myanmar’s agricultural statistics and their problems). Cotton, pulses, and maize have shown strong yield growth, according to these figures, whereas growth has been slower for other crops. However, except for official statistics on rice and pulses, yields are lower than those of other Asian countries.

Myanmar has the second lowest rice yields in Asia based on the United States Department of Agriculture’s production estimates (Figure 3.7). Bangladesh and Viet Nam, with similar productivity potential in their delta regions, have yields that are 66% and 114% higher, respectively. This is in line with expert estimates that a 23% increase in average yields should be easily possible within 5–7 years with supportive policy measures (Denning, Baroang, and Sandar 2013).

Figure 3.6: Top Agricultural Products, 2012

nes = not elsewhere specified.

Source: Food and Agriculture Organization FAOSTAT, accessed April 2014.

Table 3.1: Major Crop Yields in Myanmar, FY1995-FY2011 (metric ton per hectare)

| Serial Number | Crop Name | FY1995 | FY2000 | FY2005 | FY2008 | FY2009 | FY2010 | FY2011 |
|---------------|------------|--------|--------|--------|--------|--------|--------|--------|
| 1 | Paddy | 3.08 | 3.38 | 3.75 | 4.03 | 4.06 | 4.07 | 3.83 |
| 2 | Maize | 1.70 | 1.73 | 2.87 | 3.39 | 3.43 | 3.54 | 3.61 |
| 3 | Black gram | 0.78 | 0.87 | 1.25 | 1.46 | 1.48 | 1.52 | 1.26 |
| 4 | Green gram | 0.74 | 0.74 | 1.00 | 1.19 | 1.24 | 1.26 | 1.22 |
| 5 | Pigeon pea | 0.60 | 0.90 | 1.14 | 1.27 | 1.25 | 1.32 | 1.32 |
| 6 | Groundnut | 1.15 | 1.25 | 1.42 | 1.55 | 1.57 | 1.59 | 1.58 |
| 7 | Sesame | 0.34 | 0.33 | 0.40 | 0.54 | 0.53 | 0.54 | 0.57 |
| 8 | Sunflower | 0.76 | 0.54 | 0.81 | 0.88 | 0.89 | 0.92 | 0.93 |
| 9 | Cotton | 0.51 | 0.51 | 0.71 | 1.23 | 1.46 | 1.57 | 1.64 |
| 10 | Sugarcane | 51.17 | 44.38 | 55.72 | 61.20 | 61.61 | 62.64 | 63.22 |
| 11 | Rubber | 0.53 | 0.58 | 0.59 | 0.65 | 0.67 | 0.69 | 0.75 |

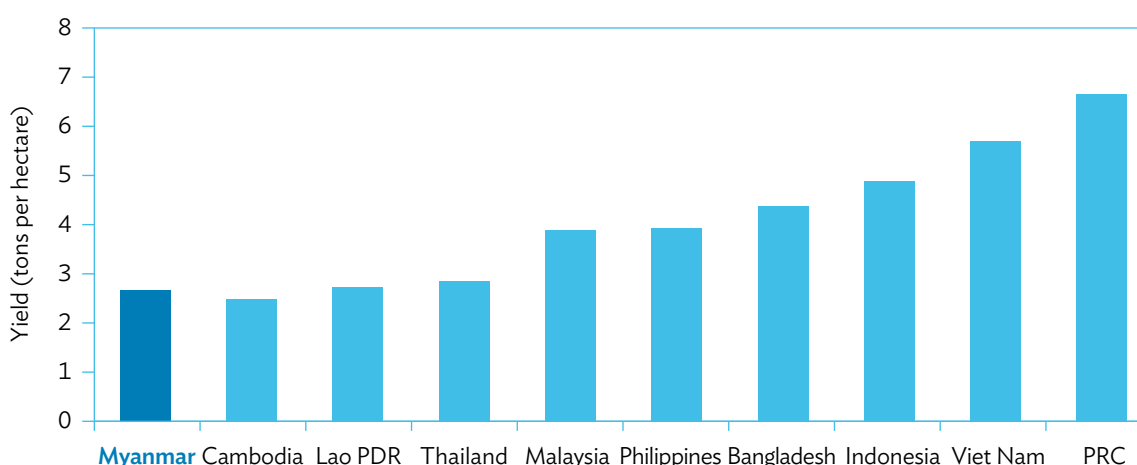
FY = fiscal year.

Source: Ministry of Agriculture and Irrigation (2012).

Livestock and dairy production growth is much faster than for crops, according to official statistics. Table 3.2 shows a marked increase in meat, egg, and milk production from FY1990 to FY2012, with meat production up 13.5 times to 2.3 million tons in FY2012. Among meats, chicken has grown fastest (accounting for 1.2 million tons, or 51.0% of

total meat produced in FY2012) followed by pork and beef. Chicken, pork, and beef are the major meat products. Milk production has also made impressive gains.

Fisheries production is also expanding rapidly. With 486,000 square kilometers (km²) of exclusive

Figure 3.7: Average Rough Rice Yields, Selected Countries

PRC = People's Republic of China, Lao PDR = Lao People's Democratic Republic.

Source: United States Department of Agriculture, Foreign Agricultural Service, Production, Supply and Distribution online database, accessed April 2014.

Table 3.2: Myanmar's Production of Meat, Eggs, and Milk

| S.N. | Particulars | Unit | FY1990 | FY2001 | FY 2005 | FY2008 | FY2009 | FY2010 | FY2011 | FY2012 | FY2013 ^b |
|------------|-------------------------|---------------------|----------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|---------------------|
| I | Total Meat | 1,000 t | 168.36 | 442.91 | 1,091.07 | 1,525.55 | 1,762.66 | 1,941.92 | 2,062.07 | 2,265.76 | 1,850.30 |
| 1 | Beef | 1,000 t | 46.03 | 70.53 | 127.28 | 174.35 | 205.34 | 229.60 | 251.67 | 275.44 | 223.52 |
| 2 | Mutton | 1,000 t | 6.50 | 11.39 | 21.32 | 29.29 | 36.39 | 41.10 | 46.39 | 51.81 | 44.11 |
| 3 | Pork | 1,000 t | 37.66 | 117.63 | 325.04 | 461.08 | 523.96 | 573.52 | 613.85 | 670.18 | 554.44 |
| 4 | Chicken meat | 1,000 t | 66.18 | 212.49 | 553.17 | 781.75 | 904.52 | 995.38 | 1,049.01 | 1,154.64 | 939.78 |
| 5 | Duck meat | 1,000 t | 10.54 | 28.71 | 59.88 | 73.84 | 86.79 | 96.19 | 101.14 | 113.70 | 88.45 |
| II | Total Eggs | 1,000 pieces | 825,127 | 2,842,395 | 4,395,990 | 6,225,861 | 7,240,075 | 7,827,636 | 8,402,636 | 8,954,714 | 7,257,034 |
| III | Milk^a | 1,000 t | 506.19 | 724.16 | 962.69 | 1,288.24 | 1,435.58 | 1,570.66 | 1,686.93 | 1,815.72 | 1,455.39 |

t = ton.

^a Includes buffalo milk, ^b April to December 2013 only.

Note: Data for FY2011, FY2012, and FY2013 are from the Central Statistical Organization Selected Monthly Economic Indicators.

Sources: Central Statistical Organization, Co-operative Department, Department of Industrial Crops Development, Livestock Breeding and Veterinary Department, and Livestock Feed Stuff and Dairy Products Enterprise.

economic zones, Myanmar has extensive marine fishery resources. Within this lies a continental shelf of 229,000 km² rich in nutrients and marine life (Ministry of Environmental Conservation and Forestry 2010). Total fish production is 4.72 million metric tons as of FY2012. Production is balanced between marine (2.48 million metric tons) and inland fisheries (2.24 million metric tons) production. About 8% (or 0.38 million metric tons) of total fishery production is exported to 29 countries, at a value of \$653.8 million in FY2011 (Table 3.3).

An estimated 3 million people are directly employed in the fishery sector. In FY2012–2013, per capita fish consumption was 56 kilograms. Production has risen rapidly for capture and culture production, with both increasing more than 120% from FY2003 to FY2012.

Exports have been growing rapidly, particularly official border trade with the PRC and Thailand (Table 3.4). Since 2012, the share of border trade in overall formal exports of agricultural produce

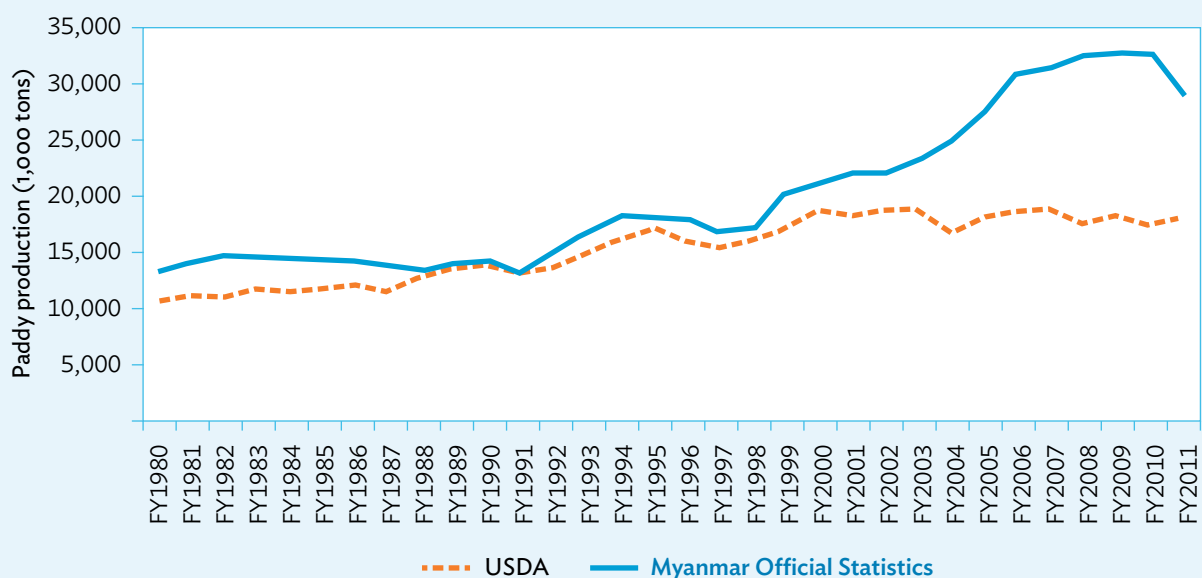
Table 3.3: Fisheries Production in Myanmar, FY2003–FY2012

| Year | Total Production | Aquaculture Fisheries | Leasable Fisheries | Open Fisheries | Marine Fisheries | Exports (\$ million) |
|---------------------|------------------|-----------------------|--------------------|----------------|------------------|----------------------|
| FY2003 | 1,986.9 | 400.4 | 122.3 | 331.9 | 1,132.3 | 166.9 |
| FY2004 | 2,217.8 | 485.2 | 136.8 | 366.8 | 1,228.7 | 189.7 |
| FY2005 | 2,581.8 | 574.9 | 152.7 | 478.4 | 1,375.7 | 271.4 |
| FY2006 | 2,859.9 | 616.5 | 170.1 | 548.1 | 15,525.3 | 468.2 |
| FY2007 | 3,193.9 | 687.7 | 191.1 | 625.4 | 1,689.8 | 561.0 |
| FY2008 | 3,542.2 | 775.2 | 209.7 | 689.7 | 1,867.5 | 483.2 |
| FY2009 | 3,921.9 | 858.8 | 237.4 | 764.9 | 2,060.8 | 496.6 |
| FY2010 | 4,163.5 | 830.5 | 250.0 | 913.1 | 2,169.8 | 555.5 |
| FY2011 | 4,478.2 | 898.9 | 282.6 | 963.8 | 2,332.8 | 653.8 |
| FY2012 ^a | 4,716.2 | 929.4 | 290.0 | 1,012.9 | 2,483.9 | 652.8 |

FY = fiscal year

^a Provisional.Source: Food and Agriculture Organization FAOSTAT, <http://faostat.fao.org/>**Box 3.2: The Problem with Myanmar's Agricultural Statistics**

There is considerable uncertainty regarding Myanmar's agricultural statistics. For example, the government's paddy production data diverge markedly from those of other sources, such as the United States Department of Agriculture (USDA). The government's data in some instances are twice as high as the USDA. Given that paddy is Myanmar's principal agricultural product, it is likely that statistical uncertainties may be even greater for more minor agricultural outputs. This not only distorts understanding Myanmar's agriculture performance, but severely impedes planning policy support and sharing of accurate market intelligence.

Figure B3.2.1: Annual Production of Rough Rice according to USDA and Myanmar Official Statistics

FY = fiscal year, USDA = United States Department of Agriculture.

Sources: United States Department of Agriculture, Foreign Agricultural Service, Production, Supply and Distribution online database; and Food and Agriculture Organization FAOSTAT, all accessed April 2014.

has been greater than that of normal overseas trade. This is also the case for rice, maize, sesame, and fisheries products. Further, export prices are significantly higher for border trade for rice and maize. These trends are expected to continue in view of the increasing connectivity (both road and rail) in neighboring countries, especially the PRC and Thailand, arising from ongoing initiatives in the Greater Mekong Subregion and Association of Southeast Asian Nations.

Myanmar has not been able to exploit its full export potential. Until the end of the 1960s, it was the world's leading exporter of rice, shoulder to shoulder with Pakistan, Thailand, and Viet Nam in rice exports. Since then, however, the pattern of exports has diverged widely. Although Pakistan, Thailand, and Viet Nam enhanced productivity to dramatically expand exports, Myanmar did not (Figure 3.8).

A farm-to-fork strategy can help maximize agricultural potential

The underperformance of agriculture is a challenge, but it also presents an immense opportunity, since much of the underperformance has resulted from constraints that can be addressed with straightforward interventions. At the same time, Myanmar could benefit from a more holistic approach to agriculture and rural development. Here, it would be beneficial to conduct an analysis of the country's entire supply chains and identify the constraints along them.

Successful agricultural development in other countries with comparative advantage in agriculture has come from two complementary processes, specialization and diversification, which are differentiated by scale. At the level of farms and communities, operations become characterized by

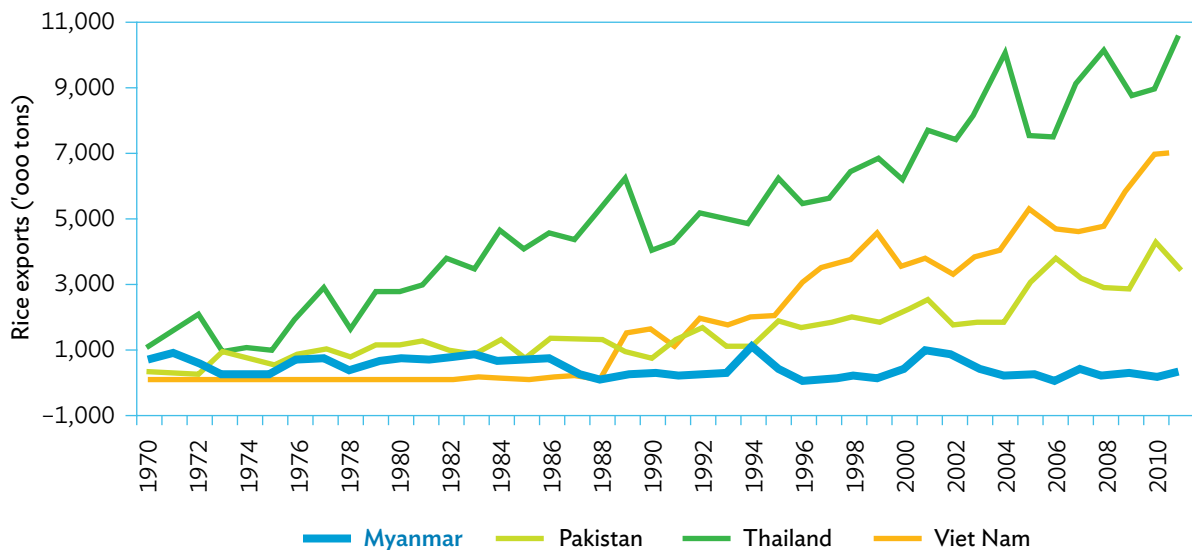
Table 3.4: Export of Agricultural Products by Normal and Border Trade

| Items | Unit | FY2009 | | | FY2012 | | | FY2013 (up to September) | | |
|------------------------|----------|-----------------|---------------|-----------------|-----------------|-----------------|-----------------|--------------------------|---------------|-----------------|
| | | Overseas | Border | Total | Overseas | Border | Total | Overseas | Border | Total |
| Crops | Value | 1,318.97 | 366.25 | 1,685.23 | 1,246.27 | 1,313.72 | 2,559.99 | 461.08 | 663.52 | 1,124.60 |
| Rice | Value | 254.36 | 25.90 | 280.26 | 195.90 | 325.07 | 520.97 | 47.11 | 85.03 | 132.14 |
| | Quantity | 818.46 | 79.17 | 897.63 | 556.50 | 758.69 | 1,315.19 | 131.80 | 192.83 | 324.63 |
| | Price | 310.78 | 327.14 | 312.22 | 352.02 | 428.46 | 396.11 | 357.44 | 440.94 | 407.04 |
| Maize | Value | 3.36 | 75.64 | 79.00 | 7.35 | 173.71 | 181.06 | 0.08 | 116.07 | 116.15 |
| | Quantity | 11.29 | 317.01 | 328.30 | 25.00 | 531.76 | 556.76 | 0.30 | 318.66 | 318.96 |
| | Price | 297.80 | 238.59 | 240.63 | 294.00 | 326.68 | 325.21 | 266.67 | 364.23 | 364.14 |
| Green mung bean | Value | 262.64 | 23.94 | 286.58 | 199.23 | 37.74 | 236.97 | 84.47 | 62.61 | 147.08 |
| | Quantity | 303.68 | 23.40 | 327.08 | 268.00 | 49.50 | 317.50 | 96.90 | 73.73 | 170.63 |
| | Price | 864.86 | 1,023.12 | 876.18 | 743.40 | 762.43 | 746.36 | 871.72 | 849.18 | 861.98 |
| Sesame | Value | 34.23 | 63.76 | 98.00 | 65.40 | 164.87 | 230.27 | 19.50 | 108.18 | 127.68 |
| | Quantity | 24.44 | 53.55 | 78.00 | 65.20 | 96.06 | 161.26 | 11.00 | 59.08 | 70.08 |
| | Price | 1,400.47 | 1,190.70 | 1,256.44 | 1,003.07 | 1,716.35 | 1,427.96 | 1,772.73 | 1,831.10 | 1,821.94 |
| Animal Products | Value | 6.00 | 16.77 | 22.78 | 19.76 | 27.32 | 47.08 | 5.02 | 0.10 | 5.12 |
| Fisheries | Value | 276.60 | 194.75 | 471.35 | 372.78 | 268.90 | 641.68 | 106.76 | 139.03 | 245.79 |
| Total | | 1,601.58 | 577.78 | 2,179.35 | 1,638.81 | 1,609.94 | 3,248.75 | 572.86 | 802.64 | 1,375.50 |

FY = fiscal year, price = \$/metric ton, total = subtotal crops + livestock + fisheries, value = \$ million, volume = thousand metric tons.

Note: Prices are expressed as \$ per metric ton, value as \$ million, and volume as thousand metric tons; Total includes subtotal crops, livestock, and fisheries.

Sources: Central Statistical Organization and Department of the Commercial and Consumer Affairs.

Figure 3.8: Annual Rice Exports by Leading Exporters

Source: Food and Agriculture Organization FAOSTAT, accessed April 2014.

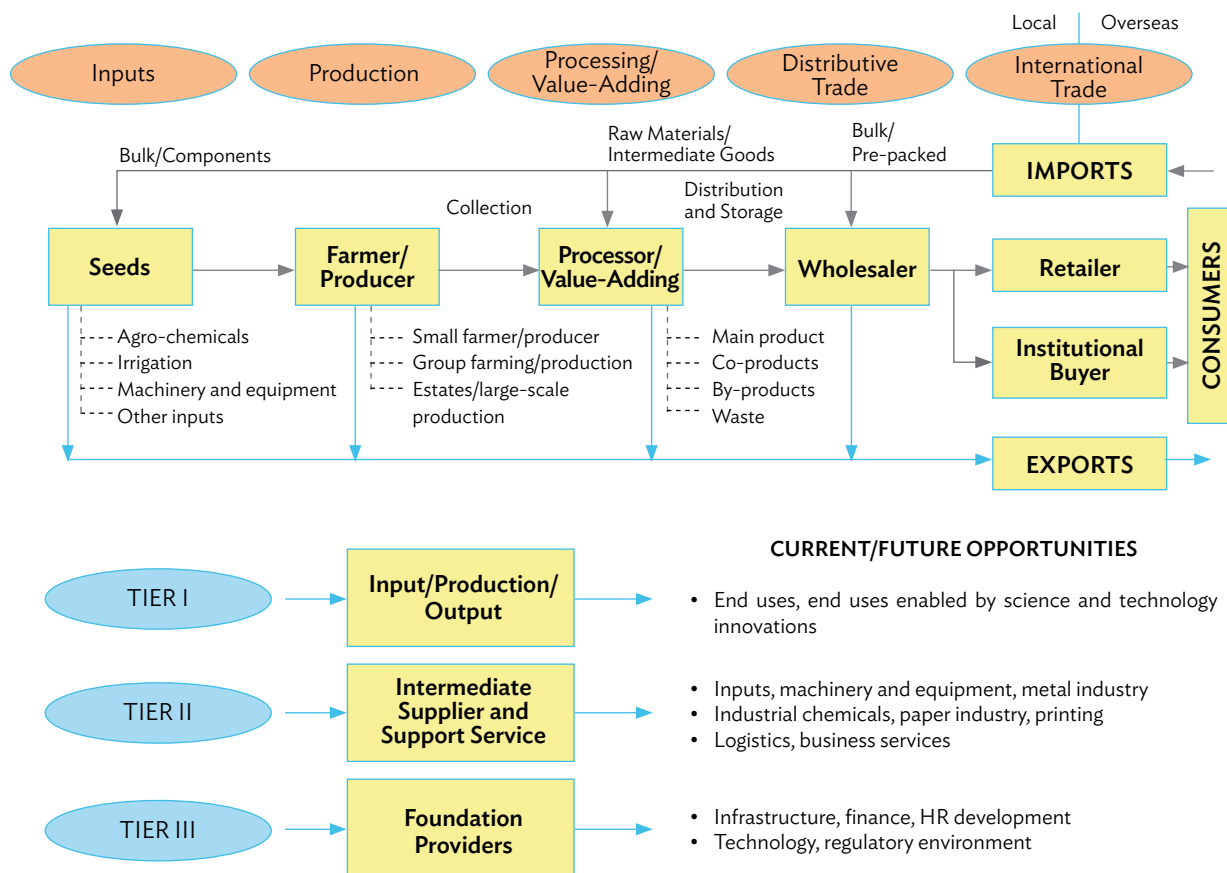
specialization and economies of agglomeration. This can manifest itself in different forms. For example, farms may consolidate and aggregate, or operations may be increasingly subcontracted, such that the farmer-owner specializes in farm management rather than farm operations. Often, specialization results in the geographic agglomeration of production to reduce transportation, marketing, and transaction costs. At wider scales, specialization is accompanied by diversification to meet diversifying consumer dietary demands, with particular farming areas changing from lower comparative advantage production to crops better suited to the comparative advantage of a specific area and with more value added. Agricultural planning should take into account both eventualities by identifying what products have comparative advantage for specialization and preparing a comprehensive agricultural development strategy for diversification to address future market demand domestically and in major export markets.

A supply chain management approach to agriculture, which moves beyond a production-centric approach, can provide a means for accelerating development in the sector. Such an approach views agriculture as an *agribusiness system*, while focusing on enhancing productivity along the entire supply

chain (Figure 3.9). This approach considers links between inputs, production, processing, storage, and trade to growing demand centers, domestic and abroad, (therefore from “seed to shelf” or “farm to fork”), as well as interactions with intermediate suppliers and support services as important elements for business development. The approach helps identify the support needs of small and medium-sized enterprises (SMEs) operating along the supply chains, such as foundries, mechanization service providers, input suppliers, processors, packers, transporters, and wholesalers.

Prior to policy reforms in 2011, farmers in certain locations were required to produce paddy. Now that farmers are free to choose their crops, diversification is to be expected in areas that do not have comparative advantage for paddy production. This should be encouraged. One pathway for successful rural development in neighboring countries has been for rural households to climb the value ladder from low-value products to high-quality rice, fish, vegetables, fruits, livestock, and other products that create more employment and higher value per hectare. Such successful development efforts have often been coupled with vertical integration along rice and other supply chains, focusing on meeting the demands of particular market segments.

Figure 3.9: Agriculture-to-Food Supply Chain Management—Activities along the Supply Chain



HR = human resources.
Source: Wong and Wai (2013).

Many supply chain improvements should derive from market forces, with the government acting as enabler. Investments can be encouraged in economic activities upstream (research and development, certified seeds, high-value varieties, farming systems), midstream (processing, high-value end uses), and downstream (packaging, food safety, traceability, branding, targeted markets). These investments will lead to productivity increases along the supply chain. Mapping the weak links of specific supply chains will help identify priorities for the investments or interventions, especially for attracting strategic FDI and technical assistance (Box 3.3).

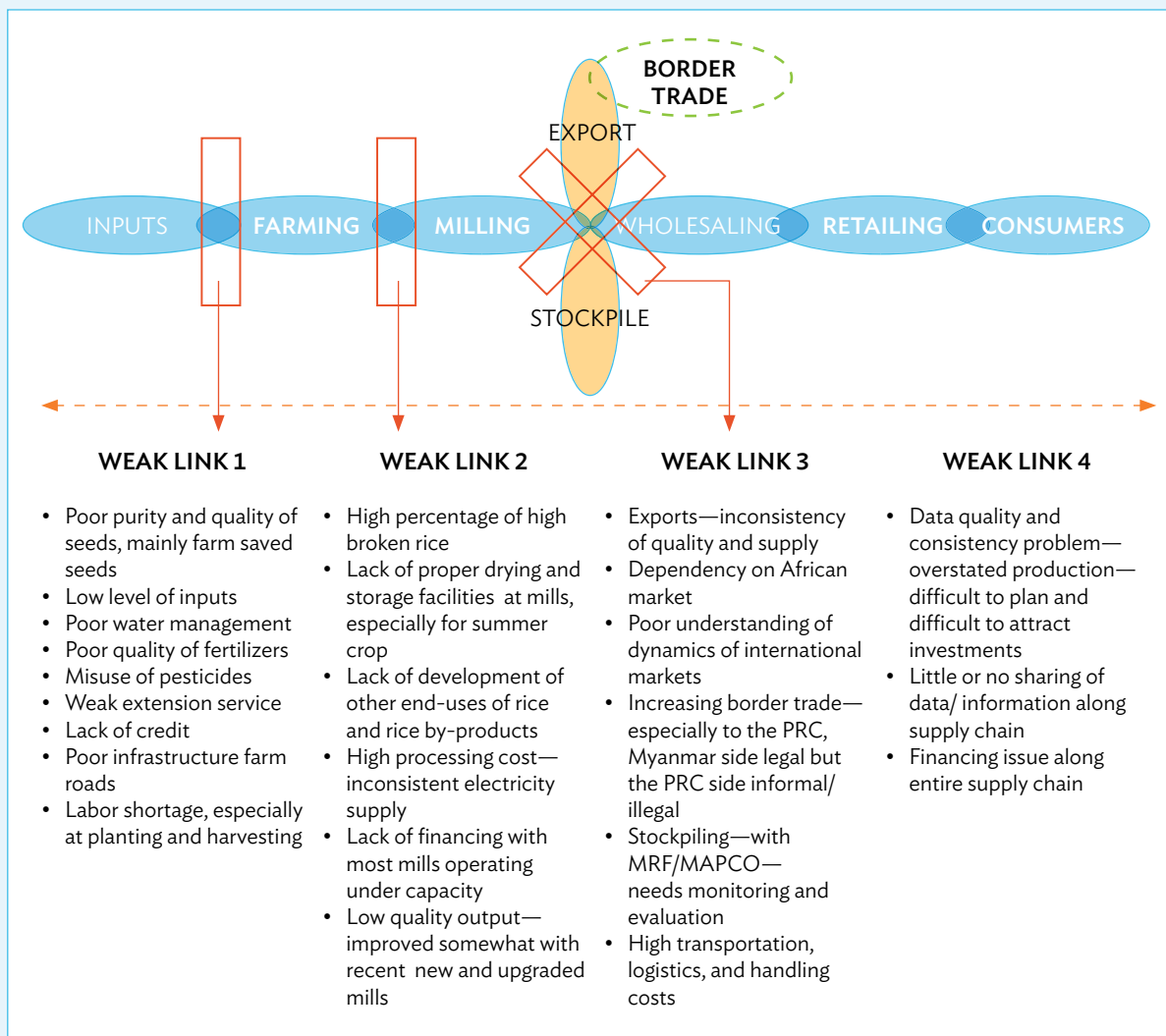
One of the major functions of agricultural development is to increase food supplies and lower

real food prices to free consumer expenditure for use in other sectors, thereby increasing real incomes and stimulating demand for other products and services. Myanmar has low domestic prices, particularly for rice, which have benefited consumers. This is still important, as 70% of household expenditure is for food (Central Statistical Organization [CSO] 2012). Maintaining a low domestic rice price has enabled households to keep more diversified consumption patterns than might otherwise be expected, contributing both to nutrition and value addition opportunities. It is essential that an appropriate agricultural development and trade strategy balance the effects on different consumers, as well as producer groups, as decisions are taken on prioritizing superior versus inferior goods and export versus domestic markets.

Box 3.3: Constraints Interact across Entire Supply Chains

To illustrate how supply chain constraints manifest themselves, it is useful to analyze the production and market for rice, the most important single crop in Myanmar. Figure B3.3.1 identifies the weaknesses at various stages of the rice value chain. At the farming level, the quality of seeds, poor water management, misuse of fertilizers and pesticides, seasonal labor shortages, lack of credit, and lack of infrastructure such as farm roads are some of the main constraints. Lack of investment in processing facilities and lack of finance are constraints throughout the value chain. Inconsistent quality and supply, as well as lack of market information and diversification, further affect the rice sector. Postproduction costs—milling, transportation, loading, and handling at ports—are high in Myanmar compared with other Asian exporters, partly explaining the country's relatively low competitiveness.

Figure B3.3.1: Prioritizing and Sequencing Interventions—Rice Supply Chain



MAPCO = Myanmar Agribusiness Public Corporation, MRF = Myanmar Rice Federation, PRC = People's Republic of China.

Note: The strength of the chain is determined by the weakest link.

Source: Wong and Wai (2013).

Targeted investments in institutions, policies, and infrastructure can help address the constraints

Important areas for investment include increasing smallholders’ security of tenure, improving access to credit, developing input markets, improving water management, planning for the effects of climate change, promoting labor productivity, improving agricultural and rural infrastructure, and expanding investment in innovation.

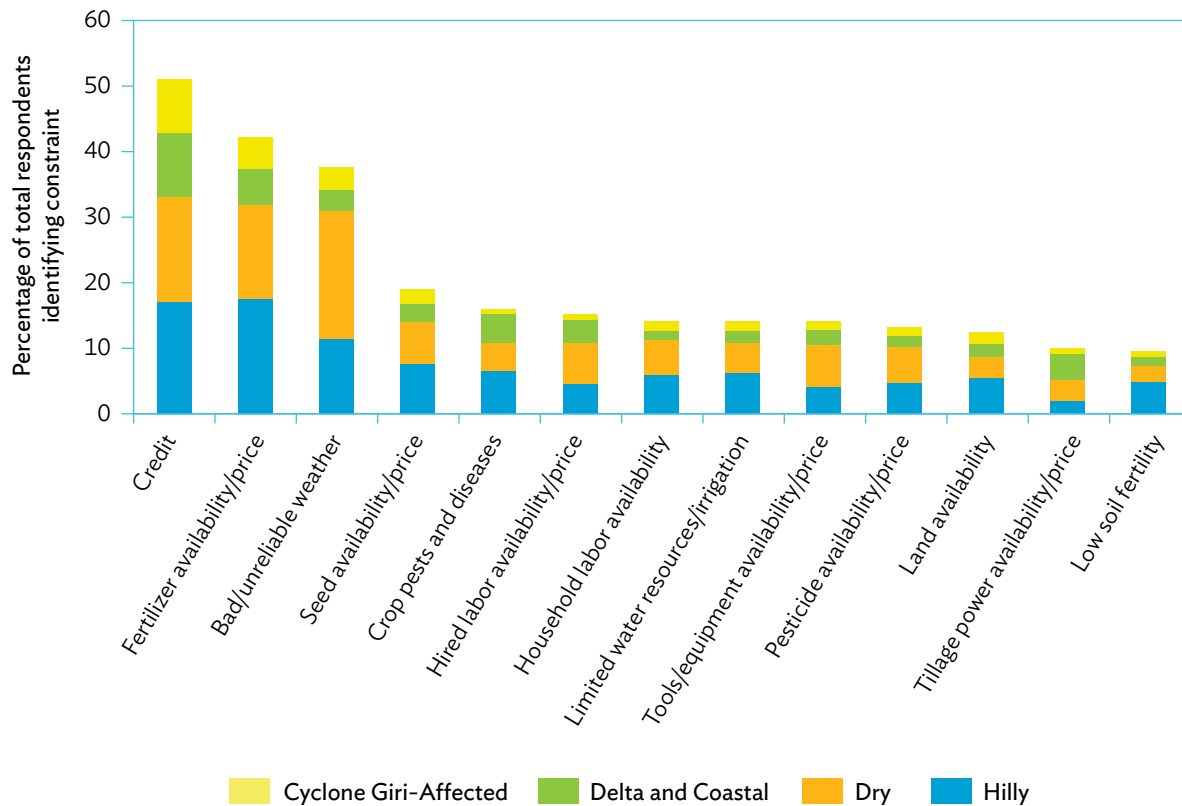
Increasing security of tenure for smallholders

Since 1962, the state has owned all agricultural land and farmers have only been issued cultivation rights. The remit of those rights has increased as the rights became officially transferrable and eligible for

mortgaging in 2011, but considerable uncertainty regarding tenure remains. Another concern is over the documentation of land rights, and particularly that these rights can be withdrawn at any time, with little compensation for loss being paid to farmers. Reports of this practice were common (Oberndorf 2012).

To address this, the 2012 Farmland Law allows farmers to receive paper certification of land-use rights. On the face of it, this is an improvement, but there are uncertainties about the law’s implementation. Information on how this is progressing is not publicized and there is no mechanism for independent redress through the judiciary if local adjudication is unfair, which raises the risk of elite capture (Oberndorf 2012). This could, however, be rectified through simple amendments to the law that could greatly enhance the fairness and predictability of tenure designations and enable investments in

Figure 3.10: Constraints to Agricultural Production from LIFT Baseline Survey, 2011



LIFT = Livelihoods and Food Security Trust Fund.

Notes: There were 240 respondents in the Cyclone Giri-affected zone, 319 respondents in the delta and coastal areas, 632 in the dry zone, and 807 respondents in the hilly areas to the LIFT baseline survey. The vertical axis refers to percentages of the total sample.

Source: Livelihoods and Food Security Trust Fund (2012).

capital and inputs to be made with the confidence that such investments will be secure.

Improving access to credit

In the absence of secure tenure, Myanmar is in a vicious circle that limits agricultural productivity. Without documentation of land-use rights, access to credit remains limited and is seen by farmers as the biggest barrier to improved production (Figure 3.10). Furthermore, lack of credit constrains input use because farmers cannot afford the up-front costs of fertilizer and other inputs; this limitation is also reflected in the affordability of fertilizer, another important constraint for improved production. Moreover, in the absence of certainty about future long-term investments in enhanced productivity, such as boreholes for tube wells and enhanced land leveling, become risky ventures that most farmers can ill afford.

Still, considerable progress is being made in improving access to credit through the expansion of agricultural credit under the Myanmar Agricultural Development Bank, which offers subsidized credit rates to farmers. However, the credit levels are

limited to 100,000 kyats per acre, a small proportion of farmers' production costs (Fujita 2013). With other credit mechanisms remaining underdeveloped and exceptionally high interest rates reflecting repayment risks, new and innovative approaches to agriculture financing need to be considered (Box 3.4).

Developing input markets

In the absence of sufficient credit, demand for quality farm inputs has remained weak. This, coupled with a lack of supportive regulations, has contributed to the underdevelopment of markets for quality inputs. As a result, certified or other high quality seed is not widely available, and agronomy suffers from suboptimal germination (Figure 3.11). Moreover, a substantial share of chemical inputs is imported, with unregulated and poorly labeled concentrations and quality.

Fertilizer use in Myanmar remains low and negatively affects productivity, with nearly half of the country's farmers, going by responses to surveys, indicating fertilizer availability and cost as a productivity constraint. Reliable data on fertilizer

Box 3.4: Warehouse Receipt Financing

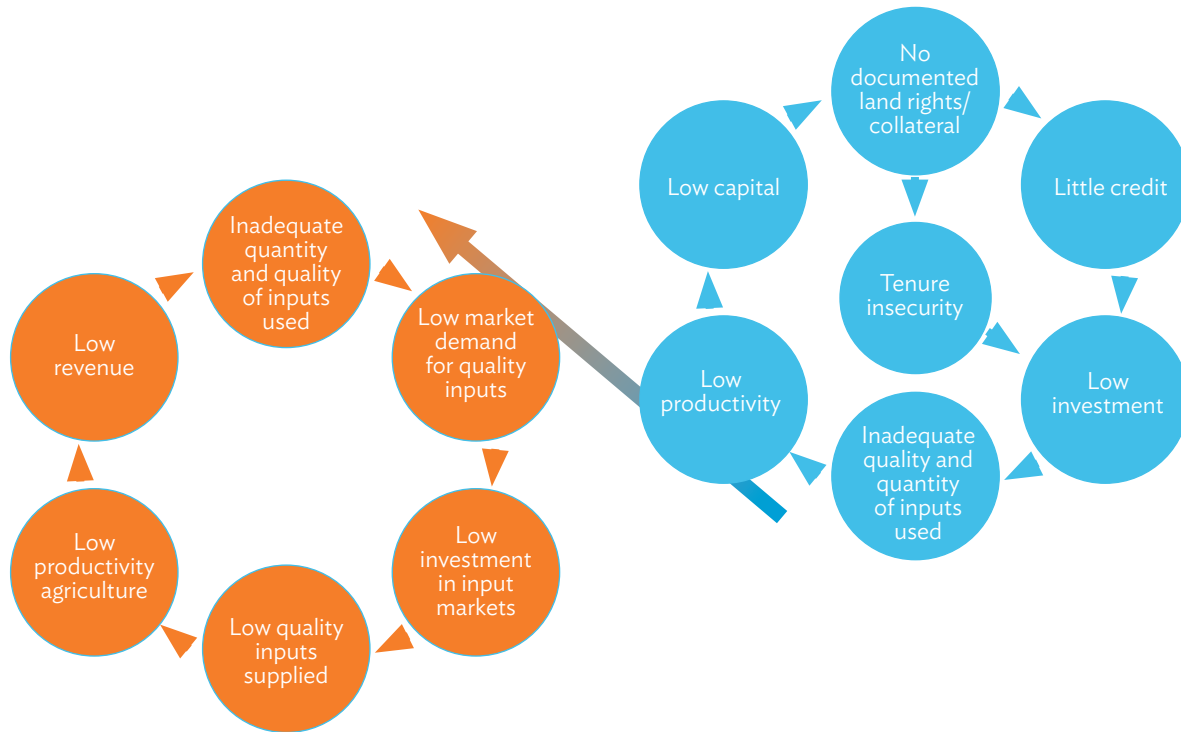
Warehouse receipts, also known as inventory credits or warrants, are a solution for providing farmers with better access to credit. Here, the crop itself acts as an asset to provide collateral. The crop is stored in a licensed warehouse that issues a negotiable receipt, recognized by law, proving that the commodity is physically there. Such receipts can be taken to a financial institution where they can be used as collateral for a loan. This scheme can help farmers avoid distress sales of crops after harvests when prices are lowest, and it can help farmers, processors, and traders who may have difficulty getting credit due to a lack of collateral.

Experience in other Asian developing countries has demonstrated the merits of warehouse receipt financing. By facilitating sales throughout the year rather than just after harvest, it can smooth market prices and increase the market power of farmers. It can also reduce risk in agricultural markets and improve food security. Warehouse receipt financing can also ease improvements to the standards and the transparency of storage, leading to better regulation and inspection. By creating incentives for farmers to store in better-licensed warehouses, this financing system could contribute to lower postharvest losses. It could also lower transaction costs by guaranteeing product quantity and quality as well as providing traceability and improving food safety.

The right legal, regulatory, and institutional frameworks will be needed to support the warehouse financing system. The legal system must recognize pledge instruments such as warehouse receipts. The rights, liabilities, and duties of all parties in transactions need to be clearly defined. Operation support systems are equally important, including the establishment of a warehouse receipt financing system for inspecting warehouses and the quantity and quality of stored commodities, guaranteeing warehouse performances, and insurance for damages.

Sources: TechnoServe (1998); Coulter and Shepherd (1995).

Figure 3.11: Interconnected Cycles of Low Collateral, Credit, Investment, Input Use, Input Market Development, and Productivity



Source: Asian Development Bank staff.

use are unavailable, but estimates can be based on quantities of nitrogenous fertilizer exported to Myanmar (101,300 tons in 2010, according to UN Comtrade) and domestic production (5,100 tons, according to official statistics). Anecdotal reports also include 200,000 tons of urea smuggled from Bangladesh, where its production is subsidized. Together, this gives 306 million kilograms, or only about 7.5 kilograms of nitrogen per hectare, which is insufficient for productive agriculture or for replacing nutrient removal during harvests (Figure 3.12).

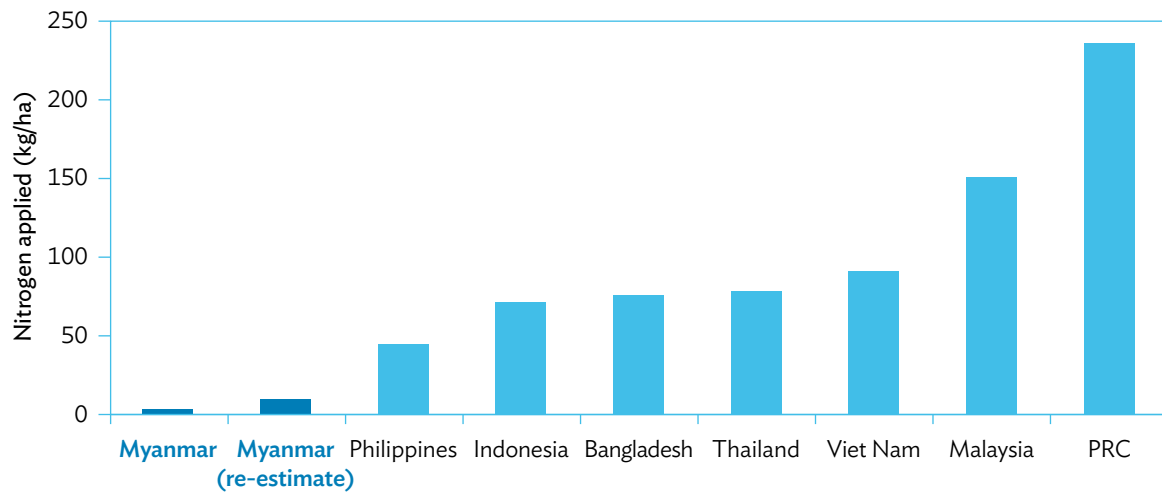
In Myanmar, agriculture has traditionally involved little use of pesticides. However, this is changing fast due to massive imports of pesticides from the PRC. Large increases in pesticide application rates are being observed, with official statistics reflecting a 1,000% increase in quantities used from FY2005 to FY2010 (CSO 2012). Pesticide application levels are already approaching those of other countries in the region, although the use of fertilizer trails them

substantially. One worry is that pesticides imports are poorly documented, and barely regulated, and their application is not well-understood by farmers. This is likely to lead to problems of environmental contamination, ecological disruption, and pest destruction over longer time frames. More effective pesticide regulation is needed to avoid long-term costs to the sector and damage to the health of farmers and consumers.

Improving water management

About 20% of agricultural areas have irrigation facilities (Figure 3.13). At first glance, this may appear to be a respectable rate compared with some neighboring countries, such as Cambodia and Malaysia, where irrigation coverage is even lower. However, delta countries such as Bangladesh and Viet Nam, which have more similar levels of water resources, have far greater irrigation coverage. With Myanmar’s extensive shallow aquifers, it should have comparable irrigation potential.

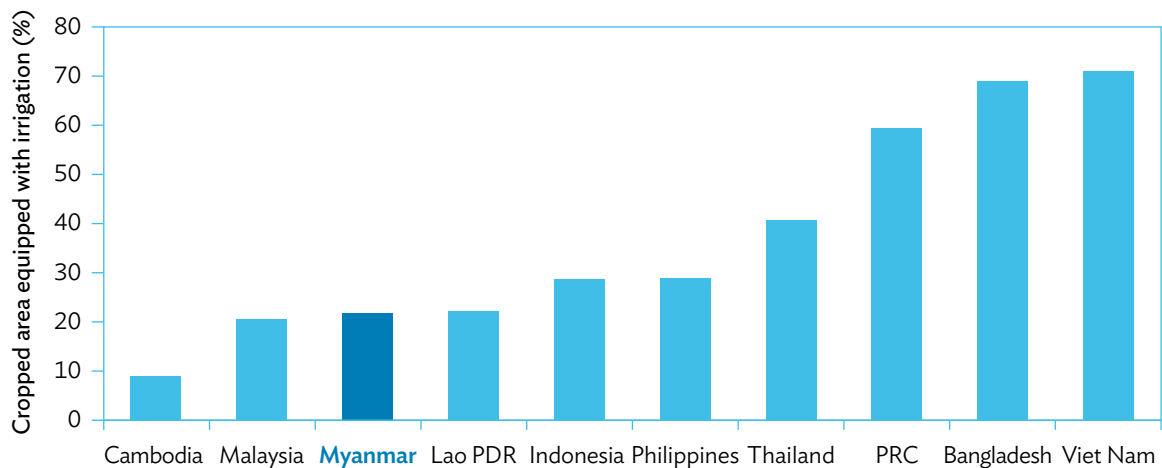
Figure 3.12: Average Nitrogen Applied via Inorganic Fertilizer in Harvested Areas, Selected Asian Countries



ha = hectare, kg = kilogram, PRC = People's Republic of China.

Sources: Food and Agriculture Organization FAOSTAT, UN Comtrade (for Myanmar re-estimate), all accessed April 2014, and various news reports of smuggling.

Figure 3.13: Proportion of Cropped Area Equipped with Irrigation, 2011



Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Source: Author's calculations from Food and Agriculture Organization FAOSTAT, accessed April 2014.

The missed potential for irrigation development is reflected in the fact that the area under dry season paddy has not increased notably in 10–15 years, unlike in other countries in the region. From FY2000 to FY2010, the total cropped paddy area increased by 1.71 million hectares, of which 91% was monsoon paddy (CSO 2012). But high yields can be achieved in the dry season, which offers greater solar radiation, as used in other countries.

Myanmar also suffers from excessive water in much of the delta during the monsoon season. This is principally a problem in paddy areas, where the excess water creates problems of stagnant flooding, necessitating the use of tall traditional paddy varieties that can grow above the water levels. However, these are low yielding and unresponsive to fertilizer, which in combination with standing water impeding fertilizer application, keeps

productivity levels low. For farmers to benefit from the productivity potential of more modern paddy varieties, better drainage control is necessary.

Planning for the effects of climate change

The most productive agricultural zones, meanwhile, are in the areas most vulnerable to climate change. As noted, the coastal and delta regions are the main paddy producing areas, particularly the Ayeyarwaddy region, while the intensive mixed upland crop area is in the central dry zone. The coastal zone already experiences regular stagnant flooding, and this risk will rise under climate change because the leading climate projections indicate increased rainfall during a shorter and more intense wet season (Ministry of Environmental Conservation and Forestry 2010). At the same time, sea level rise will increase inundation and lead to greater salinity intrusion in coastal areas. Cyclones will exacerbate these effects through flooding and wind damage. In Myanmar’s dry zone, drought risk will rise, particularly as the length of the monsoon shortens, and accompanied by increased heat stress, as maximum temperatures may rise up to 4 degrees Celsius (Figure 3.14).

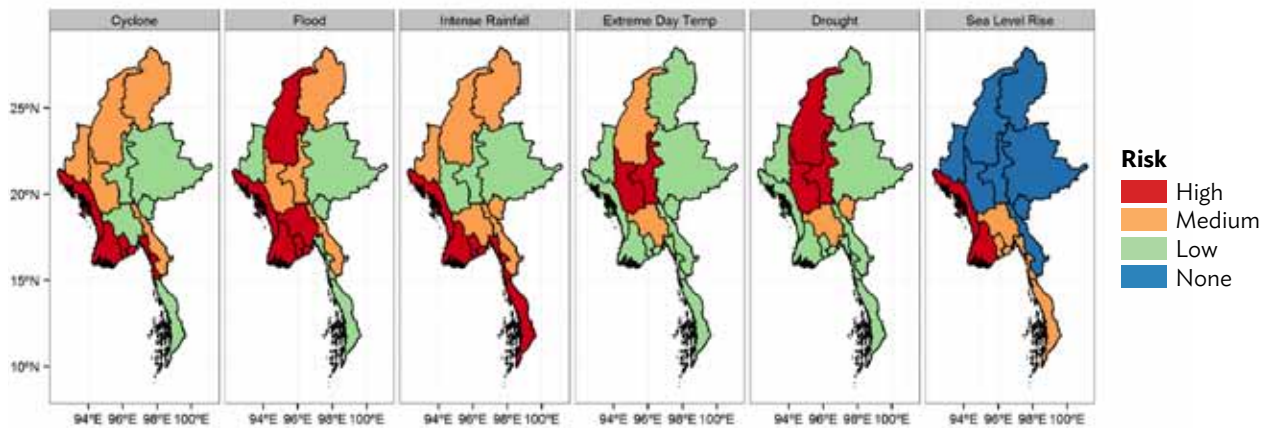
The risks from climate change reinforce the need for investment in irrigation and drainage infrastructure. They also suggest that efforts to disseminate

crop varieties tolerant to abiotic stress, increased temperatures, and shorter growing seasons are essential to maintain and expand productive potential. In addition, insurance products are needed to address the risks that increasingly volatile weather will bring, as this market is currently unserved (Chamberlain et al. 2012).

Promoting labor productivity

Mechanization in agriculture remains very limited. Only 16% of farming households use tillers or tractors for land preparation, compared with about 70% in Viet Nam, and only 15% of households use mechanized threshing, compared with 84% of rice production in Viet Nam (Ministry of Agriculture and Irrigation 2012; Viet 2011). Considering the relatively large size of Myanmar’s farms compared with the rest of the region, mechanization of threshing and land preparation offers very considerable potential to alleviate labor constraints and improve labor productivity. Moreover, the current practice for much paddy production is to leave harvested stalks standing on so-called bunds (small earthen embankments used to contain water), while the subsequent crop is established. This prolonged time in the field after harvesting leads to large losses in the quantity and quality of paddy harvests (Denning, Baroang, and Sandar 2013).

Figure 3.14: Projected Risk of Different Climatic Hazards



Temp. = temperature.
Source: Redrawn from Ministry of Environmental Conservation and Forestry (2010).

Improving agricultural and rural infrastructure

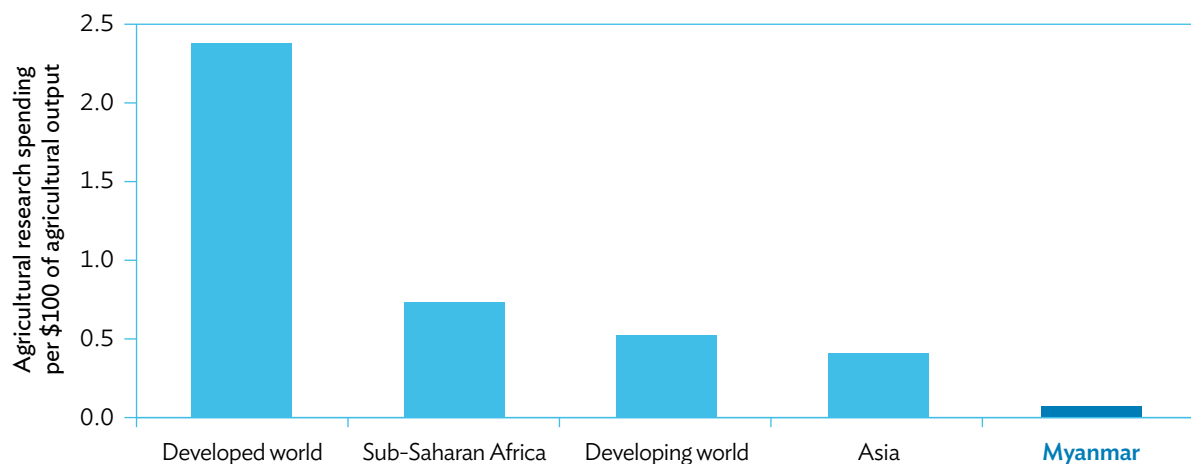
With only 6 km of road per 100 km² of land area, Myanmar's road networks are very limited compared with most of Asia (World Bank, World Development Indicators). Coupled with the lowest motor vehicle penetration in Southeast Asia (7 vehicles per 1,000 people), this leads to high transport costs and long travel times. As a result, trucking costs for agricultural products are 3–5 times higher than in other Southeast Asian countries (World Bank 2014a). High transport costs depress farm-gate prices and are a disincentive for using improved production techniques and producing high-value perishable products.

Opportunities for value preservation and addition through postharvest processing are often squandered through poor logistics, equipment, and electricity access. Most of the milling equipment for rice dates from the 1930s to the 1960s, and electricity supply is the most commonly reported constraint to milling after aging equipment (World Bank 2014a). As a result, Myanmar has Asia's worst milling recovery rates for rice, and 75% of mills can only produce low-quality rice. This, along with poor varietal segregation, leads to sales in low-value niches, with 88% of 2012 exports containing 25% or more broken grains, and most exports shipped to

Africa (World Bank 2014a). This is ironic because Myanmar is still a major cultivator of highly valued aromatic rice varieties, which could potentially offer access to premium market segments if processing and marketing were done right.

For export markets, logistics and handling costs are often prohibitive. Myanmar is ranked lowest among Southeast Asian countries on the World Bank's Logistics Performance Index (International Bank for Reconstruction and Development/World Bank 2014). Port charges and fees at Yangon are about double those of leading ports in India, Thailand, and Viet Nam, and the cost of rice export procedures is 85–170 times higher per ton than in Thailand or Viet Nam (World Bank 2014a). Meanwhile, physical capacity for vessels is limited, further constraining potential export volumes. Border trade is expanding and is more efficient than port trade. To further increase border trade, facilities for adding value and moderating price volatility, such as cold storage rooms and warehouses, should be developed; potentially in joint ventures with investors from the PRC and Thailand. From a regional development perspective, this would help bring broader-based development to border and ethnic areas by facilitating the exports of agricultural produce and other products from these areas.

Figure 3.15: Agricultural Research Intensities Compared with World Regions, 2013



Source: International Food Policy and Research Institute, Agricultural Science and Technology Indicators dataset, accessed April 2014.

Expanding investment in innovation

Myanmar needs to increase investment in enhancing agricultural productivity. By international standards, expenditure on research is far lower as a proportion of agricultural production value than in neighboring countries (Figure 3.15). Myanmar's extension system has created a legacy of enforced production quotas, which need reforming to be responsive to farmers' needs. Agricultural research is a clear area for fostering productivity gains. Moreover, developing "climate ready" crop varieties with tolerance to growing abiotic stresses will be a key means to tackle climate change.

Public-private initiatives can help overcome constraints

Public-private partnerships in agriculture have developed in recent years, and are helping to address some of the constraints to credit, input access, innovation, processing, and milling of agricultural output for selected groups of farmers. The Myanmar Rice Federation, established in 2009 by 44 rice specialization companies, is facilitating the strengthening of rice supply chains together with associations of producers, millers, and traders. These companies contract farmers under the oversight of the federation to provide credit, seeds and fertilizers, and mechanization services to farmers. They also work closely with extension and research staff as well as with ground officers of the Ministry of Commerce to increase productivity along the rice supply chain and, simultaneously, to facilitate trade. In FY2012, the newly formed business arm of the Myanmar Rice Federation took responsibility for managing Myanmar's rice stockpile of up to 100,000 metric tons, with financial support and oversight from the government to stabilize domestic supplies and prices.

Under the guidance of the Myanmar Rice Federation, significant domestic investments have been made in milling and storage facilities, resulting in the export of higher grade rice to nontraditional markets such as Europe, the Middle East, and Japan. Joint ventures for establishing rice mills and

processing complexes are currently in different stages of finalization with partners from the PRC, the European Union, the Republic of Korea, and Thailand. For example, the Myanmar Agribusiness Public Corporation and Mitsui have formed a \$100 million joint-venture company, the Myanmar Japan Rice Industry Company, to establish strategically located, integrated rice-processing complexes for producing white rice as well as a range of value-added, rice-based products, such as rice-bran oil, vermicelli, parboiled rice, animal feed, and power generation using rice husks and waste as fuel.

Agribusiness ventures and larger farm enterprises have driven rapid growth in aquaculture production. The average area of pond culture, the principal form of aquaculture, is 6.5 hectares, more than double the average household holding size of 2.6 hectares. About half the total aquaculture area is held by companies (Ministry of Agriculture and Irrigation 2013), which has enabled the cultivation of high-value shrimp, prawn, and rohu using the economies of scale that larger farms can exploit.

Contract farming arrangements through agribusiness ventures and large companies can help to circumvent problems of credit, access to knowledge and inputs, processing, and marketing, but they benefit only a subset of farmers and carry risks. For efficiency and the minimization of transaction costs, contract farming arrangements are likely to favor wealthier farmers, who are less risk averse. In the absence of access to fair legal redress and a regulatory framework, contracts are also vulnerable to abuse and favor business interests rather than farmers. Indeed, because of these factors, contract farming arrangements may actually exacerbate inequality among farmers. Agribusiness entities are also expanding vertically down the value chain and rapidly acquiring vast tracts of land in the process, causing loss of natural environments and displacing smallholder farmers (Oberndorf 2012). So, while effective agribusiness partnerships can address constraints, regulation is needed to ensure that this potential is truly harnessed for inclusive growth. Moreover, such partnerships cannot fully substitute for essential services and public goods

that the public sector should be providing to underpin inclusive growth.

Targeted agricultural investments will unlock agricultural potential

Addressing the major constraints on agricultural development and developing the basic public goods infrastructure can unleash productivity growth in the sector. These include the following:

Short term

- i. Strengthening weak input markets, particularly for quality seeds, fertilizers, and pesticides
- ii. Improving irrigation and other water management systems for rice and other crops
- iii. Making land administration and access more efficient through reform of land rights and registration processes
- iv. Widening credit availability for agriculture and agribusiness
- v. Upgrading agricultural data collection and information sharing
- vi. Attracting FDI to improve processing and input production industries

Medium to longer term

- i. Restructuring agricultural support institutions to increase productivity and value adding opportunities through a market-oriented, farmer-centered research system
- ii. Modernizing the extension system to facilitate working with smallholders and agribusiness enterprises
- iii. Expanding rural road and electricity infrastructure
- iv. Providing support to farmer-based organizations so they can participate in and benefit from the supply and value chains that are being created
- v. Developing appropriate regulations for agribusiness ventures to support smallholders

- vi. Reducing costs associated with exports through enhanced border and port trade facilities, and greater efficiency of regulation

Wealth of natural resources can provide main impetus for sustainable development, if managed properly

The economic potential for the development of extractive industries is enormous and can contribute much-needed capital for essential domestic investments if the sector is properly managed. However, the lack of effective governance in the natural resource sectors is an immediate constraint to sector development and its economic contribution. Another concern is that a large share of extraction and trade takes place outside of official and regulated channels, threatening environmental sustainability. To ensure the sustained contribution of these sectors to overall growth, appropriate systems for managing and governing extraction, processing, and revenue generation of natural resources must be established.

The energy sector plays a critical role in the sustained development of a country. In FY2012, \$3.6 billion worth of natural gas was exported, making it the largest export commodity, and extraction from new gas fields, which is expected soon, will provide additional export revenues of about \$2.7 billion per year (Ministry of Energy 2014). In the medium to long term, the exploration of other offshore plots and largely unexplored onshore resources has the potential to further develop the sector (Table 3.5).

The economic potential is large for oil and gas exploration and production in deep water blocks. These reserves are largely untapped, offering considerable potential for discoveries of even more resources. With the recent reform initiatives, Myanmar is rapidly building the technology and infrastructure to take advantage of its energy resources.

Table 3.5: Myanmar's Potential Oil and Gas Development

| | Region | Proven | Probable | Possible | Total |
|-----------------------------|--------------|---------------|------------|--------------|---------------|
| Oil | Onshore | 96 | 355 | 4,160 | 4,611 |
| (in million barrels) | Offshore | 39 | ... | ... | 39 |
| | Total | 135 | 355 | 4,160 | 4,650 |
| Natural gas | Onshore | 396 | 544 | 4,717 | 5,657 |
| (in BCF) | Offshore | 9,818 | ... | ... | 9,818 |
| | Total | 10,214 | 544 | 4,717 | 15,475 |

... = data not available, BCF = billion cubic feet.

Note: Possible reserves have at least a 10% probability that recoverable volumes equal or exceed the estimated reserve size, while this probability is at least 50% for probable reserves and at least 90% for proven reserves.

Source: Ministry of Energy (2014).

Systemically managing the exploitation of crude oil, natural gas, electricity, coal, and renewable energy sources with short-term and long-term objectives is essential. To this end, the National Energy Management Committee and Energy Development Committee were formed on 9 January 2013 and a national energy policy has been drawn up with the following mandates:

- i. To fulfill the country's requirement of energy and electricity
- ii. To draw up policies for future energy security
- iii. To ensure the sustainable development of energy and electrical sectors

The national energy policy is aimed at systematically exploring energy resources to meet domestic needs and to export the surplus as value-added products. At a much broader level, the policy aims to provide resources to help improve living standards; and in this context, the government is looking to FDI in the energy sector to help achieve this development goal.

The government is also putting in place measures to minimize impacts on the environment from the exploration of energy resources. Under the Framework for Economic and Social Reforms, the government is committed to ensuring better governance for extractive industries of natural resources, developing and managing them in a transparent manner. Myanmar applied

for membership of the Extractive Industries Transparency Initiative (EITI) in December 2013, thus demonstrating its commitment to work with international companies and stakeholders to develop and manage its energy sector in a responsible way. The EITI's board approved the application in July 2014 and Myanmar is now the 45th candidate country to become a full member of the EITI.

Overcoming power shortages is an ongoing challenge

Myanmar suffers from power shortages despite its abundant natural resources. The government is trying to better allocate energy resources for domestic use and the Ministry of Energy is prioritizing domestic demand for both onshore and offshore discoveries of crude oil and natural gas. Onshore and offshore bidding rounds have been held since 2013 to leverage foreign technology and finance for developing energy resources. Winning bidders have to conduct environmental and social impact assessments, and conduct corporate social responsibility programs within 6 months of signing exploration agreements.

There are many opportunities for the domestic use of oil and gas resources to contribute to value addition. For example, Myanmar imports most of its nitrogenous fertilizers, but there is scope to produce these domestically because natural gas is

Table 3.6: Myanmar's Mineral and Ore Endowments

| Category | Minerals |
|-------------|---|
| Very Rich | Jade, ruby, sapphire, limestone |
| Rich | Copper, lead, zinc, tin, tungsten, gold, coal, barite |
| Fairly Rich | Antimony, silver, nickel, gypsum, iron, manganese |
| Poor | Chromite, platinum-group minerals, radioactive minerals, diamond fertilizer minerals, fluorite, bauxite, mercury, kaolin, feldspar, quartz, bentonite, mica, rare earth element |

Source: Ministry of Mines (2012).

Table 3.7: Myanmar's Reserves of Top Mineral and Ore Resources

| Mineral | Occurrences | Deposits | Total | Size of Reserves (million tons) | | | |
|------------------------|-------------|----------|-------|---------------------------------|----------|-----------|-----------|
| | | | | Proven | Probable | Potential | Total |
| Gemstones | 56 | 12 | 68 | 1.07 | 0.11 | 0.07 | 1.25 |
| Limestone | 30 | 422 | 452 | 3,095.10 | 5,982.40 | 49,740.50 | 58,818.00 |
| Copper | 88 | 27 | 115 | 1,308.60 | 688.52 | 0.19 | 1,997.31 |
| Lead | 163 | 128 | 291 | 13.28 | 12.67 | 18.14 | 44.09 |
| Zinc | 18 | 11 | 29 | 5.21 | 14.41 | 0.33 | 19.95 |
| Tin (ore) | 125 | 358 | 483 | 0.36 | 38.74 | 0.29 | 39.39 |
| Tungsten (concentrate) | | | | 0.08 | 0.05 | 0.01 | 0.14 |
| Gold (primary) | 246 | 95 | 341 | 15.29 | 47.66 | 3.16 | 66.11 |
| Gold (alluvial) | | | | 4.92 | 341.94 | 893.28 | 1,240.14 |
| Coal | 203 | 292 | 495 | 229.58 | 140.73 | 121.53 | 491.84 |
| Baryte | 19 | 53 | 72 | 0.11 | 1.36 | 0.23 | 1.70 |

Source: Ministry of Mines (2012).

a major input for fertilizer production. Similarly, the country's energy supplies are insufficient to meet domestic demand, constraining many productive industries. Yet Myanmar exports electricity and gas. The use and allocation of natural assets need to be carefully reassessed to maximize their economic contribution within a broader context of inclusive growth and long-term economic development. Analysis by the Asian Development Bank (ADB) suggests that economically optimal oil and gas extraction rates for proven and probable reserves (if all are exploitable) may be several times higher than at present, which could increase Myanmar's GDP more than 20%.¹⁹

¹⁹ This ADB estimate is based on the optimal extraction rate formulas for nonrenewable resources under monopoly conditions, as defined by Perman, McGilvray, and Ma (1999, Table 8.4), using probable and proven reserves as stocks, current extraction rates, a social discount rate of 12%, and an own-price demand elasticity of -0.1. Environmental externalities are not considered in this estimate.

Mineral, metal, and gem resources are also plentiful

The country accounts for more than 90% of the global rubies trade and is the largest source of jade. It is very rich in sapphires and limestone, and has extensive tracts of copper, lead, zinc, tin tungsten, gold, and barite. Tables 3.6 and 3.7 show the proven, probable, and potential mining reserves for principal metals, ores, and minerals.

Table 3.8 shows official production statistics, but it should be noted that unofficial production is considered to be much larger. Since opening mining to foreign investors in 1998, the Ministry of Mines has granted hundreds of official and unofficial mining concessions to local and foreign firms. Little information about these has been revealed to the public, while many of the companies are suspected

Table 3.8: Official Mining Extraction in Myanmar

| Commodity | 2006 | 2008 | 2010 |
|--|------------|------------|------------|
| Metal (metric ton) | 480 | 830 | 4,030 |
| Cement, hydraulic (metric ton) | 570,031 | 675,788 | 534,034 |
| Precious and semiprecious stones | | | |
| Jade (kilograms) | 20,646,832 | 30,896,440 | 38,990,035 |
| Diamond (carats) | 5 | 5 | 5 |
| Rubies (carats) | 1,685,481 | 1,868,696 | 1,612,070 |
| Sapphires (carats) | 422,806 | 1,129,039 | 1,311,327 |
| Coal, lignite (metric ton) | 331,445 | 249,442 | 217,650 |
| Gas, natural, marketed (million cubic meter) | 12,501 | 12,445 | 12,425 |

Source: Fong-Sam (2011).

to have friendly ties to non-state armed groups and operate in remote areas that are difficult to access and monitor. For example, it has been estimated that 2011's total production of jade—the vast majority of which is exported—is twice the official figure of 43,200 tons, with a value of \$7.8 billion (Dapice and Thanh 2013). Official emporium sales alone (mostly to foreign buyers) were \$2.7 billion in 2011, whereas official exports are \$34 million, according to official statistics.

There is a real concern that the current extraction of jade exceeds its economically optimal extraction level.²⁰ Moreover, most gemstones are sold uncut and with minimal domestic processing. Substantial potential remains for increased value addition by selling gems in more processed form, rather than increasing extraction rates. Laws and regulations should be considered to restrict the export of raw uncut gemstones.

Prudent management of resource revenues underpins stability

Gas, oil, and mineral resources all have tremendously promising potential for the economy, yet the

government's ability to manage these resources is limited, and there is considerable uncertainty over how gas, oil, and mining revenues are used. Some revenues from oil and gas projects go to the central government and some retained by state economic enterprises, such as the Myanmar Oil and Gas Enterprise. But there is no clear understanding of what the split is. Many mining operations also appear to have unofficial extraction and sales outside of recognized channels; as a result, royalty capture is minimal (Dapice and Thanh 2013).

According to the Revenue Watch Institute's 2014 Resource Governance Index of 58 natural-resource-rich economies, Myanmar is ranked lowest in resource governance (Table 3.9). Its management of oil, mineral, and gas resources is opaque, and where payments from extractive industries end up is unclear. No legislation defines licensing processes, fiscal requirements for revenues, or the role of statutory authorities. Extractive revenues are not fully reported, and industry disclosure is limited. Official oversight is lacking, with licensing authorities provided unlimited discretion and allowed decisions that cannot be appealed. The three state-owned gas companies do not publish essential information about their operations. Moreover, most gas and mining resources are extracted from ethnic-minority areas, often with substantial negative local impacts. There are no official revenue sharing agreements to remit proceeds back to those areas that bear the social and environmental costs of extraction. Furthermore, social safeguard requirements are absent and environmental safeguards are not yet

²⁰ ADB estimated that the economically optimal initial annual extraction of jade resources is 31,200 tons. This is based on the optimal extraction rate formulas for nonrenewable resources under monopoly conditions, as defined by Perman, McGilvray, and Ma (1999, Table 8.4), using probable and proven reserves as stocks, current extraction rates, a social discount rate of 12% and an own-price demand elasticity of -0.1. Environmental externalities are not considered in this estimate.

Table 3.9: Myanmar in the 2013 Resource Governance Index

| Rank (out of 58) | | Score (out of 100) | Rank (out of 58) | | Score (out of 100) |
|---------------------|--|-----------------------|---------------------|---|-----------------------|
| 58 | COMPOSITE SCORE | 4 | | Subnational transfer rules | ... |
| 58 | Institutional and Legal Setting | 8 | | Comprehensive subnational transfer reports | ... |
| | Freedom of information law | 0 | | Subnational reporting of transfers | ... |
| | EITI participation | 67 | 57 | Safety and Quality Controls | 2 |
| | Independent licensing process | 0 | | Checks on licensing process | 0 |
| | Environmental and social impact assessments required | 0 | | Checks on budgetary process | 0 |
| | Clarity in revenue collection | 0 | | Quality of government reports | 11 |
| | Comprehensive public sector balance | 0 | | Government disclosure of conflicts of interest | 0 |
| | SOC financial reports required | 0 | | Quality of SOC reports | 0 |
| | Fund rules defined in law | ... | | SOC reports audited | 0 |
| | Subnational transfer rules defined in law | ... | | SOC use of international accounting standards | ... |
| 57 | Reporting Practices | 5 | | SOC disclosure of conflicts of interest | 0 |
| | Licensing process | 0 | | Quality of fund reports | ... |
| | Contracts | 0 | | Fund reports audited | ... |
| | Environmental and social impact assessments | 0 | | Government follows fund rules | ... |
| | Exploration data | 0 | | Checks on fund spending | ... |
| | Production volumes | 50 | | Fund disclosure of conflicts of interest | ... |
| | Production value | 0 | | Quality of subnational transfer reports | ... |
| | Primary sources of revenue | 0 | | Government follows subnational transfer rules | ... |
| | Secondary sources of revenue | 0 | 58 | Enabling Environment | 2 |
| | Subsidies | 0 | | Corruption (TI Corruption Perceptions Index and WGI control of corruption) | 1 |
| | Operating company names | 0 | | Open Budget (IBP Index) | ... |
| | Comprehensive SOC reports | 0 | | Accountability and democracy (EIU Democracy Index and WGI voice and accountability) | 2 |
| | SOC production data | 19 | | Government effectiveness | 2 |
| | SOC revenue data | 0 | | Rule of law (WGI) | 3 |
| | SOC quasi fiscal activities | 0 | | | |
| | SOC board of directors | 0 | | | |
| | Fund rules | ... | | | |
| | Comprehensive fund reports | ... | | | |

Satisfactory
 Partial
 Weak
 Failing

... = data not available, EITI = Extractive Industries Transparency Initiative, EIU = Economist Intelligence Unit, IBP = International Budget Partnership, SOC = service organization control, TI = Transparency International, WGI = Worldwide Governance Indicators.
Source: Revenue Watch Institute (2014).

approved. There is no effective system for managing the potentially negative impacts that extractive industries can have on local communities and the environment.

Lacking proper resource governance, Myanmar risks the “resource curse” (see Box 2.2). Three important

dimensions define an effective framework for governing natural resources and resource revenues. The first is transparency and accountability in revenue flows from extractive industries. Here it will be important for the government and the private sector to commit to the Extractive Industries Transparency Initiative for allowing better contracts

to be designed, thereby ensuring fair fiscal treatment of profits and fostering inclusiveness through improved accountability.

The second is the need to develop an adequate regulatory framework to ensure that projects are conducted in a way that maximizes social benefits and mitigates external costs. This includes not only implementing safeguards, but also creating adequate licensing, regulation, and benefit-sharing arrangements. And the third is the careful management of the macroeconomic and fiscal implications of different strategies for investing and saving the revenues from natural resources. As revenues rise after increasing exploration, it may be important for Myanmar to consider stabilization funds and other instruments to manage capital inflows and provide stabilization against macroeconomic shocks.

Industrial Development: Setting Out on the Curve

With rapid reform underway, Myanmar has a real opportunity to emulate other East and Southeast Asian countries that have achieved high growth on the back of export-oriented light and high technology manufacturing industries as well as tradable services such as tourism and transport. This section evaluates strategies for development in these areas as part of a longer-term transformation of the economy.

Export-led industrialization can underpin sustained growth and development

Myanmar is seeking to industrialize its economy with a modest, inward-looking manufacturing base, which accounts for 10%–12% of GDP (by comparison, the share of industry is 32% of GDP). It has a relatively low share of trade to GDP, with the ratio rising from 44% in 1990 to 55% in 2012, still less than half the average of countries in the Association of Southeast Asian Nations (ASEAN) (Petri and Plummer 2013, Table 1). Merchandise exports

in 2012 totaled just \$9.4 billion, compared with \$229 billion for Thailand, \$227 billion for Malaysia, and \$114 billion for Viet Nam (World Bank, World Development Indicators). Total exports, excluding gas, increased a meager 6.2% a year—with little diversification—from 2000 to 2010.

The country's revealed comparative advantage is in agricultural commodities, clothing, and footwear (Table 3.10).²¹ With the lifting of sanctions and outward-oriented reforms, it is expected that, given its labor endowments, location, and potential to plug into regional production networks, some labor-intensive manufactures (especially textiles) have significant potential.²²

Myanmar's export base and trading partners are limited. Merchandise exports are largely composed of resource-based products, with gas accounting for nearly 40% of the total (\$3.6 billion in 2012, according to UN Comtrade), mainly to Thailand and more recently to the PRC. Beans and pulses, rice, fish, hardwood (including teak in the form of unprocessed logs), and sesamum seeds contribute another 31% in aggregate, with jade and rubber also providing substantial foreign exchange earnings. The share of manufactures in total exports was only 10%, largely dominated by garments, which earned \$695 million in that year.

Three neighboring countries absorb almost 70% of Myanmar's exports (Figure 3.16), led by Thailand (\$3.36 billion in 2012), followed by India (\$1.22 billion) and the PRC (\$1.18 billion). The economic sanctions imposed on Myanmar by the main economies in the Organisation for Economic Co-operation and Development (OECD) no

²¹ Chia and Plummer (2013) calculated comparative advantages at the six-digit harmonized system level for 2012 Myanmar exports using a \$50 million cutoff. Using this approach, agricultural and natural-resource exports dominate the top revealed comparative advantage slots as expected, but certain labor-intensive manufactures also appear. In textiles, these include anoraks, trousers and shirts, and footwear.

²² However, it is worth noting that, during a field visit to Yangon in September 2013, some interviewees expressed concern that the prospects for garment exports are less bullish than is often supposed, given the strong competition in this area from Viet Nam, Cambodia, and Bangladesh. While Myanmar's wages are low, its labor productivity is even lower.

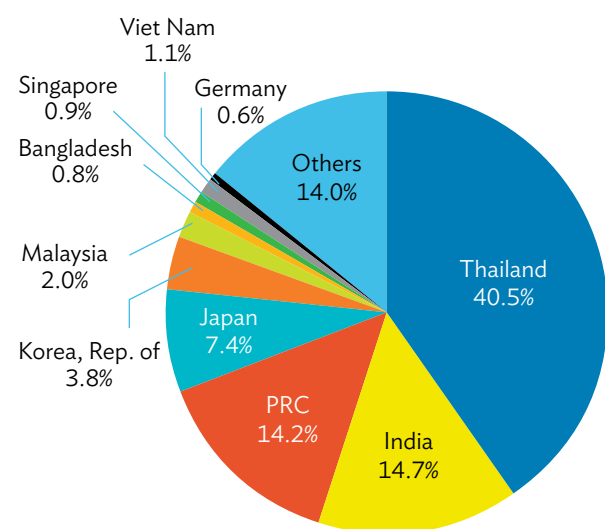
Table 3.10: Revealed Comparative Advantage Estimates for Exports, 2012

| HS Code | Description | Export Value (\$ million) | RCA |
|---------|--|---------------------------|-------|
| 71390 | Leguminous vegetables | 272 | 4,150 |
| 71331 | Black/green gram beans | 385 | 1,803 |
| 440333 | Keruing, teak, etc. | 141 | 1,125 |
| 710310 | Precious/semi-precious stones (unworked) | 160 | 667 |
| 440399 | Logs, non-coniferous | 862 | 646 |
| 260900 | Tin ores | 77 | 524 |
| 71339 | Beans dried | 72 | 250 |
| 440722 | Virola, imbuia, and balsa | 63 | 228 |
| 710399 | Precious/semi-precious stones (worked) | 91 | 142 |
| 400121 | Natural rubber | 116 | 75 |
| 120740 | Sesamum seeds | 50 | 53 |
| 620193 | Men's/boy's anoraks | 158 | 51 |
| 271121 | Natural gas in gaseous state | 3,421 | 34 |
| 620343 | Men's/boy's trousers and shorts | 68 | 31 |
| 620293 | Women's/girls' anoraks | 83 | 29 |
| 30613 | Shrimps and prawns | 88 | 16 |
| 900190 | Prisms, mirrors, and other optical | 70 | 15 |
| 620520 | Men's/boy's cotton shirts | 59 | 13 |
| 100630 | Rice | 74 | 8 |
| 640399 | Footwear | 79 | 8 |
| 400122 | Technically specified natural rubber | 75 | 5 |
| 271600 | Electrical energy | 63 | 3 |

HS = harmonized system, RCA = revealed comparative advantage.

Notes: Product descriptions are based on six-digit HS. Included in the table are products with at least \$50 million export value, and with RCAs over 1.0.

Source: Estimates by Chia and Plummer (2013) based on UN Comtrade Database.

Figure 3.16: Direction of Exports, 2012

PRC = People's Republic of China.

Note: Myanmar's total exports in 2012 reached \$8,299.33 million.

Source: Asian Development Bank (2013a).

doubt had a strong influence on redirecting trade. The United States, European Union, and Japan accounted for almost one-third of Myanmar's global trade in 1990. With sanctions gone, the privileges of the European Union's generalized scheme of preferences restored, and the country's reform program in full swing, the share of these economies in total trade is now likely to rise rapidly. The figures for trade with neighboring countries probably underestimate the real total, as anecdotal evidence suggests that unreported trade in hardwoods, jade, and gemstones may be much larger than officially reported. But even after factoring in "missing" revenues, Myanmar's trade footprint is small. And despite sizable exports of garments to Thailand and Japan, its links to market-driven global value chains in Europe and the United States are minimal. Most of the growth in exports is in traditional products

to traditional markets, with the country achieving little success at diversification. What is more, new exports and exporters are often short-lived.

Myanmar needs to build effective industrial development strategies

Based on the experience and performance of the PRC, Viet Nam, and Cambodia, it is expected that Myanmar will join the Asian “flying geese” model²³ and take advantage of the huge potential for structural change and technological catch-up to accelerate growth. Four elements of the PRC’s growth model are particularly appealing in light of Myanmar’s resource endowments:

- i an initial emphasis on labor-intensive manufacturing activities with good export prospects via established global value chains, as one of the primary drivers of growth;
- ii privately owned SMEs as the principal vehicles for realizing the country’s manufacturing development ambitions;
- iii use of special economic zones (SEZ) to jump-start industrialization in selected urban centers enjoying nascent agglomeration economies; and
- iv incentives for FDI (low labor costs, access to land and utilities at attractive prices, tax exemptions, and so on) to induce the outsourcing of manufacturing from neighboring countries, supplementing domestic capital supplies, and helping to augment sorely needed technological capacity and skills.

²³ The flying geese model attempts to explain the catching-up process of industrialization of latecomer economies from three aspects: (i) product development with single growing industry, (ii) diversification of industries and upgrading of goods from consumer to capital and/or from simple to more sophisticated, and (iii) subsequent relocation process of industries from advanced to developing countries during the latter’s catching-up process.

In this context, one can examine industrialization prospects from three different angles: (i) the economic contribution of the SME sector (including services that cater to the demand generated by tourism and other sectors), (ii) the role of SEZs for industrialization in the Myanmar context, and (iii) the potential of FDI centered in these zones as the foci of spillover generating industrial clusters.

In most developing countries, SMEs are a key source of employment, light manufacturing, and exports. In the absence of large, internationally competitive firms, Myanmar needs to foster SMEs to become the focus of industrialization and initiate export-led growth to supplement the push provided by growing domestic demand. Dynamic SMEs can be nurtured by stable macroeconomic conditions and an open business environment without bureaucratic regulations excessively limiting entry and exit, which presents opportunities and allows the harnessing of knowledge to enhance competitiveness. While it may take some time to create an enabling environment for this, a two-pronged strategy could be considered. First, attract foreign firms into strategically located urban industrial zones to initiate clustering and the integration of Myanmar into global value chains. Second, multiply homegrown SMEs to populate the vanguard of industrial development.

The experience of Myanmar’s neighbors also suggests that a networked clustering of firms in a specific location—generally a major urban center—can lead to a deepening of labor skills, technological spillovers, coordinated innovation, and higher productivity, and serve as a stepping stone to higher value adding production. Moreover, a clustering of firms can help forge and tighten links with global value chains and so attract FDI, which will then allow firms to progressively upgrade, specialize, innovate, and move up the chain (Box 3.5).

Late starters, including the PRC, have opted for shortcuts in their industrial upgrading, in particular through the creation of industrial parks and zones with incentives to attract foreign firms with proven technological and managerial capabilities to help jump-start the economy. Strategic partnerships

Box 3.5: Global Value Chains and Production Networks

To understand what it means by participating in a production network and moving up the value chain, it is important to look at the value chain in its entirety. At the apex stands the lead firm. In the garments industry, the industry of greatest relevance for Myanmar, this can be a mass or specialty retailer, such as Wal-Mart, Target, M&S or Mango; a brand marketer such as Polo, Nike, or Diesel; or a brand manufacturer such as HanesBrands, Zara, or H&M. The lead firm deals with “full package suppliers” that take responsibility for delivering a ready-to-be shelved product. These firms engage in the acquisition of fabric and trim material, basic cut-make-trim operations, laundering, pressing, packaging, quality checks, labeling and pricing (as specified by the lead firm), and delivery to the retailer’s distribution warehouse. The full package firm can conduct its own in-house cut-make-trim work or it can contract some or all of this activity to second-tier assemblers on the lowest rung of the value chain.

One rung above the full package firm for a garment’s producer is the own design manufacturer (ODM), which realizes additional value through design. A few of the most enterprising ODMs can make the transition to the own brand category (OBM) and eventually become apex firms in their own right with their own regional or global brand. Garment firms in developing countries, like Myanmar, tend to start out as assemblers doing cut-make-trim operations on material provided by an apex firm or its first tier full package suppliers. In time and with the help of clustering, they become full package suppliers, and such firms have proliferated in Bangladesh, the People’s Republic of China (PRC), and Turkey (and to a lesser extent, Pakistan). However, few of these firms have advanced to the ODM stage, although several have in the PRC and Turkey and a smaller number in Bangladesh. OBMs with global brands from developing countries are a rarity. Becoming OBMs and creating global value chains is the challenge for leading firms in industrializing countries and is probably the only way out of the low value adding trap that Bangladesh, Pakistan, and Sri Lanka, among others, are in after decades of serving as the foot soldiers in western production networks and value chains.

Although the above has focused on garments, the picture is much the same for footwear, autos, and consumer electronics. In fact, in virtually any product or service that is decomposable into subcomponents that can be produced separately lends itself to a degree of disintegration if this is cost effective for the lead producer or buyer.

Source: Yusuf and Kudo (2013).

with foreign corporations can help initiate cluster formation,²⁴ inducing the entry of domestic firms and enabling them to move more rapidly up the learning curve with the help of spillover from and links with foreign firms. An association with a foreign firm is the quickest way for domestic firms to establish a toehold in foreign markets and begin the process of integration into global value chains. So much of the trade in manufactured commodities and intermediate products is conducted via global value chains that for latecomer countries wanting to make a success of manufacturing-led growth (OECD 2013b, United Nations Conference on Trade and Development 2013) exporting via participation in these chains is arguably the only way to proceed.

²⁴ Some 82,000 multinational corporations and their subsidiaries control two-thirds of world trade, which is why they could play a catalytic role in Myanmar. With the top 5% of firms handling three-fourths of middle-income country trade and 1% of United States firms responsible for 80% of trade, size, and position in a global value chain clearly matters a lot.

An industrial development strategy can be anchored in trade-oriented SME development with the support of SEZs to promote FDI and technical spillover. In pursuit of growth and industrial objectives, Myanmar has already begun introducing some of the basic legal and regulatory elements and supporting administrative and policy measures. Among these, notable achievements have been the establishment of a special body to administer SEZs, laws to govern activities in the zones, and incentives to attract investors. To achieve the desired outcomes, however, the government needs to reinforce its reform efforts to dismantle the hurdles still in the way of SME development and that interfere with realizing the full potential of SEZs. The government also needs to coordinate and calibrate its incentive, investment, trade, and land policies to attract FDI into key sectors that can lead long-term growth.

Box 3.6: The SME Halo

Small and medium-sized enterprises (SMEs) are optimized for activities in which scale economies are insignificant. The SME sector is also the breeding ground for the mid-sized and large firms that provide most “decent” jobs, most total employment and net job creation, the bulk of exports, and most of the applied incremental innovation that increases productivity. Many disruptive innovations in the advanced countries can be traced to SMEs, including some inclusive ones. In the People’s Republic of China during the 1980s and early 1990s, SMEs, many operating at the township level, were considered a key source of employment, light manufactures, and exports.

An SME sector (comprising manufacturing and services entities) that can support high rates of growth derived in part from gains in productivity needs to draw on a culture of transformative entrepreneurship and risk taking—as distinct from the subsistence entrepreneurship that is the norm for most SMEs in developing economies (and almost uniformly applies to SMEs in the informal sector).^a Without such a culture and pressure to innovate, SMEs tend to make weak gains in productivity, as is apparent from the experience of the Republic of Korea and other East Asian economies.

The experience of African, South Asian, Latin American, and even some of the East Asian economies is a reminder that transforming the SME sector into a powerful driver is hard work. The Republic of Korea has attached great importance to SMEs for decades, with the government incentivizing the emergence and growth of the sector through financial and nonfinancial measures. However, although SMEs in the Republic of Korea account for 99% of enterprises and 87% of the workforce, the sector’s share of value added in manufacturing production was only about 45% in the 2000s and was responsible for less than a third of exports. Moreover, the rate of new entry, innovation, and growth continues to lag behind expectations. Directed financing, credit guarantees, financial innovations that improve risk assessment by banks, and better financial management and accounting by firms can be helpful. But such measures need to be complemented by other policies that encourage entrepreneurship and lower entry barriers for SMEs to play a bigger part in an economy. This is certainly apparent in South Africa: its sophisticated banking sector accounts for 12% of gross domestic product, but that has failed to galvanize the SME sector.

Not surprisingly, SMEs in Myanmar tend to be technologically backward and their productivity and quality standards are low. They use obsolete machines and equipment for production, some dating back to the colonial period, which badly constrains productivity enhancement and quality upgrading. The situation is exacerbated by restrictions on the import of lower cost, secondhand machines. Most registered enterprises are in Yangon and Mandalay, the latter hosting the majority of garments and textile producers and manufacturers of metal and auto parts. However, there are garment producers in the border town of Mae Sot that do assembly work as subcontractors to Thai firms and procure all their material from Thailand.

The authorities recognize the role of SMEs in expediting structural change, generating employment, and contributing to exports via participation in regional and global value chains. In recent years, a succession of policy measures has been introduced to strengthen government communication with the business sector and greater intersectoral interaction (such as through the creation of a National Industrial Development Committee and of SME committees in chambers of industry and commerce and government agencies, and efforts to stimulate networking with educational and technological institutions). The expected creation under the SME Development Law of an SME Development Agency at the national level and of subagencies at regional and state levels will provide one-stop services (for example, annual fee exemptions, licenses and permits, visas, and customs assistance). For the SME Development Agency to be successful, it will need the backing of the leadership and be guided by a focused development strategy.

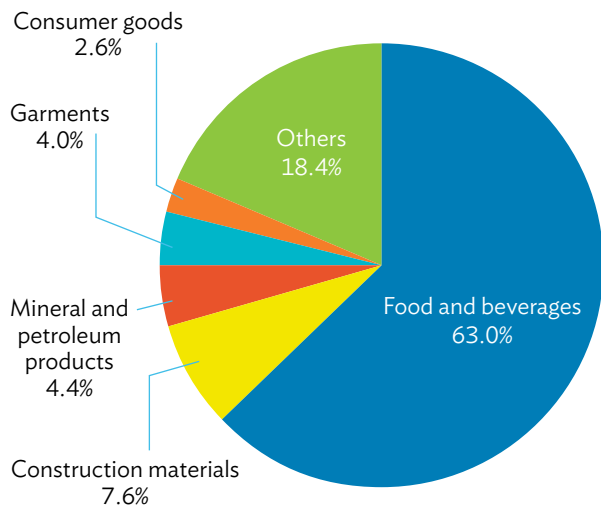
^a See Schoar (2009).

Developing dynamic SMEs

SME start-ups and high growth firms are often the main providers of net new jobs associated with poverty reduction, and among the principal drivers of urban development (Box 3.6). Myanmar lacks an operational classification of SMEs and the data

available are for manufacturing establishments employing 10 or more workers or using power equipment of more than 3 horsepower, and for firms registered with the Ministry of Industry in compliance with the Private Industrial Enterprise Law of 1990. As of 2012, 43,232 enterprises were registered, 63% of which were in processed food

Figure 3.17: Sector Distribution of Small and Medium-Sized Enterprises, 2012



Source: Yusuf and Kudo (2013).

and beverages, followed by construction materials (7.6%), metal and petroleum products (4.4%), and garments and consumer goods (6.6%, with garments alone accounting for 4%) (Figure 3.17). Shares of other subsectors were relatively small. Furthermore, the total number of firms is almost unchanged since 2004, the only differences being a small increase in the numbers of food and beverage producers and declines in firms manufacturing garments and construction materials. In 2012, 4,035 enterprises were quite large (9% of the total) and 484 were foreign invested firms, 76 of which were engaged in processing activities. SMEs are mostly privately owned and more than 90% of businesses in the rural and the manufacturing sectors fall into this category. Much of the output of manufacturing plants is consumed locally, with exports in 2012 at about \$1 billion, or about 10% of aggregate exports in that year.

To support successful SME development in line with the country's industrialization and growth objectives, a number of important measures should be implemented over the short and medium term, with addressing the financing needs of SMEs particularly critical.

Short term

- i. Encourage entrepreneurial activity that stimulates the formation of new firms and encourages firms to venture into foreign markets.
- ii. Lift restrictions on the import of second-hand machinery and equipment.
- iii. Complete the program of standardization and certification for products at international and national standards in line with the requirements of the ASEAN Economic Community by 2015.
- iv. Conduct a regular survey on SMEs and gather information on industrial trends to update the industrial development plan and strategic measures.
- v. Increase collaboration between SMEs and state-owned enterprises with modern equipment to allow the SMEs to avail themselves of the superior production and technical capabilities of the state-owned enterprises, as well as their capacity to conduct testing and applied research.
- vi. Help create linkages between SMEs and the engineering departments of universities and with government research institutes that could help firms upgrade their processes and products.
- vii. Improve electrical power supply so that SMEs need not rely on expensive on-site electric power generators or work only single shifts.

Medium to longer term

- i. Encourage the development of new entrepreneurs.
- ii. Provide legal protection to firms that enter the formal sector.

- iii. Encourage large firms to become training grounds for entrepreneurs and managers, as well as to forge partnerships with small start-ups and potential entrepreneurs to facilitate their access to finance and technology.
- iv. Offer well-designed and targeted vocational and apprenticeship programs to help overcome skills shortages and labor market mismatches.

Access to finance is a major issue for SMEs and accelerating financial development is vital for the sector's development. The government established the Small and Medium Industry Development Bank in 2012 to provide loans to SMEs at subsidized rates in a mechanism that partly draws on loans provided by Japan and the PRC. The bank's operations could be expanded and funding strengthened to make it a full-fledged SME policy bank, though the number of separate development banks should be limited. Although there is no simple solution to the complex problems of SME financing, the government should consider additional channels to ameliorate the situation, such as broadening collateral bases, allowing more factoring and leasing for smaller firms, and providing credit guarantee schemes. Some detailed suggestions are as follows:

- i. Simplify the process of appraising and granting loans and broaden types of collateral. More ambitiously, procedures could be put in place that would permit eligible SMEs to obtain collateral free loans and term loans.
- ii. Improve credit-scoring systems and risk self-assessment by SMEs, introduce optimal pricing schemes with loan guarantees and covenants, and create special support units for high-risk customers.
- iii. Introduce new financial products for SMEs and train bank staff to deal with SME clients.
- iv. Introduce credit guarantee schemes for SMEs. There are many types of these

schemes, such as (i) centralized and targeted schemes for a certain class of industry and borrower with potential policy interest, (ii) more decentralized schemes often employed by countries with federal institutions with varying degrees of public guidance as to the beneficiaries, (iii) public-private schemes in which development banks (national and international) can play a lead role,²⁵ and (iv) schemes entirely created and managed by the private sector with the government playing no more than a regulatory role (OECD 2012). Myanmar could consider a centralized, targeted, and limited scheme given current capacity and institutional weaknesses, although it has to be said that there is little evidence that such schemes successfully promote SMEs in developing countries.²⁶

- v. Advance cooperation with SME organizations and providers of business development services. The aim here is to not just reduce risks, but also combine financial with nonfinancial services, such as imparting knowledge on opening letters of credit, obtaining trade insurance, and evaluating the advantages of leasing.
- vi. Increase the supply of risk capital for growing firms that enter new areas, particularly for medium-technology activities. A good example is the creation of venture funds in many developing countries, administered by public agencies whose objective is to push industry in new directions by creating industrial clusters located in more favorable production areas. Although venture capital will address only a limited portion of the financing needs of a business community, it can play a catalytic role.

²⁵ Modalities for such interaction and numerous examples are contained in the handbooks and material prepared by ADB, World Bank, and other development institutions. See <http://www.iisd.org/pgg/ppp.aspx>

²⁶ There are a few success stories; for example, Chile's FOGAPE and Italy's CONFIDI schemes, but the Republic of Korea's credit guarantee scheme was less successful with a 4% default rate. See <http://www.oecd.org/investment/psd/45324327.pdf>

Box 3.7: Special Economic Zones: Development and Infrastructure Needs

Thilawa special economic zone (SEZ) is 23 kilometers (km) southeast of Yangon and forms part of the Central North–South development corridor.^a It is served by a port near the mouth of the Yangon River with five berths and a current capacity to handle 350,000 twenty-foot equivalent units of cargo. The SEZ will host light manufacturing industries and is expected to be operational by 2015. It is being developed with the assistance of the Government of Japan. Myanmar Thilawa SEZ Holdings, a consortium set up by nine local companies, owns 41% of shares and Thilawa SEZ Management Committee, a state entity, has the remaining 10% on the Myanmar side. On the Japanese side, the MMS Thilawa Development, a consortium of Mitsubishi, Marubeni, and Sumitomo, has 39% and the Japan International Cooperation Agency 10%.

Dawei SEZ is an ongoing project located in the south on the Andaman coastline about 350 km from Thailand and about 600 km from Yangon. This SEZ, a more distant prospect than the others, is planned to be a center of heavy manufacturing serviced by a deep water port. It is being developed with the Government of Thailand. Dawei SEZ forms part of the East–West, Southern Area, East–West development corridors identified in the draft transport master plan prepared with the assistance of Japan International Cooperation Agency. Project implementation is the responsibility of Dawei Development Company.

Kyaukpyu SEZ on the central coastline island of Ramree will serve as a link between South Asia and the People's Republic of China, centering on gas and petroleum-related industries.

The three SEZs require substantial infrastructure investments to spur economic activity and facilitate growth; investment is being sought from Japan, the People's Republic of China, and Thailand to build the needed infrastructure. The table below identifies the government's priority infrastructure projects in these SEZs covering various subsectors.

Table B3.7.1: Infrastructure Projects in Special Economic Zones

| Subsector | Thilawa | Dawei | Kyaukpyu |
|-----------|---|---|---|
| Road | <ul style="list-style-type: none"> • Extension of expressway to Thilawa port • Plan to link the new Hanthawady airport and Thilawa port, but no details yet on whether this will be by road or rail | <ul style="list-style-type: none"> • 150kilometer (km) access road from Dawei to Phu Nam Ron in Thailand completed • 4-lane highway, then to expand to 8 lanes • Improvement of Thanbyuzayat–Dawei–Myeik–Kawthonng road starting 2020 | <ul style="list-style-type: none"> • Proposed construction of a highway to Ruile to link Kyaukpyu to Yunnan Province in the People's Republic of China |
| Railway | <ul style="list-style-type: none"> • Extension of railways to Thilawa Port | <ul style="list-style-type: none"> • Construction of a railway to Thailand | <ul style="list-style-type: none"> • Proposed railway connecting Kaukpyu to Yunnan Province, adjacent to oil and gas pipelines. Railway to handle trains with speeds of up to 200 km an hour |
| Maritime | <ul style="list-style-type: none"> • Development of Thilawa Port | <ul style="list-style-type: none"> • Dawei port construction to service liquid cargo, agricultural products, general cargo, containers, and bulk cargo. Temporary small port is now available. The new port will be able to accommodate vessels of up to 300,000 dead weight tons. Design capacity is for 250 million tons cargo throughput with terminals for containerized cargo, break-bulk, dry and liquid bulk, and liquid natural gas. | |

continued on next page

Box 3.7 (continued)

| Subsector | Thilawa | Dawei | Kyaukpyu |
|--------------------|--|--|--|
| Air | | <ul style="list-style-type: none"> Upgrading Dawei airport to make it an international airport being explored | <ul style="list-style-type: none"> Proposed Kaukphyu airport improvement |
| Power | <ul style="list-style-type: none"> Construction of a 500 megawatt (MW) thermal power plant to supply power to the zone, to be built in the Yangon region's Thakayta township by Hanza International with the support of 18 other companies from the Republic of Korea | <ul style="list-style-type: none"> Coal-fired power plant: land available is up to 1,976 acres for power plant development to serve Dawei Industrial Estate. There is a possibility to develop a power plant to sell power to the Electricity Generating Authority of Thailand and within the industrial estate under a long-term contract. Hydro power plant: Tanintharyi Hydro Power Development with a capacity of up to 1,040 MW to serve Dawei Industrial Estate | <ul style="list-style-type: none"> Commencement of construction of the pipelines in Myanmar in 2011 from Kyaukpyu to Kunming in Yunnan province. The total length of the pipelines is expected to be in excess of 1,500km for the oil pipeline and 1,700 km for the gas pipeline. Gas pipeline currently providing 24-hour electricity to Kyaukpyu (news report) Proposed construction of 50MW natural gas-fired power plant. |
| Telecommunications | | <ul style="list-style-type: none"> FTTx broadband network architecture using optical fiber with speed of 1 gigabit per second Cutting-edge Fix network solution with next-generation network Base station to cover the industrial estate and deepsea port Most advanced wireless solution (3G or newest technology) Most advanced value-added services Connect to international gateway for internet in Thailand Central network management to improve tracking or monitoring the network ability such as bandwidth utilization, data throughput, connect time, and so on | |

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Box 3.7 (continued)

| Subsector | Thilawa | Dawei | Kyaukpyu |
|-----------|---------|---|----------|
| Logistics | | <ul style="list-style-type: none"> • Logistics hub between the Mekong-India Industrial Corridor and the western gateway of the southern economic corridor • Integrated logistics hub with intermodal freight transport capabilities | |

^a The Central North-South transport corridor (Yangon-Nay Pyi Taw-Mandalay) is one of the four priority transport corridors identified in the proposed National Transport Development Plan. The plan adopts a corridor-based transport infrastructure development approach. The other three are East-West Corridor (Yangon-Hpa An-Myawaddy), Northern Corridor (Mandalay-Muse), and Western North-South Corridor (Yangon-Pyay-Magway).

Sources: Asia Times Online; Dawei Development Company Limited; Japan International Cooperation Agency (2014); Ramree Island and Business Travel News.

Leveraging special economic zones

The Government of Myanmar recognizes that promoting special economic zones and identifying urban growth centers are important mechanisms for achieving the country's transition to a "modern, developed and democratic nation by 2030" (Ministry of National Planning and Economic Development 2013, 1). There has been a proliferation of industrial zones since 1995 to promote industrial development. With the newly elected government taking office, the Industrial Development Committee was formed on 20 April 2011 to spearhead the country's industrialization efforts. Under the committee's supervision, 19 industrial zones are currently operating in 9 states and regions and 7 new ones are being developed (Directorate of Investment and Company Administration 2014b). Yangon alone has 4 industrial zones with 18 sub industrial zones and industrial parks (Min and Kudo 2012). The Special Economic Zone Law was also enacted in early 2011 and a Zone Management Committee is responsible for each zone, with three SEZs—Thilawa SEZ, Dawei SEZ, and the Kyaukphyu Economic and Technology Zone—being developed (Box 3.7).

The SEZs have so far found few occupants. Two are far from urban centers, one is a transit point for trade with the PRC and the other earmarked as a

producer of capital and energy-intensive products that do not necessarily conform to Myanmar's comparative advantage. Only the Mingaladon industrial park close to Yangon International Airport and the Bago industrial park are positioned to attract FDI. But even these have only a handful of factories operating and under construction.

International experience suggests that a focused effort on a few strategically located zones has a greater chance of achieving desired results. Viewed as an integrated export-oriented industrial center and a shortcut to FDI-supported industrialization, SEZs have attracted the attention of policymakers in many developing countries. Despite some notable successes in Malaysia, Mauritius, and the PRC, the performance of SEZs over the past two decades has been mixed. Much depends on location—for example, the advantage of Shenzhen's proximity to Hong Kong, China—and which firms and in what numbers are attracted to a zone, networking among firms, kinship networks, and a host of other factors. Take Mauritius: it relied on the ties of its Chinese community with relatives in Taipei, China and Hong Kong, China to attract garment producers and pioneering firms, which subsequently pulled in other firms. In this regard, the Yangon zones may deserve the government's special attention given their potential to leverage transportation connectivity and agglomeration economies to promote export-

oriented industrialization.²⁷ More importantly, the success of SEZs appears to depend on government capacity to design an effective policy framework that assigns a clearly delineated role to SEZs and to implement complementary policies in a coordinated manner.

International experience also offers some pointers for enhancing the potential of SEZs to catalyze industrial development and promote export industries (Farole 2011; FIAS 2008). With an effective regulatory framework, a strategic location—adjacent, say, to a port or an airport—and adequate infrastructure are essential for success. Efficient trade facilitation that speeds up customs procedures for imports and exports is another prerequisite. Private participation can improve the quality of zone management and a well-defined legal framework together with proper land titling that clearly validates ownership or leasehold rights can minimize the problems firms often encountered.²⁸

Although SEZs in the narrow sense might be a policy instrument of questionable utility, cities, which create a physical and institutional environment hospitable to industrialization, are the primary vehicles for broadly addressing national developmental goals.²⁹ The message from East Asia and other advanced economies is that the business of exporting is dominated by a small number of cities that leverage advantages stemming from urbanization, economies of scale, and specialization. This and gains from learning-by-doing, boost firm productivity. And as manufacturing capabilities mature, exporting cities

can progress from incremental to more significant product and process innovations. But exporting cities must become globally networked to benefit from foreign capital, skilled workers, technology, and business travel,³⁰ itself a conduit for ideas and innovation.

SEZs helped develop Myanmar's export-oriented manufacturing near mainly coastal cities in earlier decades. But in the light of recent findings on urbanization, the success of industrialization going forward will hinge on how well urban and competition policies buttress the creation of SEZs and industrial parks. In particular, industrial clusters are more likely to germinate and grow in an urban environment that is increasingly well-equipped with services providers, infrastructure, good transport links, housing, and amenities valued by an industrial workforce.

The government has been actively promoting greater public and private sector investment in SEZs to generate employment opportunities and technological development. However, Myanmar needs to overcome infrastructure bottlenecks in transport connectivity and power generation, transmission, and distribution to attract investment, particularly the FDI that will help establish the country as a strategic location and a low-cost production base for exports to the region.

The urban population is expected to grow at around 2.9% annually, and to make up half the total population by 2040 (ADB 2013c). This rapid pace, while not unique from the perspective of many developing Asian countries, presents a very considerable challenge (Box 3.8). With more urban areas expected to emerge and existing cities expanding, demand will increase for more and better infrastructure. The growth of urban centers alongside industrialization will require increasing investment in transport-related infrastructure to improve access to transport corridors and social services and enhance connectivity between cities and urban and rural areas. Improving other types of infrastructure, such as for power, communications,

²⁷ With the support of the Japan International Cooperation Agency, the Yangon Regional Government and Yangon City Development Committee prepared the Strategic Urban Development Plan of Greater Yangon setting step-by-step goals for various years up to 2040. The plan outlines Yangon's future urban structure with a newly developed outer ring road connecting multiple subcenters. The plan is of key importance because the city's population is forecast to reach 10 million by about 2030, rising from 5.5 million today.

²⁸ South Africa's Motor Industry Development Program induced an increase in exports, but the long-term effects are difficult to discern. The country's motor industry still has not been weaned off decades of subsidies, with each job being created at great cost (Madani and Mas-Guix 2011).

²⁹ The PRC moved rapidly from experimenting with SEZs to creating "open cities" that enlarged the scope of the reforms and generated vital agglomeration and spillover effects that are missing where SEZs remain small enclaves.

³⁰ Business travel is an effective disseminator of technology. See Hovhannisyan and Keller (2011).

Box 3.8: Urban Development Policy

Long-term underinvestment in infrastructure has had an acute negative impact in urban areas, especially in water and sanitation, threatening public health. Concerted policy efforts are needed to create livable, thriving cities. The first task is to have clear and complementary policies that can manage sustainable urban development. As part of an urban development policy, the following identify a number of priority areas:

- i Complete and approve all the necessary policies affecting urban development, including the Urban Development Policy, the National Land Policy, and the National Housing Policy, with clear policies on water resources, environmental protection, and solid waste and recycling.
- ii Support strategies that facilitate the “green cities” concept as the basis for prioritizing actions.
- iii Introduce institutional reforms based on a clear separation of central and local government functions.
- iv Strengthen the capacity of the Ministry of Commerce and the Department of Human Settlement and Housing Development, particularly in their role as facilitators rather than implementers.
- v Develop a land-use planning and management information system, based on a geographic information system that uses the same geographic network for all forms of land registration, social, economic, and spatial data.
- vi Increase investment in urban infrastructure in concert with the spatial development plans.

Source: Asian Development Bank (2013c).

and social infrastructure, will be critical to support modern living and to maximize SEZ potential to help steer the economy toward inclusive, sustainable, and high-quality growth.

Promote FDI to spearhead long-term growth

Myanmar significantly underperforms other ASEAN countries in FDI, reflecting weak domestic policy and the lingering effects of sanctions by OECD countries in the past. Since rapid reforms began, however, there is a visible uptrend. FDI reached a record \$4.6 billion in FY2011,³¹ almost 16 times higher than in FY2005 and currently on par with the Philippines (Figure 3.18). FDI to Myanmar fell to \$1.4 billion in FY2012, but reached \$3.2 billion in FY2013. FDI is mainly from the PRC, and Hong Kong, China, which accounted for 54% of total flows from FY2011 to FY2013, followed by Singapore (20%), the Republic of Korea (8%), Viet Nam (5%), and the United Kingdom (5%) and Thailand (5%). Some 41% of investments are in power generation, followed by oil and gas (31%), manufacturing (9%), mining (6%), hotel and tourism (4%), transport and communication (4%), and real estate (3%). Increasing the share of manufacturing and of hotel and tourism would boost export growth and business in SEZs.

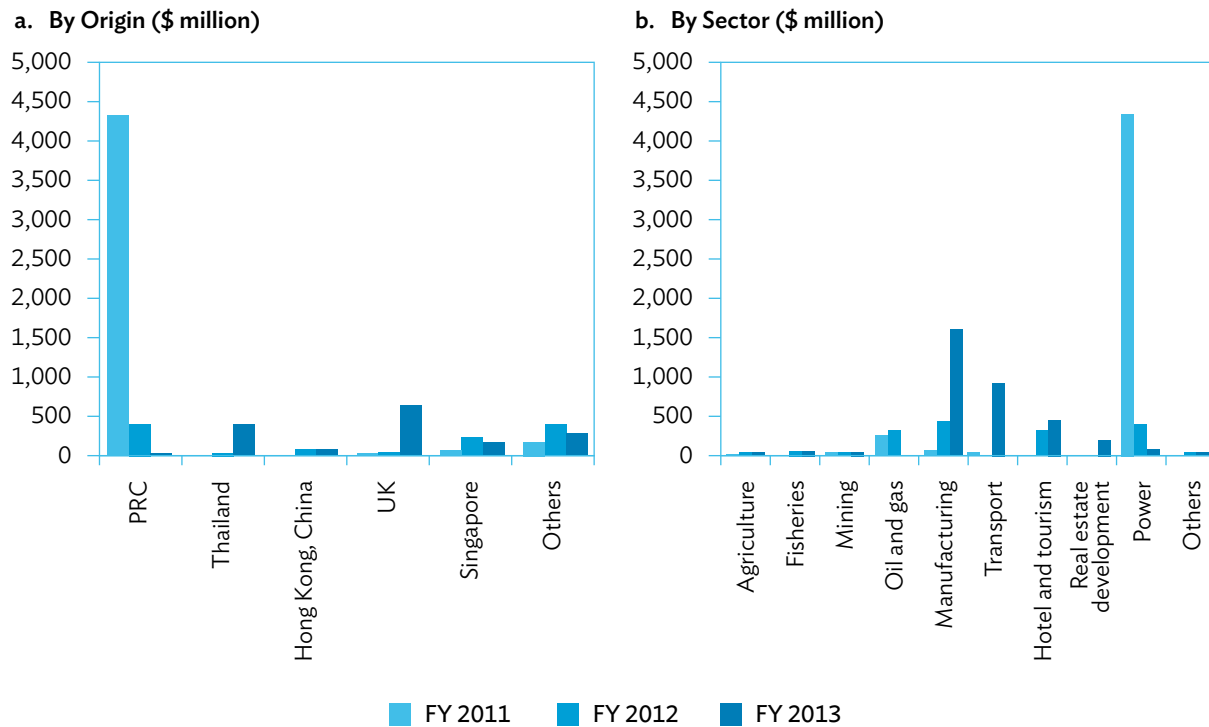
³¹ The large FDI inflow figure in FY2011 was driven by power-sector investments totaling \$4.3 billion, accounting for practically all FDI from the PRC to Myanmar in that fiscal year.

The potential to expand FDI through economic reform and normalization of trade relations with OECD countries is great. Viet Nam, which began reforms in 1986 and is economically similar to Myanmar, received average annual FDI inflows of more than \$8 billion from 2008 to 2012.

Potential foreign investors in the near term will likely be drawn by the domestic market and in the longer run by the country's potential as a platform for exports of processed and assembled manufactures, petroleum products, electric power, and minerals such as copper. Low per capita incomes and a small middle class mean that food processing (confectionery, snack foods, beverages), cosmetics, and light electrical household goods are sectors drawing the most interest. A surge in long-suppressed demand for motor vehicles is currently being met through imports of secondhand vehicles from Japan and the Republic of Korea, but this presents opportunities for domestic assembly operations and the manufacture of auto parts.

Investment in physical infrastructure and housing is rising and starting to make up for the shortfall in both accumulated over decades amid a growing population and an expanding GDP. This means that industries supplying construction materials can expect to reap handsome returns. Opportunities for exporting are likely to be greatest in garments, footwear, household items, processed foodstuffs,

Figure 3.18: Foreign Direct Investment in Myanmar



PRC = People’s Republic of China, UK = United Kingdom.

Note: Data for FY2013 are only from April to November 2013. Data for the UK include the Virgin Islands and Bermuda.

Source: Central Statistical Organization, Selected Monthly Economic Indicators, <https://www.csostat.gov.mm/sdetails05.asp>, (accessed May 2014).

and wood products, all of which Myanmar has demonstrated a degree of comparative advantage. Over the medium and longer term, the country could very likely emerge as a significant exporter of natural gas and electric power if its vast hydropower resources are developed alongside the building of the Greater Mekong power grid that will enable countries in Southeast Asia to share power.

To promote FDI, the government has introduced a number of measures, including a foreign investment law permitting output to be sold abroad, allowing 100% foreign ownership in unrestricted activities and 80% in restricted ones, a 5-year tax holiday and other incentives for favored industries, and allowing foreigners to lease land from the government or authorized parties for a period of 50 years with extensions for another 20 years in 10-year installments.

Despite these market opening measures, domestic and foreign investors remain cautious for a number of reasons. Political uncertainty, especially over the

outcome of the 2015 elections, remains a significant concern. While this may deter foreign investors from entering the market, a very real threat is the possibility of large-scale social unrest if the political and economic reforms fail to bear fruit in improving human rights, reducing poverty, and achieving greater economic and social well-being in the foreseeable future. Another big concern is that the cost of doing business does not compare favorably with Viet Nam, Thailand, the Lao People’s Democratic Republic, and Indonesia. The World Economic Forum’s Global Competitiveness Index 2013–2014 ranks Myanmar 139th out of 148 countries. The World Bank’s Doing Business report for 2014 ranked Myanmar 182nd out of 189 countries, against a regional average of 88 for East Asia. Myanmar also ranked lowest in ASEAN (Table 3.11). The most serious concerns were over the costs of starting and registering a business, investor protection, and contract enforcement.

Several additional factors are affecting investment decisions in Myanmar. Competition with cheap

Table 3.11: Ease of Doing Business Rankings 2014 (out of 189 economies)

| Category | SIN | VIE | CAM | LAO | MYA |
|--------------------------------------|-----|-----|-----|-------|-----|
| Ease of Doing Business | 1 | 99 | 137 | 159 | 182 |
| 1. Starting a business | 3 | 109 | 184 | 85 | 189 |
| 2. Dealing with construction permits | 3 | 29 | 161 | 96 | 150 |
| 3. Getting electricity | 6 | 156 | 134 | 140 | 126 |
| 4. Registering property | 28 | 51 | 118 | 76 | 154 |
| 5. Getting credit | 3 | 42 | 42 | 159 | 170 |
| 6. Protecting investors | 2 | 157 | 80 | 187 | 182 |
| 7. Paying taxes | 5 | 149 | 65 | 119 | 107 |
| 8. Trading across borders | 1 | 65 | 114 | 161 | 113 |
| -documents to export (no.) | 3 | 5 | 8 | 10 | 9 |
| -time to export (days) | 6 | 21 | 22 | 23 | 25 |
| -cost to export (\$ per container) | 460 | 610 | 795 | 1,950 | 670 |
| -documents to import (no.) | 3 | 8 | 9 | 10 | 9 |
| -time to import (days) | 4 | 21 | 24 | 26 | 27 |
| -cost to import (\$ per container) | 440 | 600 | 930 | 1,910 | 660 |
| 9. Enforcing contracts | 12 | 46 | 162 | 104 | 188 |
| 10. Resolving insolvency | 4 | 149 | 163 | 189 | 155 |

CAM = Cambodia, LAO = Lao People's Democratic Republic, MYA = Myanmar, SIN = Singapore, VIE = Viet Nam.
Source: World Bank (2013b).

imports of consumer goods (often smuggled), construction materials, motorbikes and small vehicles from the PRC, Thailand, and Viet Nam is often intense. Labor costs in the garment industry, when adjusted for productivity, are higher than in Bangladesh, Viet Nam, and Cambodia. The minimum wage in Yangon is \$65 per month (it varies across the provinces) and an average worker in a garment factory makes \$70–\$90 per month. A Workers Union Law introduced in 2012 has encouraged unionization, which has stiffened worker militancy. Because there is still no official clarification of workers' rights and permissible union activities, potential investors remain wary. Skilled and managerial workers are in short supply, salary demands are high (as is staff turnover), and the entry of multinational corporations has tightened supplies and pushed up reservation wages.³² Land prices in the industrial zones have surged on a speculative boom for vacant lots, but only about a fifth of this land is being used for manufacturing,

³² Reservation wage refers to the minimum wage at which a worker will accept employment in a particular type of job.

with many lots being converted into warehouses. Prime office space is scarce and now renting at close to \$100 per square meter in Yangon—higher than in Singapore (Peel 2013). In Yangon, only 600,000 square feet of office space is available as against demand of close to 9 million square feet. Ownership issues exacerbate the problem of high and rising land prices. Ownership rights in the land market are still unclear and leasing transactions are fraught with uncertainty. Lastly, although a new Companies Act is being drawn up, the current act has not been revised since 1914. This is a big problem for foreign investors, because if they buy a share in a Myanmar firm under the current law, its legal status changes to “foreign” and becomes subject to a different incentive regime.

Growth through structural change and industrialization requires integration into global value chains. FDI can catalyze faster integration, but Myanmar needs to persuade first- and second-tier suppliers of these value chains to use the SEZs as a competitive platform for the assembly and

processing of labor-intensive products and the provision of services. Attracting a few anchor firms may be a necessary prelude to an SEZ and cluster-based growth spiral over the medium term. In the immediate future, however, policies are needed to allow SEZs to effectively operate and support the country's integration into regional production networks and global value chains. Policy actions needed include the following:

- i. Deal expeditiously with land, legal, contractual, and other issues that impinge on the quality of the business environment and take steps to build implementation capacity.
- ii. Take decisive steps to address within 3–5 years the infrastructure constraints bedeviling business development in core urban–industrial regions.
- iii. Raise SEZs best positioned to attract anchor firms to world-class standards for infrastructure and services.
- iv. Streamline regulations affecting exports and imports to encourage participation in global value chains and reduce levies to a minimum. With trade in intermediates intrinsic to these value chains, Myanmar must become an efficient exporter as well as an importer.
- v. Develop the services sector. Critical to participating in global value chains and being considered a reliable partner—is a wide range of services such as transportation, logistics, information and communications technology, and marketing. Yet Myanmar ranks poorly on the Logistics Performance Index (145 out of 160 in 2014). To integrate into global value chains, focusing on issues specific to manufacturing might not be enough and developing the services sector alongside is likely to be equally important.

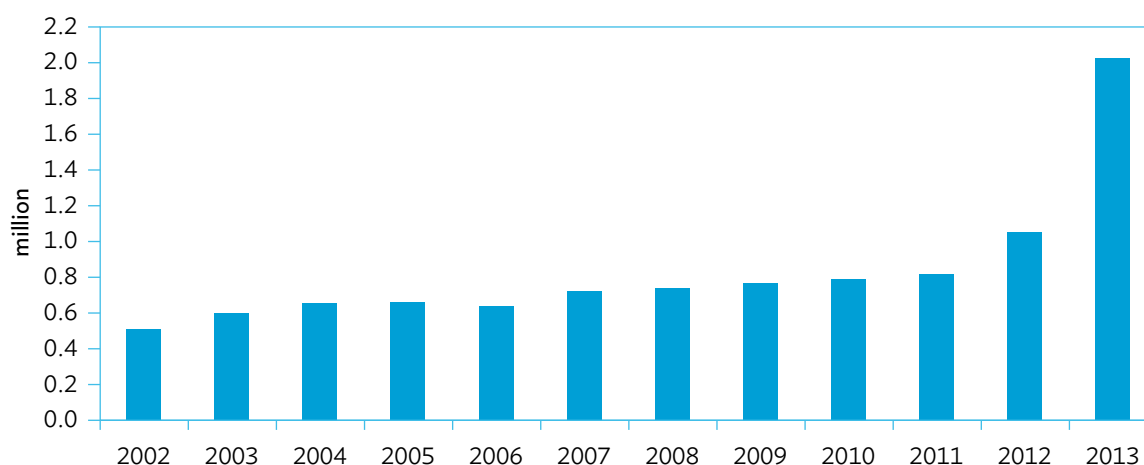
Responsible Tourism

Services are the largest sector in many economies and play an important role in enabling economic growth and job creation. For Myanmar, tourism can generate substantial economic gains. The potential is vast and sustained growth in tourism is possible provided that expansion is managed responsibly and within the capacity of the country. A significant step forward has already been taken with the preparation of the Myanmar Tourism Master Plan, discussed later. Within this strategic framework, detailed policies need to be developed with specific goals for each step. Linking the master plan to the ASEAN Tourism Strategic Plan and, in particular, to the ASEAN Tourism Marketing Strategy will be important to leverage the regional initiative to promote the tourism development.

Myanmar's tourism potential is huge, but...

Myanmar is about 30% larger than Thailand and blessed with numerous potential tourist attractions, historical, cultural, and scenic. Unspoiled beaches, beautiful rivers and lakes, and snow-peaked mountains beckon. The country's handicrafts are varied and of high quality. In addition, its great variety of gemstones could enable it to become a major jewelry center.

Today, six “flagship destinations” receive the bulk of tourists: Yangon and the Shwedagon Pagoda, Bagan, Inle Lake, Kyaikhto, Mandalay, and Ngapali beach. But there is a wealth of emerging tourist destinations; among them, Putao, the Myeik archipelago, Nagaland, Hakha, Nat Ma Taung, and Loikaw. These already attract domestic tourists and are now orienting toward international visitors. Right now, however, international visitor arrivals are largely confined to a central band of the country, with few tourists going to the north and south. While some visitor arrival data are collected at the regional and state levels, it is not processed in a way that shows regional patterns and the spread of arrivals.

Figure 3.19: Foreign Visitor Arrivals, 2002–2013

Source: Ministry of Hotels and Tourism (2014).

Table 3.12: Foreign Visitor Arrivals by Nationality, 2013

| Rank | Nationality | No. of Arrivals | Market Share (%) |
|------|----------------------------|-----------------|------------------|
| 1 | Thailand | 139,770 | 15.5 |
| 2 | People's Republic of China | 90,550 | 10.1 |
| 3 | Japan | 68,761 | 7.6 |
| 4 | Republic of Korea | 54,934 | 6.1 |
| 5 | United States | 53,653 | 6.0 |
| 6 | Malaysia | 39,758 | 4.4 |
| 7 | Singapore | 39,140 | 4.3 |
| 8 | France | 35,462 | 3.9 |
| 9 | United Kingdom | 33,203 | 3.7 |
| 10 | Germany | 27,712 | 3.1 |

Source: Ministry of Hotels and Tourism (2014).

Arrivals: International tourist arrivals increased from about 600,000 in 2003 to more than 1 million in 2012, up 6.6% on average annually, nearly doubled in 2013 to 2.04 million, and could double again in 2014 (Figure 3.19). Better connectivity with direct flights to Mandalay and Nay Pyi Taw, a rapid increase in flights to the country, the opening of new land-border entry points, and easing visa procedures have encouraged a recent surge in tourist arrivals, despite sharp increases in hotel rates and a shortage of quality rooms. Although tourist arrivals remain the lowest in ASEAN after Brunei Darussalam, this situation will change very soon.

Markets: Table 3.12 shows the top 10 source markets for tourists who arrived by air, with the total number of foreign arrivals and their relative market share. Thailand and the PRC account for the largest number of arrivals and Asia as a whole accounts for over 60% of all international arrivals, followed by Western Europe (22%) and North America (7.4%).

Receipts: Earnings from international tourism more than quintupled from \$165 million in 2008 to an estimated \$936 million in 2013, according to Ministry of Hotels and Tourism. While such an increase in just 5 years is impressive by some measures,

tourism still contributes relatively modestly to GDP. Furthermore, current earnings are likely to pale compared with earnings that a more established industry might deliver in 5–10 years. In 2011, for example, Thailand’s is estimated to have earned more than \$26 billion from international tourism.

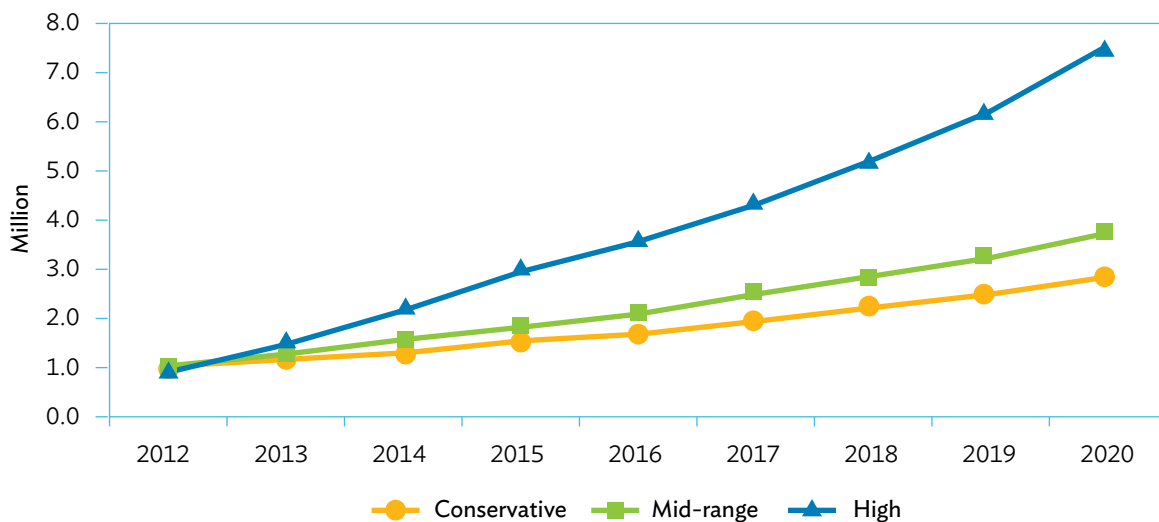
Few countries have faced the same speed and pressure of tourism development that Myanmar now faces. That it has not instituted the regulatory frameworks and infrastructure to accommodate the surge in visitor numbers, despite a desperate need for income, compounds the problem. Tourism growth in many countries, including Thailand, was achieved at the cost of significant negative impacts on many destinations. It is now recognized that developing realistic expectations for expanding tourism while implementing measures that will be needed to protect destinations will be a struggle. The government should immediately take steps to ensure that the full benefits of tourism are realized without overwhelming capacity.

Significant steps, to be sure, have already been taken. As noted earlier, the government recently developed a master plan for tourism with support of ADB and Norway. The plan acknowledges Myanmar’s strong attractions, with trends suggesting

that visitor arrivals will continue to rise sharply. Figure 3.20 presents visitor forecasts for conservative, mid-range, and high-growth scenarios. These draw on regional experience in the Greater Mekong Subregion and government targets. The forecasts include land and air arrivals and assume steady 13% year-on-year growth for the conservative scenario; 20% growth from 2013–2015, moderating to 15% from 2016 onward (mid-range); and 40%–45% annual growth from 2013–2015, moderating to 20% from 2016 to 2020 (high-growth). The scenarios assume that present growth will not only be maintained, but accelerate. Still, it remains to be seen whether the necessary governance structural changes will be instituted and funding identified to accommodate these visitor numbers will be realized.

Table 3.13 shows forecasts for visitor spending, growing from an average of \$135 per day in 2012 to \$150 in 2015 and \$170 by 2020. It is assumed that the average length of stay will increase from the current 7 to 8 days as more facilities and services are developed. Based on these assumptions, under a conservative-growth scenario, tourist spending is forecast at \$1.83 billion in 2015 and \$3.82 billion in 2020. Under the high-growth scenario, spending in 2020 is forecast to exceed \$10.00 billion.

Figure 3.20: Visitor Forecasts, 2013–2020



Sources: Asian Development Bank estimates and Ministry of Hotels and Tourism (2013) projections.

Table 3.13: Projected Arrivals and Spending, 2015–2020

| Growth Scenario | Conservative | | Mid-Range | | High | |
|-------------------------------------|--------------|-----------|-----------|-----------|-----------|-----------|
| | 2015 | 2020 | 2015 | 2020 | 2015 | 2020 |
| International arrivals | 1,528,020 | 2,815,279 | 1,829,943 | 3,680,669 | 3,009,663 | 7,489,006 |
| Average daily spending (\$) | 150.00 | 170.00 | 150.00 | 170.00 | 150.00 | 170.00 |
| Average length of stay (days) | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 | 8.00 |
| Total visitor spending (\$ billion) | 1.83 | 3.82 | 2.19 | 5.00 | 3.61 | 10.18 |

Sources: Asian Development Bank estimates and Ministry of Hotels and Tourism (2013) projections.

A number of factors will affect how tourism develops. For policy makers, the challenge will be in determining whether the country is ready for the projected levels of arrivals, what forms of tourism will best contribute to poverty reduction and an increase in overall well-being, and how to support responsible tourism objectives.

Going by present growth, the industry risks becoming less customer-friendly. Room rates and the cost of other tourist services have already increased. While more investment is expected, there is no guarantee that tourism growth will remain at record levels to absorb such an increase in accommodation. There is also no doubt that competition—both within the country and the region—will help determine the inventory of new rooms. Managing industry expectations and planning for responsible tourism development will be a significant challenge. It is also important to note that the present fascination is in part because Myanmar is unexplored, unspoiled, and considered exotic. Significant levels of poorly managed tourism and negative media coverage could quickly destroy this precious advantage.

A concrete policy framework is needed to build on the Tourism Master Plan

Tourism must be a positive avenue for development, but caution is needed to ensure a balance between tourism growth and the country's capacity to absorb it. Understandably, given its recent history, Myanmar does not have a tourism policy and implementation infrastructure that in any way mirrors the

sophistication of many developed economies. The country will need innovation and creativity to develop tourism sustainably as tourism growth accelerates. There are already pressures to adopt the tourism policies and implementation models from developed countries, but policy makers must do so cautiously given relatively weak government capacity and the country's unique social and political history. Building on the Myanmar Tourism Master Plan 2013–2020, the government should provide a policy framework with detailed implementation plans for achieving responsible tourism.

To be sure, a well-managed tourist industry can help lower unemployment and poverty, among other positive effects. But overwhelming evidence also shows that poorly managed tourism can significantly undermine a wide range of social, economic, cultural, and environmental dimensions. This could include forcing locals from their traditional farming lands to make way for tourist facilities, cultures disappearing or being eroded, ecosystems destroyed, and surging land and commodity prices.

Another important concern is how much of the benefits of tourism will actually accrue to local populations. Studies find that a majority of tourist revenue is lost through payments for goods and services purchased outside of the host country (UNEP 2014; Lange 2011), and that local communities benefit from only a very small portion of tourist expenditure after imported goods and services are paid—the so called leakage effect. The United Nations Environment Programme reports that in most all-inclusive package tours, about 80% of tourist expenditure goes to airlines, hotels,

and other international companies. Moreover, a significant portion of tourist spending at destination also “leaks.” Leakage in Thailand is estimated at 70% of all money spent by tourists. Estimates for other developing countries range from 80% in the Caribbean to 40% in India. So caution must be exercised when claims are made about the amount tourists spend in a particular destination. While measuring the real economic value of tourism would be appropriate, many countries simply use international arrivals to assess their success in tourism. Clearly this is not a sufficient measure. The policy recommendations that follow are tactical initiatives to ensure effective and responsible tourism development:

- i. The Myanmar Tourism Master Plan 2013–2020 (Ministry of Hotels and Tourism 2013) comprises a set of activities for various ministries, and as such its implementation needs to be coordinated by a high-level body and a high level of capacity within the Ministry of Hotels and Tourism, which in turn needs to work with development partners. Thus, there is an immediate need for the ministry to recruit more senior staff and establish an in-house capacity building program.
- ii. The implementation process for the tourism master plan is dependent on reliable data and research for informing decision-makers on consumer preferences, tourism issues, and future tourism trends. To ensure that decision making is based on reliable data, the Ministry of Hotels and Tourism should also recruit tourism economists and accounting specialists, acquire systems for visualizing tourism data, and publicize the strategic importance of tourism.
- iii. The capacity of all stakeholders has to be strengthened. This should be done particularly in line with many of the human capital development initiatives outlined in the master plan, although these will take time to put into place. In so doing, the ministry must work with national and international experts to identify key human capital development areas and to institute capacity-building exercises.
- iv. Research should be conducted to identify gaps and weaknesses in the enabling environment, and the ongoing efforts to establish one-stop information and support centers should be continued.
- v. A quick-response mechanism should be set up for dealing with problems and necessary improvements in quality tourist destinations and how they are managed. Slow action on this could have a long-lasting negative impact not only on social, environmental, and cultural systems, but also on the very sustainability of the tourism industry.
- vi. Strong leadership is needed to establish a balance between tourism growth and the enhancement of capacity to absorb it. All stakeholders should revisit the tourism growth scenarios based on updated information to ensure reasonable targets for tourist volumes.

The ASEAN Tourism Strategic Plan, and in particular the ASEAN Tourism Marketing Strategy, emphasizes the need for innovative and creative approaches to tourism product and experience development to ensure the competitiveness of the region as a destination. Myanmar can enhance attractiveness by drawing on these approaches.

CHAPTER 4: FOUNDATIONS FOR INCLUSIVE GROWTH

Myanmar has a strong intellectual heritage, with an emphasis on the values of education and learning. Its intellectuals and professionals, at home and abroad, have long been held in high regard. Unfortunately, the half-century long neglect and underinvestment in education and health sectors have stunted human capital development, undermining growth potential. The opening up of the country has renewed the emphasis on “soft” infrastructure, in particular on human development, revitalizing education and health, providing better support and protection to workers, and guaranteeing certain inviolable rights to individuals and to groups, including the right of representation.

Another key component for growth is “hard” or physical infrastructure, which provides an enabling environment in which growth can thrive. Myanmar’s infrastructure deficit is large, yet fiscal constraint is also significant. Careful planning and strategic investment should be made to provide essential infrastructure support for economic growth and development. Nevertheless, the required infrastructure can only be achieved with substantial increases in public and private sector investments. The country should therefore make concerted effort to expand its fiscal space and establish a favorable environment for the private sector to thrive and become a partner in economic development.

Human Capital Development

A comprehensive and coherent strategy is required to capture a symbiotic relationship across human capital development, labor productivity, and growth

Human capital development requires a comprehensive and coherent strategy that aims to capture a symbiotic relationship among population health, educational attainment and continuous learning, labor productivity, and growth. The main focus areas of human capital development policies are equity and quality of services, regulation of the labor market, and the development of a productive labor force that can adapt to new economic opportunities. The quality and productivity of labor can be improved through a combination of basic and higher education, skills, and vocational training, and the overall improvement of the population’s health. The role of labor market laws and regulations is to promote an investment-friendly environment that will enable and support the creation of formal jobs and productive employment opportunities, while also protecting the basic rights of workers.

This section focuses on developing human capital, with a particular focus on health and education in the context of employment growth and an employment-enabling environment that considers the industrial relations environment. In the absence of up-to-date data,³³ especially a recent census or labor force survey, as well as rapid developments and changes in laws and regulations, the analysis draws extensively on datasets and inputs from consultations with the government and a variety of stakeholders to reflect the most recent developments as far as is possible.

While each subsection discusses particular issues regarding key indicators, it is important to stress the cross-cutting nature of human capital development and the fact that that human capital development is not a “stand-alone” subject. Human capital development should be considered

³³ The Myanmar 2014 Census was conducted in March and April, prior to the writing of this report. In 2014, the International Labour Organization will also conduct a labor force survey.

part of the foundation for the country's long-term competitiveness, which requires careful coordination of broad-based commitments and actions across ministries and stakeholders. Although many aspects of the social infrastructure, such as public housing, transportation, and day care facilities needed for a comprehensive approach, are not discussed here, such infrastructure will also be important for human capital development.

Health

Key health indicators in the Millennium Development Goals have improved in Myanmar over the last 2 decades. Even so, the country continues to suffer some of the worst health conditions in the world. Malaria, tuberculosis, and HIV cause substantial mortality and morbidity. Reported malaria cases are 6 times higher and tuberculosis prevalence 1.3 times higher than the average of 7 of the 10 Association of Southeast Asian Nation (ASEAN) countries.³⁴ Increasingly, noncommunicable diseases are responsible for a high proportion of deaths as rapid urbanization and socioeconomic changes lead to increasingly unhealthy lifestyles.

To overcome major health service issues and improve the national health system, four key areas need to be upgraded at the state, region, and national levels: funding, facilities, medical supply, and health personnel and service capacity. Strengthening the monitoring and management of the health system is important for all four areas. It is essential to enhance national health accounting and seek alternative financing mechanisms for sustainable increases in health financing. Human resource and facility audits at public and private health facilities suggest each state and region needs to plan and implement human resource strategies, rehabilitate facilities, and create new establishments.³⁵ To improve access and reduce its inequality across regions, income groups, and urban and rural areas, the government

also needs to consider social protection programs for targeted populations.

Progress made in health policy planning, but limited data and information stall effective implementation

The National Health Committee, chaired by the Vice President (1) of the Republic of the Union of Myanmar, is a high-level, interministerial, and policy-making body for health matters. It provides guidance in implementing health programs and assists in intersectoral collaboration and coordination.³⁶

The National Health Policy was developed under the guidance of the National Health Committee in 1993. A long-term National Comprehensive Development Plan – Health Sector (2011–2030) was formulated in response to ongoing changes. The concept framework was prepared in 2012 and the draft plan proposed to the Ministry of National Planning in March 2014. With a goal of “health for all”, the plan outlines seven key programs: health system strengthening, disease control, public health, curative services, development of traditional medicine, human resources for health development, and promotion of health research. Each program lays out key goals and activities.

In the last few years, several documents have been prepared to support the review and reform of the health sector, such as the Health Financial Review for Myanmar in 2012. Health personnel assessments were also conducted for the preparation in 2013 of the Health Workforce Strategic Plan 2012–2017; 60 township health facility audits were conducted in 2011 to 2013, and a road map of activities for development and implementation of an e-health strategy was formulated in 2013; geographic information system mapping of health facilities for the entire country was conducted (as of the end of

³⁴ Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, the Philippines, Thailand, and Viet Nam.

³⁵ Human resource and facility audits assess the current status of the health facilities including building and equipment condition, and human resource capacities.

³⁶ The Ministry of Health itself has seven departments: Health, Health Planning, Medical Science, Medical Research (Lower Myanmar), Medical Research (Upper Myanmar), Traditional Medicine, and Food and Drug Administration.

Table 4.1: Health Indicators in Myanmar and Selected ASEAN Countries, 1995–latest year

| Health Indicator | 1995 | 2000 | 2005 | Latest Year | Average of 7 ASEAN countries |
|--|------|------|------|-------------|------------------------------|
| Life expectancy at birth, female (years) | 62.6 | 64.2 | 65.6 | 66.9 | 74.5 |
| Life expectancy at birth, male (years) | 58.3 | 60.0 | 61.5 | 62.8 | 68.9 |
| Maternal mortality ratio (modeled estimate, per 100,000 live births) | 380 | 300 | 230 | 200 | 168 |
| Mortality rate, infant (per 1,000 live births) | 66.9 | 58.5 | 50.7 | 41.1 | 24.9 |
| Mortality rate, under-5 (per 1,000) | 92.0 | 78.8 | 66.6 | 52.3 | 31.0 |

ASEAN = Association of Southeast Asian Nations.

Notes: Latest year is 2011 for life expectancy at birth, 2010 for the maternal mortality ratio, and 2012 for child and infant mortality rates. The seven ASEAN countries in the average figure are Cambodia, Indonesia, the Lao People's Democratic Republic, Malaysia, the Philippines, Thailand, and Viet Nam.

Source: World Bank, World Development Indicators (accessed March 2014).

March 2014); and a health system assessment for universal health coverage was prepared in 2012.

Although annual statistics on public hospitals, health services, and population morbidity and mortality are available, comprehensive and disaggregated data on coverage and utilization of health services are not. Access to health information and health services is very limited for vulnerable sectors of the population such as those living in rural, remote, and border areas, as well as low-income families in pre-urban areas (World Health Organization [WHO] 2008). The health management information system is currently collecting paper-based information from health centers and hospitals on primary health care services and patient statistics.³⁷ As the geographic information system mapping exercise has been completed to identify the locations of all health facilities,³⁸ the Ministry of Health aims to computerize health management information system data collection using GPS data for data management, utilization, and analysis. This can be further applied to health management information system data collection regarding drug distribution and stock management and its timely analysis.

³⁷ A health management information system is designed to assist in the management and planning of health programs and involves data collection, transmission, management, and utilization for effective decision making and implementation of health care services.

³⁸ A geographic information system mapping exercise is an effective approach to comprehensive primary health care in relation to identifying geographically hard to reach and still uncovered areas.

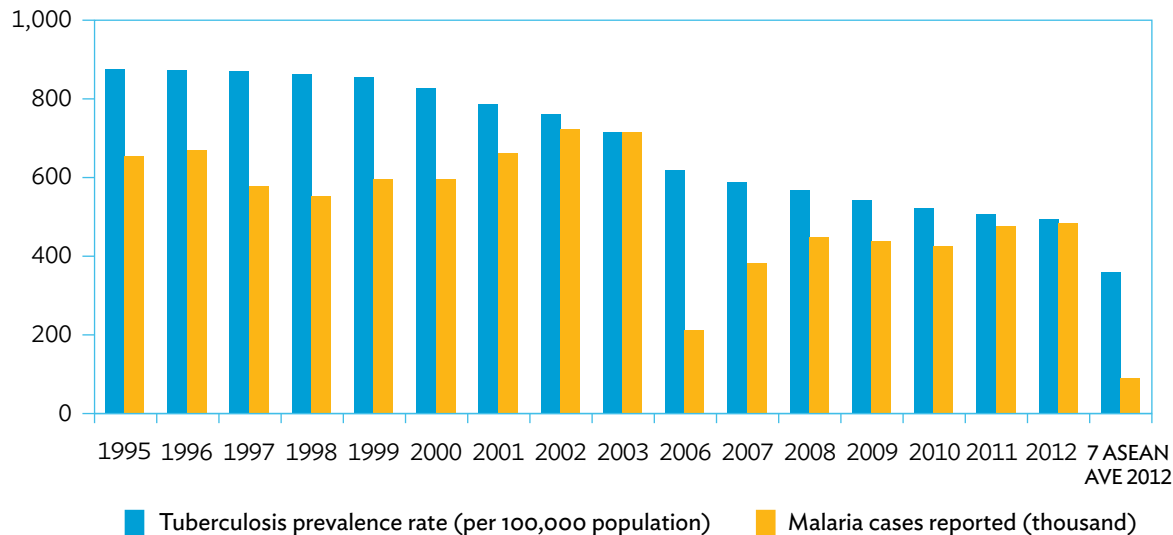
Health conditions show signs of improvement, but they still lag behind those of neighboring countries

As can be seen in Table 4.1, Myanmar has improved in several areas, including life expectancy, and infant, and maternal mortality. Yet it still suffers significantly from malaria, tuberculosis, and HIV/AIDS, while noncommunicable diseases, such as cancer, are on the rise.

Malaria is the leading cause of morbidity and mortality in Myanmar, with some 70% of the population living in 284 out of 325 townships that are malaria-endemic areas (WHO 2008). Malaria prevalence in 2008 was 10.8 per 1,000 people, down from 24.4 in 1988 (Ministry of Health [MOH] 2010). However, reported cases are much higher than the average of seven ASEAN countries, in particular along the Thai border (Figure 4.1). The country also accounted for nearly half of all malaria deaths in Southeast and South Asia, even though Myanmar has only a small fraction of the region's total population (Beyrer and Lee 2008).

Tuberculosis is another major health problem. Although Myanmar has achieved global targets of reversing tuberculosis incidence, prevalence rates are still higher than in neighboring countries (Figure 4.1). Morbidity rates vary among regions and states. Total morbidity was 16,679 cases

Figure 4.1: Number of Malaria Cases and Tuberculosis Prevalence Rates, 1995–2012



ASEAN = Association of Southeast Asian Nations, AVE = average.

Notes: No data reported for Malaria cases in 2004 and 2005. The seven ASEAN countries in the average figure include Cambodia, Indonesia, the Lao People’s Democratic Republic, Malaysia, the Philippines, Thailand, and Viet Nam.

Source: World Bank, World Development Indicators (accessed April 2014).

and total mortality 858 cases, accounting for 3% of overall mortality, making it the fourth largest cause of death in Myanmar (Central Statistical Organization [CSO] 2013). The prevalence of HIV among new tuberculosis cases was 9.9% according to surveillance conducted at 25 sites in 2012 (MOH 2013).³⁹

HIV prevalence is also high. The number of reported HIV cases has increased since 1992, when the first case was reported (WHO 2008). Adult HIV prevalence peaked around 2000–2001 and has declined fairly steadily since then. Estimates and projections of HIV indicate that about 238,000 adults and children were living with HIV at the end of 2009 (MOH 2010). The official cumulative number of deaths due to AIDS as of the end of 2006 was 5,621. Overall prevalence among adults is 0.7%, while prevalence among high-risk populations, such as sex workers and injecting drug users, was 33.5% and 42.5%, respectively (WHO 2008).

Noncommunicable diseases are progressively increasing, and affecting poor and rural populations

most. The four major noncommunicable diseases are cancer, diabetes mellitus, cardiovascular diseases, and chronic respiratory disorders. Population aging, rapid urbanization, and changing lifestyles are responsible for the epidemiological transition, with major risk factors including tobacco use, high blood pressure, and household air pollution. A study conducted in the capital cities in all states and regions in 2001 found that 14.6% of women aged 18–60 were overweight and 3.8% obese. Among men, 7.2% were overweight and 1.4% obese (WHO 2008). Cancer has become a major public health problem and most of the cases are found in late stages due to the lack of public awareness and inadequate early detection programs (WHO 2008). Tobacco use (smoking and chewing nicotine) is common and has likely implications for the development of noncommunicable diseases. A sentinel prevalence study in 2001 reported that 40% of adults use tobacco (MOH 2002; WHO 2008).

Malnutrition is widespread. The United Nations Children’s Fund (UNICEF) estimated that chronic malnutrition may affect up to a third of children in Myanmar (Beyrer and Lee 2008). The UNICEF Multiple Indicator Cluster Survey 2009–2010 reported low birth weight prevalence of 8.6%, but the actual rate may be higher as many babies

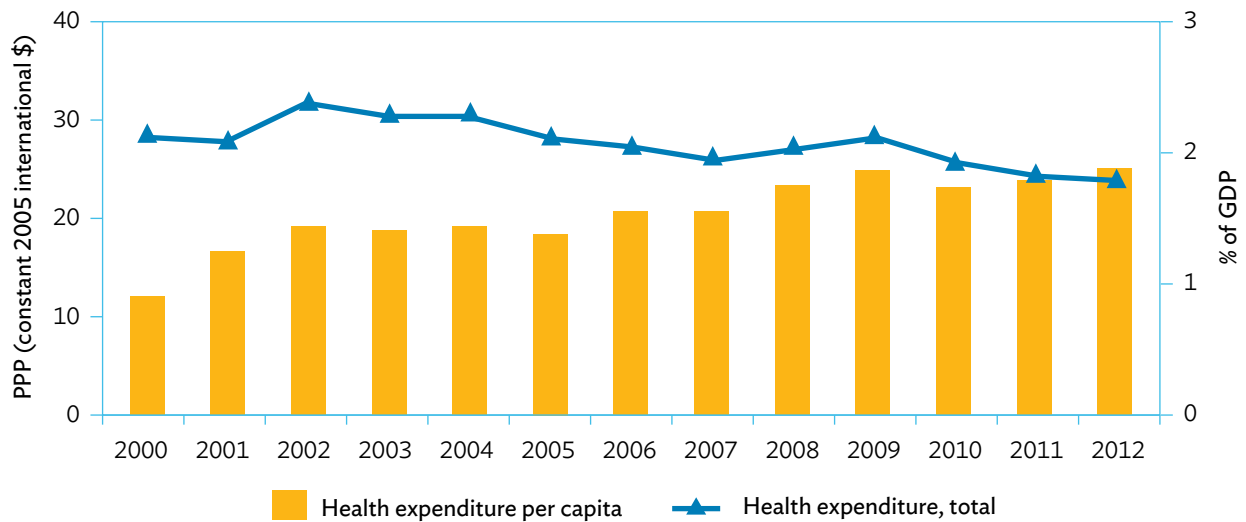
³⁹ The prevalence of multi-drug resistant tuberculosis was 4.2% among new patients and 10% among previously treated patients, based on the results of a second nationwide survey completed in 2008 (MOH 2013).

are born at home and not weighed at birth (only 56.3% of infants were weighed at birth, according to the survey). Low birth weight is a common cause of death in newborns, though there are significant variations by region and state, with Bago, northeast of Yangon, and mountainous Kayin state having the highest percentage (11%) of underweight newborns (Ministry of National Planning and Economic Development [MNPED] and UNICEF 2012).

Substantial increase needed in public spending on health

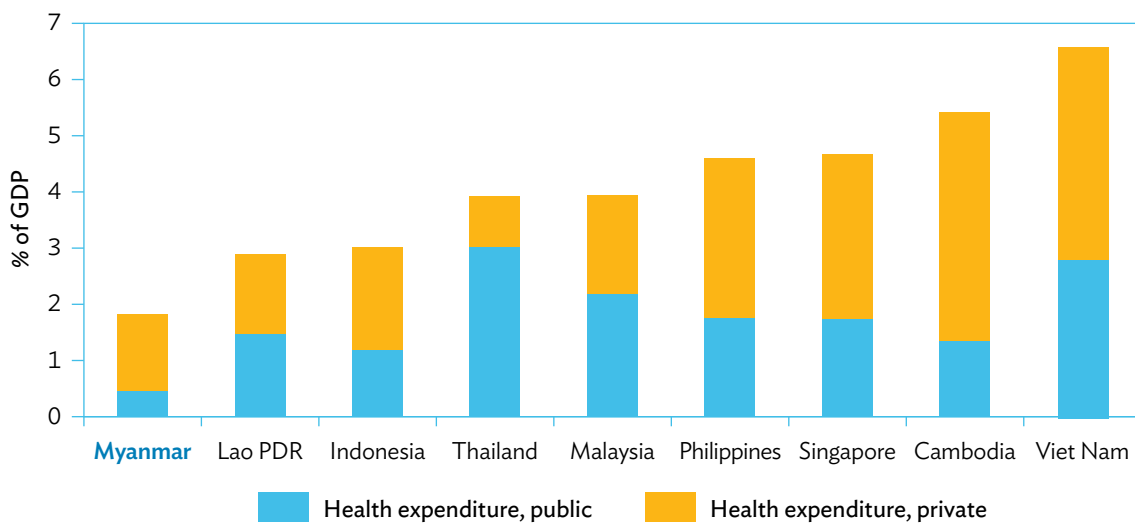
The health system has long suffered from low public investment, with total health sector expenditure, although increasing in absolute terms since 2000 (Figure 4.2), accounting for only about 2% of GDP in 2012—the lowest proportion in Southeast Asia (Figure 4.3). Public spending on health is a meager 0.43% of GDP.

Figure 4.2: Health Expenditure, 2000–2012



GDP = gross domestic product, PPP = purchasing power parity.
Source: World Bank, World Development Indicators (accessed June 2014).

Figure 4.3: Total Health Expenditure, 2012



GDP = gross domestic product, Lao PDR = Lao People's Democratic Republic.
Source: World Bank, World Development Indicators (accessed July 2014).

Out of the three financing sources—public, private, and external—the private sector is the major source for health, accounting for over 80% of total health expenditure (85.3% in 2008, 82.3% in 2009). Private financing is almost exclusively from household out-of-pocket spending. It is necessary to increase public health spending and to support universal health service coverage. The top three categories of public health spending in 2009 were for medical goods (44.5%), curative and rehabilitative services (29.5%), and ancillary services (12.5%) (MOH and WHO 2010). The quality of the national health account has been improved; however, nonpublic service providers including private and civil society and external funding should be reviewed to identify areas for further improvement.

Health infrastructure needs urgent upgrades

Since 1990, the number of government hospitals has increased (661 in 1990 to 944 in 2013), as have rural health centers (1,373 in 1990 to 1,558 in 2011), though the number of maternal and child health centers has remained at 348 since 1990 (CSO 2010). Based on a recommended allocation of one rural health center per 20,000 people, the number of such centers nationally needs to be almost doubled to 3,000 (WHO 2012). The Ministry of Health has mapped the location of health facilities to identify where these should be located in relation to population density. Many rural health facilities lack basic equipment and medical supplies (MNPED and UNICEF 2012). The ministry recently began revising its policy, which supports free dispersal of essential medicines at station hospitals and other facilities. After a trial period, it will decide whether to supply free essential medicines to rural health facilities (WHO 2012).

Private service providers are expanding, particularly in Yangon, Mandalay, and other larger cities. In 2010, there were 103 private hospitals, 192 private special clinics, and 2,891 private general clinics. Based on health system assessments in 20 townships, there have been some public–private partnership initiatives for management of tuberculosis and malaria.

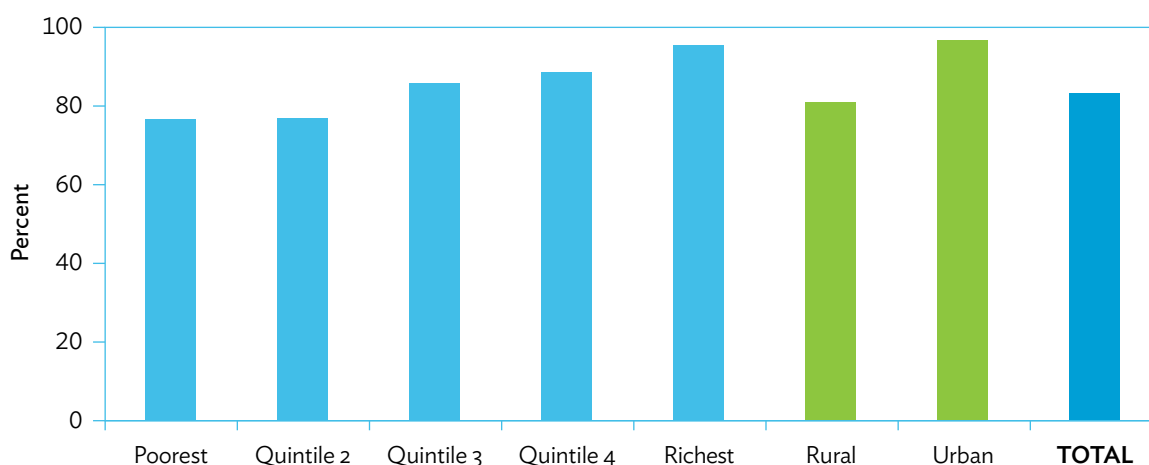
The government, with WHO support, has completed facility audits of 60 townships. But it will require more resources to understand the current situation of the supply side at health facilities, and particularly at rural health centers. Completion of audits of both public and private health facilities (including facility conditions, water and electricity access, human resources, equipment, and medical supplies) is essential for future decisions on capital investments.

Access to water and sanitation improves, but more progress needed in rural areas

Global studies have demonstrated that morbidity and mortality in children decline as water and sanitation improve (Fewtrell et al. 2005). In Myanmar, household access to improved water sources was 58.9% in 1995, 66.9% in 2000, and 85.7% in 2012 compared to the average of seven ASEAN countries of 68.5%, 74.1%, and 87.1%, respectively (World Bank, World Development Indicators). The share of the population with access to sanitation facilities rose from 53.4% in 1995, to 60.6% in 2000, and 77.4% in 2012, compared to the seven ASEAN countries' average of 50.2%, 56.4%, and 71.3%, respectively (World Bank, World Development Indicators).

Despite this progress, a quarter of the population in urban areas still has no access to clean water. In fact, Myanmar is one of a few countries in ASEAN where the percentage of the urban population without access to improved water sources has actually increased over the past 2 decades.⁴⁰ Rapid urbanization and rural-to-urban migration may be partly responsible, especially in growing slum areas. Private tube wells, rainwater, and other such systems are viable alternative sources of water in a country where, except for Yangon, coverage for piped water is limited. And where it does exist, the system is in poor condition. Water-related vector-borne diseases, such as malaria, dengue, and chikungunya fever, that

⁴⁰ This has also happened in Indonesia and the Lao People's Democratic Republic. See United Nations Economic and Social Commission for Asia and the Pacific (2011).

Figure 4.4: Antenatal Care by Expenditure Quintile Groups, Urban–Rural, 2010

Note: Antenatal care data refer to at least one visit to any health professional.
Source: ADB staff estimates using Integrated Household Living Conditions Survey data 2009–2010.

result from bacterial contamination from old water systems are common. The incidence of diarrhea among children under 5 years is considerably higher than elsewhere in Southeast Asia and contributes to Myanmar's high child mortality rate. The lack of adequate and modern sanitation facilities and systems compounds the problem. There are no conventional central sewerage systems and, in most urban areas, effluent and seepage from septic tanks and latrines flow into open rainwater drainage and natural waterways, contributing to the health risk.

Primary health care service delivery needs to be expanded

Regional and income disparities in access to health services are significant. For example, the total coverage of antenatal care (at least one visit) increased to 83% by 2010 (MNPED et al. 2011) close to the average of the seven ASEAN countries of 88.7%,⁴¹ but disparities within the country remain large by region, rural, and urban populations, as well as between rich and poor. For antenatal care, these disparities are shown in Figures 4.4 and 4.5. Based on integrated Household Living Condition Survey data for 2009–2010, it is important to note that the

⁴¹ Latest available data (2009 data for Thailand; 2010 data for Cambodia, Indonesia, and the Lao PDR; 2011 data for Malaysia, the Philippines, and Viet Nam) were used from the World Bank's World Development Indicators.

percentage of low birth weight infants is statistically associated with the coverage of antenatal care.⁴²

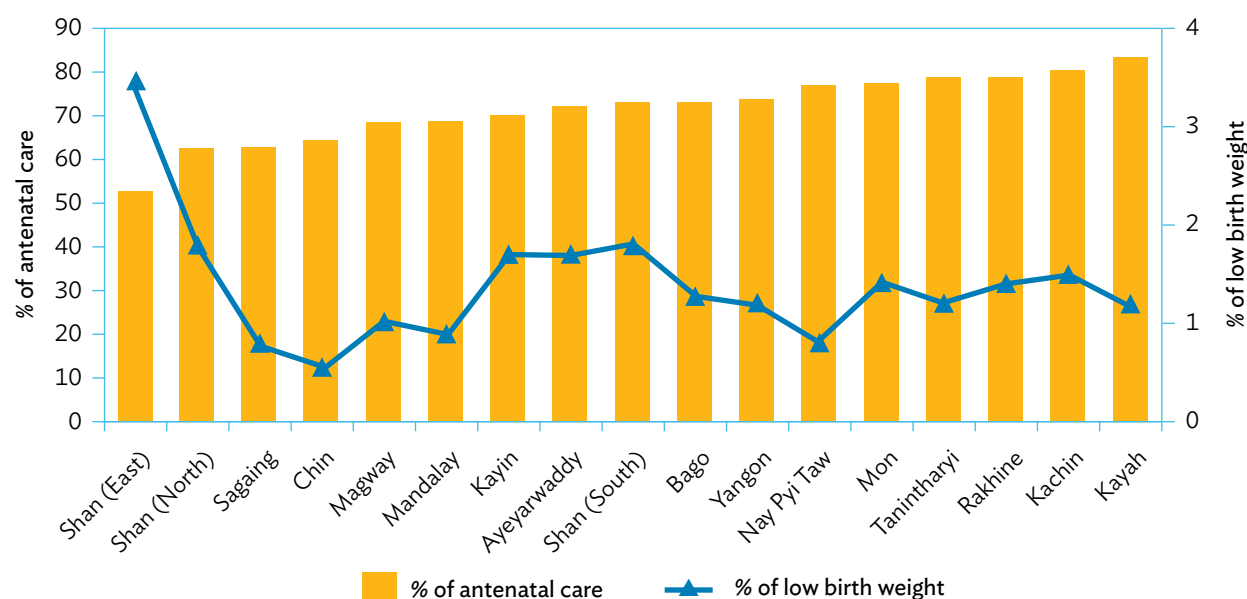
Improving access to quality health-care is one of the main areas of focus of the National Health Plan for FY2011 to FY2015, which was formulated within the framework of the National Comprehensive Development Plan-Health Sector (FY2010–FY2030). The goal is to address the lack of trained health professionals, well-equipped health facilities, efficient health care management and clinical supervision, and medical supplies. These shortcomings have contributed to unequal access to the health system.

The number and quality of health-care workers need to be increased

The number of doctors (public and private), nurses, and midwives has increased in the last 2 decades, as has their number per 10,000 people (Table 4.2) (MOH).⁴³ However, compared to neighboring countries the proportional number remains low (Figure 4.6).

⁴² Pairwise correlation coefficients were used to examine the correlations between two variables.

⁴³ The number of public doctors increased from 4,377 in FY1988 to 11,675 in FY2011. The number of nurses was 8,349 in FY1988 and increased to 28,254 in FY2010. The number of midwives was 8,121 in FY1989 and increased to 20,617 in FY2010.

Figure 4.5: Antenatal Care and Low Birth Weight by State/Region, 2011


Note: Antenatal care data refer to at least one visit to any health professional.
Source: ADB staff estimates using MOH (2013).

Table 4.2: Health Human Resources, Selected Periods, 1990–2011

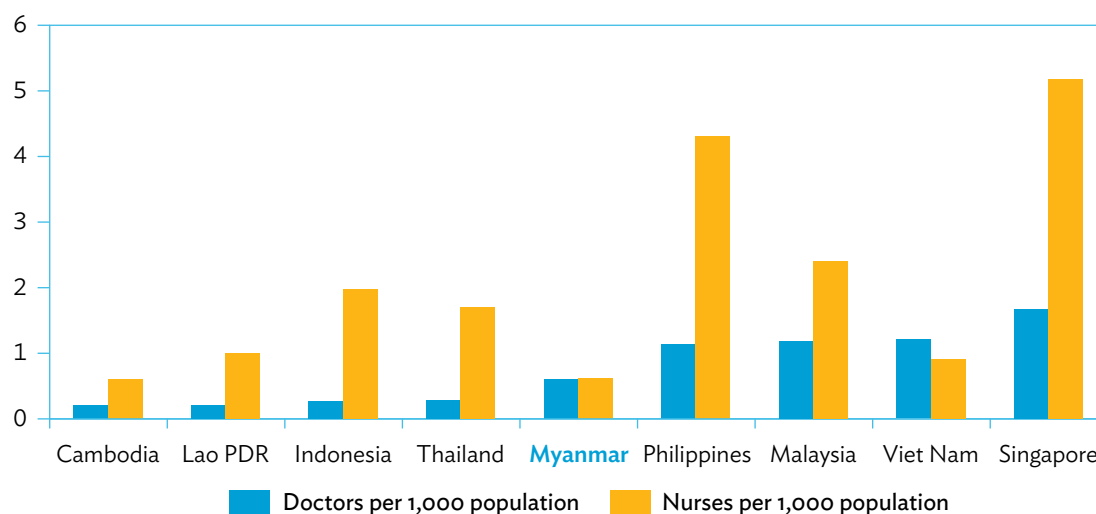
| Health workers | FY1990 (population 40.78 million) | | FY2000 (population 50.13 million) | | FY2005 (population 55.4 million) | | FY2010 (population 59.78 million) | |
|------------------------------|--------------------------------------|---------------------------------|--------------------------------------|---------------------------------|-------------------------------------|---------------------------------|--------------------------------------|---------------------------------|
| | Number of providers | Providers per 10,000 population | Number of providers | Providers per 10,000 population | Number of providers | Providers per 10,000 population | Number of providers | Providers per 10,000 population |
| Doctors (public and private) | 12,268 | 3.0 | 15,467 | 3.1 | 18,584 | 3.4 | 24,536 | 4.2 |
| Doctors (public sector) | 4,418 | 1.1 | 5,421 | 1.1 | 6,941 | 1.3 | 9,728 | 1.7 |
| Doctors (private sector) | 7,850 | 1.9 | 10,046 | 2.0 | 11,643 | 2.1 | 15,508 | 2.7 |
| Nurses | 8,558 | 2.1 | 14,159 | 2.8 | 19,776 | 3.6 | 24,242 | 4.2 |
| Midwives | 8,334 | 2.0 | 11,959 | 2.4 | 16,745 | 3.0 | 19,556 | 3.3 |

FY = fiscal year.

Source: Central Statistical Organization (2013); Ministry of National Planning and Economic Development and United Nations Children's Fund (2012); ADB staff estimates updated with data from the Central Statistical Organization (2012).

Based on the Ministry of Health's Human Resource Skills Assessments 2012 and Health Workforce Strategic Plan 2012–2017, the number of midwives should increase to improve maternal and child health outcomes in the short run. Refresher courses and supplementary training are essential to ensure

improving skills for current midwives. In the long run, the number of doctors and nurses should be increased, in particular in rural areas. Adequate budgets must also be provided for operating health facilities, training medical personnel, and improving health outcomes.

Figure 4.6: Number of Doctors and Nurses per 1,000 Population, Latest Year

Lao PDR = Lao People's Democratic Republic.

Note: Data for Cambodia for 2010, Indonesia 2011, Lao PDR 2005, Malaysia 2010, Myanmar 2011, Philippines 2004, Singapore 2011, Thailand 2010, and Viet Nam 2008.

Source: Organisation for Economic Co-operation and Development/World Health Organization (2012).

Summary recommendations

Health policies based on the Public Health Law of 1972, including minimum health-care standards, should be reviewed and updated. One of the priorities in the Myanmar National Health Policy 1993 is to encourage public-private partnerships with non-state service providers (such as private sector, nongovernment, and faith-based organizations) for health service delivery. Partnerships with these, particularly those already working in rural areas, are a potential avenue for strengthening the quality of service provision, training, and facility management and supervision.

Strengthening the health system, including health infrastructure, health service capacities, financing, and the Health Information Management System is a government priority. The geographic information system has been used to map information on current health human resources, the condition of health facilities, population, and health outcomes for all of the country's health facilities, helping policy makers. With the census being conducted in 2014, population information will be updated and should be incorporated into the geographic information system mapping. This system and information and communication technology (ICT)

generally should be fully applied to improve Health Information Management System data collection and analysis, as well as medical referral, supply distribution, and stock management.

Education

Years of underinvestment have created many challenges in Myanmar's education sector and many indicators still lag behind other ASEAN countries. Still, it has some important strengths that should help education reforms to quickly take root and bear fruit. The country has a strong history of excellence in education and high literacy rates compared to its ASEAN cohorts. And education reforms taken since 2012 are already demonstrating positive effects. It has also laid the foundation for a system of technical and vocational education and training (TVET) spanning a broad array of programs, albeit with low coverage overall. An expanded and strengthened system will need to play a key role in addressing labor market constraints, present and future (Comprehensive Education Sector Review [CESR] et al. 2013). Insufficient funding, inequitable access, and poor quality in relevance and teaching standards are three major constraints in the sector. For many of those living in poor and rural areas,

secondary and higher education, as well as TVET, remain inaccessible. Myanmar also has the lowest mandatory years of education, at 5 years of primary schooling, among its Asian cohorts.

Given that education is critical for many sectors of the economy and for growth in general, careful coordination of policies, programs, strategies, and activities is necessary, not only among ministries, but also all stakeholders working in the sector. These include donor partners, labor unions, civil society groups, and employers requiring skilled workers.

Education governance: A brief overview

The National Education Committee, chaired by the minister of education, is the country's highest policy-making body for education. The Ministry of Education is tasked with implementing educational programs, setting educational policies and fiscal planning and administration of the public education sector, as well as regulating nongovernment educational institutions. Almost all public basic education schools are under its supervision.⁴⁴ Other ministries involved in basic education include the Ministry of Religious Affairs, for managing monastic schools and the Ministry of Border Affairs (CESR, ADB, and Australian Aid 2013a). Higher education is governed by the National Education Committee, with two other policymaking bodies charged with administrative and academic policy for higher education institutions (CESR et al. 2013).

Education policy is set out in the 2008 constitution and governed by two main laws: the Basic Education Law of 1973 and the University Education law of 1973. The duties of the state on education are set out in clauses 22 and 28 of the constitution. The charter declares that all citizens have the right to education and shall be given compulsory education.

⁴⁴ See the Ministry of Education website: <http://www.myanmar-education.edu.mm/dhel-2/education-system-in-myanmar/education-structure>. This report adopts Myanmar's definition of basic education as consisting of primary and secondary education (currently 11 years, pending a forthcoming extension to a 12-year system).

Other laws governing the education sector include the Law of Myanmar Board of Examination of 1973, the Education Research Law of 1973, the Technical Agricultural and Vocational Education Law of 1974 (amended in 1989), the Private Education Law of 1984 and 2006, the Child Law of 1993, and the Private School Registration Law of 2011.

Major education reforms began in 2012

The biggest reform initiative to the education system was started in early 2012, when the government announced the Comprehensive Education Sector Review, the first systematic sector analysis in two decades. It completed the first phase of the review in 2013 in collaboration with development partners in education. This resulted in a series of reports in 2013—including four technical annexes supported by ADB and other development partners covering secondary education, higher education, TVET, and a labor market analysis (the demand for higher education and TVET graduates)—which provide much-needed data and information on the state of education.⁴⁵ The review is now in Phase 2 and by the latter half of 2014 will aim to have completed the Costed Education Sector Plan as a unified plan to guide government and development partner investments in the sector up through the next 5-year plan period. The Ministry of Education is also preparing a longer-term Education Sector National Comprehensive Development Plan (FY2011–FY2030). This discusses barriers to the development of the education sector, requirements for developing the education sector, current problems and sources of problems in the education sector, as well as future priorities. A draft overarching National Education Law is under deliberation, with second-tier laws (such as for basic education, higher education, TVET, and so on) at different stages of development.

⁴⁵ These four technical annexes (cited elsewhere in the text) are posted in relevant sections of the Comprehensive Education Sector Review website at <http://www.cesrmm.org/index.php/en/documents>, and also at <http://www.adb.org/projects/46369-001/documents>

Shorter primary and secondary school cycles by regional comparison are being addressed

Primary education in Myanmar normally begins at 5 years old (low by regional standards). Primary school consists of grades 1–5, which is followed by 4 years of lower secondary education, or middle school (grades 6–9), and 2 years of upper secondary education, or high school (grades 10–11), meaning that overall education years in primary and secondary school is below the international standard of 12 years.⁴⁶ The Comprehensive Education Sector Review assessed options for increasing the number of years of education, and the Ministry of Education has indicated its intention to reform the structure of basic education to add kindergarten (in the international sense) as well as a third year of high school (moving from a “5-4-2” system to a “KG-5-4-3” system) with completion expected by the school year 2020/21.⁴⁷ Development partners—particularly Japan (for primary education) and ADB in partnership with Australia (for lower-secondary education and upper-secondary education)—are supporting the Ministry of Education’s curricular reforms.

Reform in higher education is also under way

The University Education Law of 1973 (amended in 1998) governs policy for higher education, and 13 different ministries oversee higher education institutions.⁴⁸ Consultations with the government indicate that the authorities are striving to achieve complete autonomy for public sector universities,⁴⁹ whereby they can charge fees and forge public-private partnerships to create more budget space for financial sustainability. Nonetheless, the

⁴⁶ Some documents refer to Myanmar’s current basic education system as “Kinder Garten to 10th standard.” However, the current kindergarten is merely an academic curriculum rather than a true kindergarten in the international sense. This report therefore uses the international terminology of grades 1–11.

⁴⁷ See also the Comprehensive Education Sector Review, Phase 1 Technical Annex for the Secondary Education Subsector (cited earlier).

⁴⁸ A new Higher Education Law is being drafted now and is expected to replace the University Education Law.

⁴⁹ Consultations with government in Nay Pyi Taw, March 2014.

government recognizes that this will take time and that universities currently have little management experience and capacity to become independent, let alone to source and select international or private partners.

Higher education has traditionally followed a 3-1-2 system (bachelor-postgraduate-master’s degree). But in the 2011–2012 school year, this was changed to a 4-1-2 system in line with international standards, adding an additional year to attain a bachelor’s degree.

Education and vocational training can address skill shortages

Pending the drafting of a new TVET Law, begun recently, Myanmar has not had a unified definition in this area.⁵⁰ The Ministry of Science and Technology serves as the technical lead agency for TVET and plays a leading role within the Comprehensive Education Sector Review TVET subteam. Working with other agencies offering TVET, the ministry has stepped up efforts to assess gaps and strengthen the TVET subsector to supply a higher level of practically trained graduates able to more easily apply their knowledge and skills in the workplace. Importantly, the ministry has recognized the lack of relevant skills and the inability of graduates from TVET (as well as from secondary and higher education) to use or apply their knowledge and skills in the workplace as a prime concern of employers based on evidence from the Comprehensive Education Sector Review and other sources. In addition to such concerns related to quality and relevance, the review has helped identify the issues related to access and subsector management. For example, many publicly provided TVET programs currently require successful passage of the same matriculation exam (taken at the end of grade 11) used for entry into higher education. This means that, instead of providing poor students an opportunity to gain skills, TVET is catering almost solely to well-off students.

⁵⁰ In this report, the term TVET follows the most common usage in the international literature, and comprises programs ranging from short-term skills training at various levels through what many countries term “polytechnics,” whereas bachelor’s degree and higher-level programs are considered higher education.

Subsector management challenges include those related to TVET's fragmentation across multiple ministries.

The Ministry of Science and Technology governs TVET directly as well as higher-level education programs (such as bachelor's degree and high-level programs in engineering, termed higher education) through four different types of government institutions: (i) technical high schools, (ii) technical institutes, (iii) technical colleges, and (iv) technological universities. However, roughly a dozen other ministries also offer TVET programs (depending on the precise definition of TVET), with a total of 459 public training institutions.⁵¹ As noted earlier, moves to prepare a TVET Law (involving multiple stakeholders)—along with harder evidence from the Comprehensive Education Sector Review—are key steps toward comprehensive, clear, and cohesive TVET policies.

The TVET system is now in the early stages of major reform. Among other priorities, identified in the first phase of the Comprehensive Education Sector Review, are the need to

- i. increase the number of students and ensure equitable access;
- ii. increase the number and quality of teachers;
- iii. improve infrastructure and practical training facilities;
- iv. strengthen coordination among the ministries involved in the training system;
- v. improve quality control of education;
- vi. enhance the relevance of TVET, including formal and nonformal streams to address disadvantaged groups and dropouts; and

- vii. improve financing.⁵²

The preparation of a new law for this education subsector—which involves multiple stakeholders—and the evidence in the review are providing the necessary steps for developing comprehensive, clear, and cohesive policies for TVET.

Access to education is improving

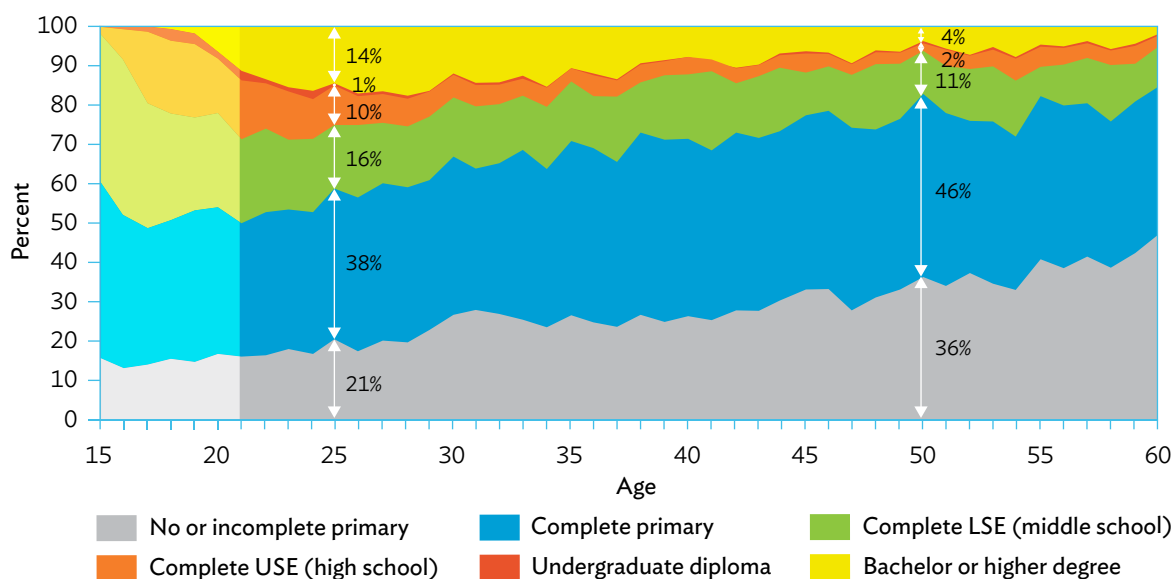
Data from the 2009–2010 Integrated Household Living Conditions Survey show that access to and the completion of basic education has improved. Although the survey only provides a snapshot of society in 2009–2010, historical overview can be gleaned by looking at educational attainment by age cohort. Figure 4.7 shows the highest educational level completed by respondents by age, arranged in ascending order on the x-axis from left to right from age 15–60 (individuals born between 1949 and 1994), and dividing educational attainment into six categories (arranged from bottom to top) by highest level completed: (i) no or incomplete primary schooling, (ii) primary school, (iii) lower-secondary education (middle school), (iv) upper-secondary education (high school), (v) undergraduate diploma, and (vi) bachelor's degree or higher-level university degree. For example, a respondent who entered but dropped out before completing lower-secondary education would appear in the blue band, having only completed primary school. The figure shows the breakdown of educational attainment for 25-year-olds (respondents born in late 1984) and 50-year-olds, both as of 2009 (respondents born in late 1959). The trend across cohorts suggests at least modest improvements over time. For example, among the 50 year olds, about 36% had never completed even primary school, and less than 20% had completed lower-secondary or higher levels, whereas nearly 80% of the 25-year-olds had completed at least primary schooling.⁵³

⁵¹ Vocational training offered by the Ministry of Labour, Employment and Social Security, which is typically short courses conducted at skills development centers or directly in companies. Private providers of TVET do exist, but the numbers and types of institutions do not.

⁵² See the Comprehensive Education Sector Review Phase 1 Technical Annex on TVET Subsector Analysis.

⁵³ With further progress in the last few years (although not shown in the figure), roughly half of the young adults in their 20s have now completed at least lower-secondary education.

Figure 4.7: Highest Educational Attainment by Cohort, 15–60 Years Old

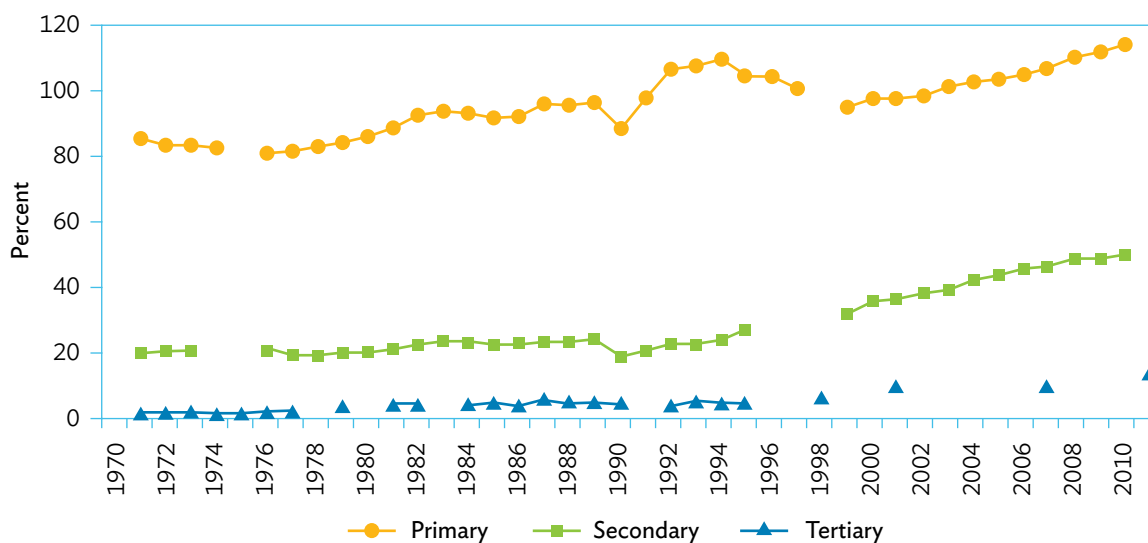


LSE = lower-secondary education, USE = upper-secondary education.

Notes: It is unlikely that adults aged 15–21 (lighter shade in the chart) would have indicated that they had attained higher education. The normative age for entry into higher education is 16, however entry at older ages is very common (see also detailed analysis appended to the CESR Phase 1 Technical Annex on the Secondary Education Subsector. Therefore, the low level of higher education attainment for this age group may not be interpreted as a recent trend in educational attainment.

Source: ADB staff estimates using Integrated Household Living Conditions Survey data.

Figure 4.8: Gross Enrollment Rates, 1970–2011



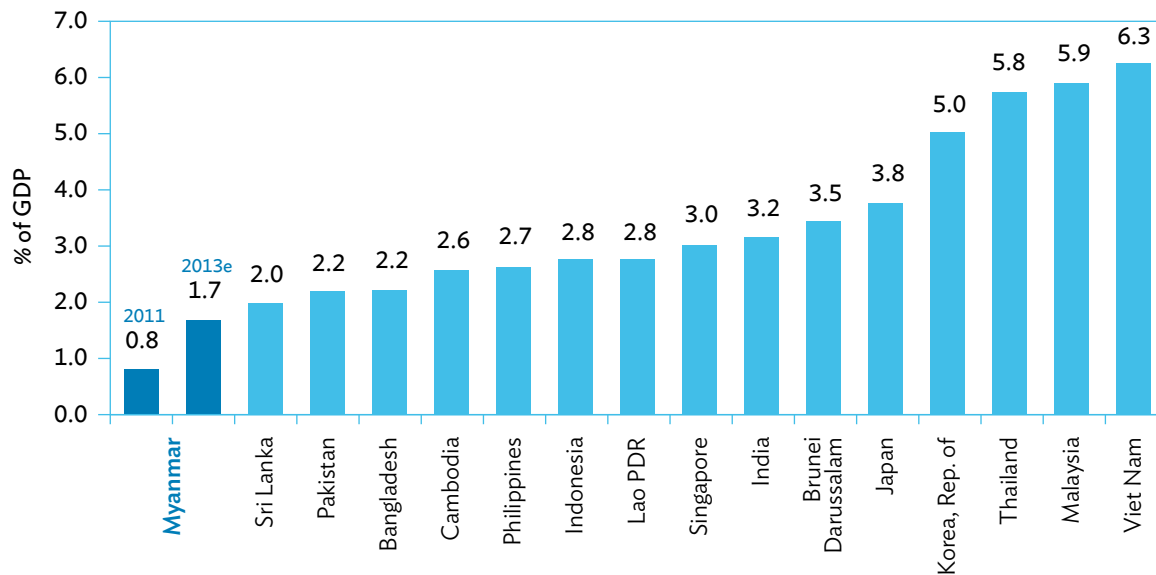
Source: World Bank, World Development Indicators (accessed May 2014).

Reductions in gross enrollment rates correspond with political turmoil, indicating the importance of peace and stability to ensure continued schooling and to regain excellence in education. Figure 4.8 shows the gross enrollment rates for all education levels. With the opening up and liberalization of Myanmar, the country may be set to leap forward in education.

Myanmar’s ethnic and linguistic diversity presents a challenge for education

In addition to the official language, called Myanmar-language, however, the number of individual languages listed for the country is 117,

Figure 4.9: Public Spending on Education in Asia



e = estimated, GDP = gross domestic product, Lao PDR = Lao People’s Democratic Republic.
 Note: Data correspond to latest available year covering 2009–2013 (Myanmar shows data for 2011 and 2013).
 Sources: World Bank, World Development Indicators (accessed May 2014). International Monetary Fund estimates are used for Myanmar 2013e.

of which 116 are active or living languages and 1 is extinct (Ethnologue, Languages of the World). Students study in the official language up to grade 9. An analysis of secondary education in the Comprehensive Education Sector Review has drawn attention to the teaching of math, physics, biology, and chemistry in English, which appears to depress learning outcomes and reinforce rote-based instruction.⁵⁴

More public investment is needed

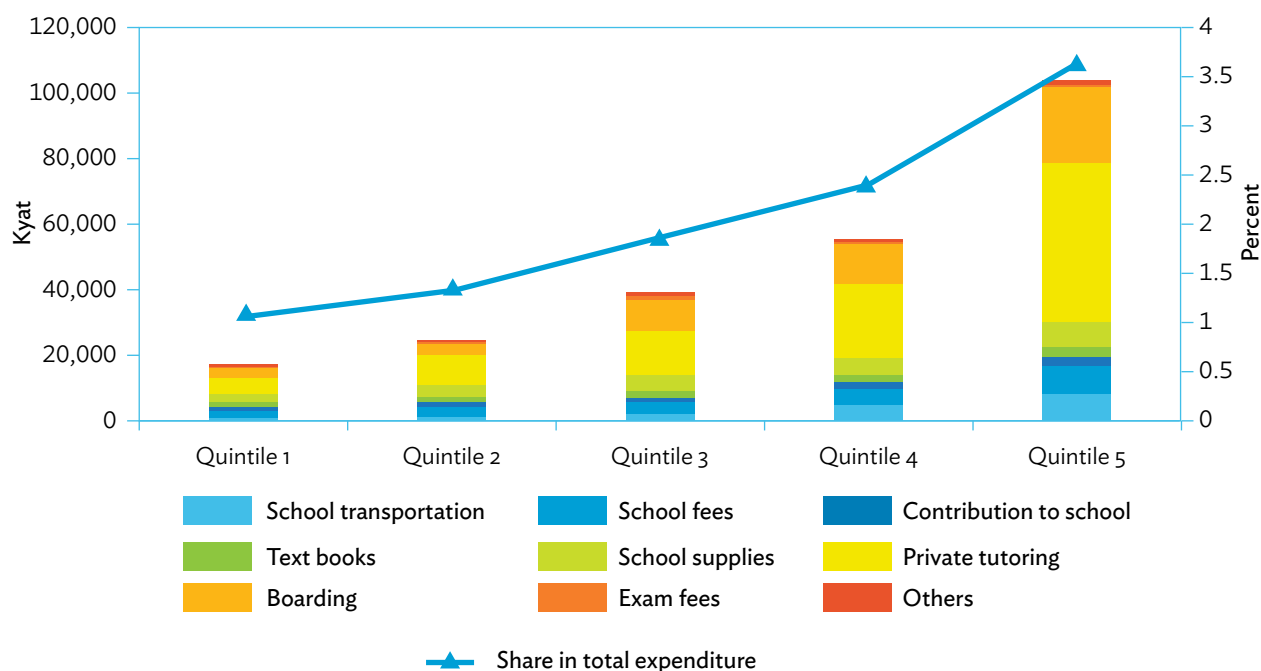
Myanmar’s education system has suffered from prolonged underinvestment. Public investment was less than 1% of GDP in 2011, the lowest among 16 Asian economies, where average spending on education was 3.6% (Figure 4.9). However, it should be recognized that under its “people-centered” approach, the new government has dramatically ramped up social sector spending in recent years,

albeit from very low baseline levels. Between FY2011 and FY2013, government education expenditure more than tripled in nominal terms (from 310 billion kyats to 1.1 trillion kyats), rising from roughly 0.8% of GDP to about 2% of GDP, alongside rapidly increases in GDP (World Bank 2014b). Further increases are expected in FY2014 and in the period to be covered under the forthcoming Comprehensive Education Sector Review Phase 2, reflecting the growing importance ascribed to education.

Household education expenditures rise with socioeconomic status

Data from the 2009–2010 Integrated Household Living Conditions Survey show education accounts for an average of 2.4% of total household expenditure. Urban households spend a larger share of their expenditures on education, which suggests more educational opportunities in urban areas relative to rural. A wide variation in household spending in education is seen across expenditure quintiles. Households in the poorest quintile spend 16,962 kyats (MK) per year on education or 1.1% of total expenditure; in contrast, households in the richest quintile spend MK103,955 or 3.6% of the

⁵⁴ See the Comprehensive Education Sector Review Phase 1 Technical Annex on the Secondary Education Subsector. Students learn English as a subject from grades 1–9, but their competency level (and also that of teachers) is often not adequate for use of English in math and science courses in grades 10 and 11. The level of English and the level of subject content are too difficult for students and, as a consequence, teachers and students resort to rote learning.

Figure 4.10: Household Spending on Education by Expenditure Quintile

Source: ADB staff estimates using Integrated Household Living Conditions Survey data.

total (Figure 4.10). In amounts, the richest 20% of the population spend six times as much money on education as the poorest 20%.

Primary and secondary enrollment suggests challenges in access to education and education quality

The gross enrollment rate is high at the primary level, but drops sharply at the secondary. While higher enrollment rates are generally preferred to lower, a primary gross enrollment rate above 100%—a primary student population higher than the primary-age population—indicates significant repetitions and schooling delays among pupils. Looking at net enrollment rates, which give the percentage of students in a specific age range enrolled in an age-appropriate level of schooling, demonstrates this point: the Comprehensive Education Sector Review analysis shows a primary net enrollment rate of 87.6% versus a primary gross enrollment rate of 116.8%, while also showing that both enrollment rates and related measures decline markedly at the lower-secondary and

upper-secondary levels.⁵⁵ For example, many aged 10–13 (in the normative age range for lower secondary education) are stuck in primary school and may never proceed to secondary school. Table 4.3 shows additional net enrollment estimates by expenditure quintile, based on normative ages at the start of the school year.

The secondary education subsector report in the Comprehensive Education Sector Review indicates stark disparities across states and regions in net enrollment rates. These are already sizable in access to primary education, but become more pronounced at the secondary level. Likely reasons include poverty, the early enrollment age in grade 1, and the quality and relevance of the primary school curriculum. Major disparities in access to education also exist across rich and poor, and urban and rural. Education statistics show that school attendance

⁵⁵ See the Comprehensive Education Sector Review Phase 1 Technical Annex on the Secondary Education Subsector. This technical annex and the one being prepared for the second phase of the review provide in-depth analysis of access, grade progression, repetition, and dropout rates, using an ADB-developed technique called detailed enrollment profile analysis.

Table 4.3: Net Enrollment Rates by Expenditure Quintile Groups (%)

| Level: | Basic Educ. | Primary | Lower Secondary | Upper Secondary |
|-------------------|-------------|-------------|-----------------|-----------------|
| Age group: | 5-15 | 5-9 | 10-13 | 14-15 |
| Q1 | 69.9 | 80.7 | 33.6 | 13.7 |
| Q2 | 77.6 | 87.4 | 45.0 | 18.7 |
| Q3 | 83.2 | 91.7 | 55.1 | 28.1 |
| Q4 | 86.6 | 91.4 | 62.0 | 31.2 |
| Q5 | 91.0 | 91.3 | 69.9 | 47.3 |
| Overall | 80.0 | 87.6 | 50.7 | 25.6 |

Q = Quintile, Q1 = poorest, Q5 = richest.

Source: ADB staff estimates using Integrated Household Living Conditions Survey data.

rates steadily go up with expenditure quintiles, and the disparity worsens among older children. So there is a need to better understand regional and income disparities and how they can be addressed, which will require further study and analysis. It would also be useful to look at the experience in other countries with similar profiles and to understand what worked and what did not.

Not only are poor students disadvantaged in access to basic education, but they are also more likely to drop out or repeat levels. Restricting to children enrolled in basic education, Figure 4.11 shows that during ages 5–9 (the normative age range for primary school), the average lag between the actual and normative grade is one year or less, with the average lag smallest for the richest quintile. However, schooling deficits start to diverge rapidly across the quintiles from age 10 onward. By 12 years old, those children from the poorest 20% of households that are still in school appear to be on average at least 2 years behind in their studies, while those from the richest 20% are less than 1 year delayed. The discrepancy shown in Figure 4.11 may also understate the distinction, given that students from poor households who are overage by several years are disproportionately more likely to drop out of school, whereas the figure only captures those still in

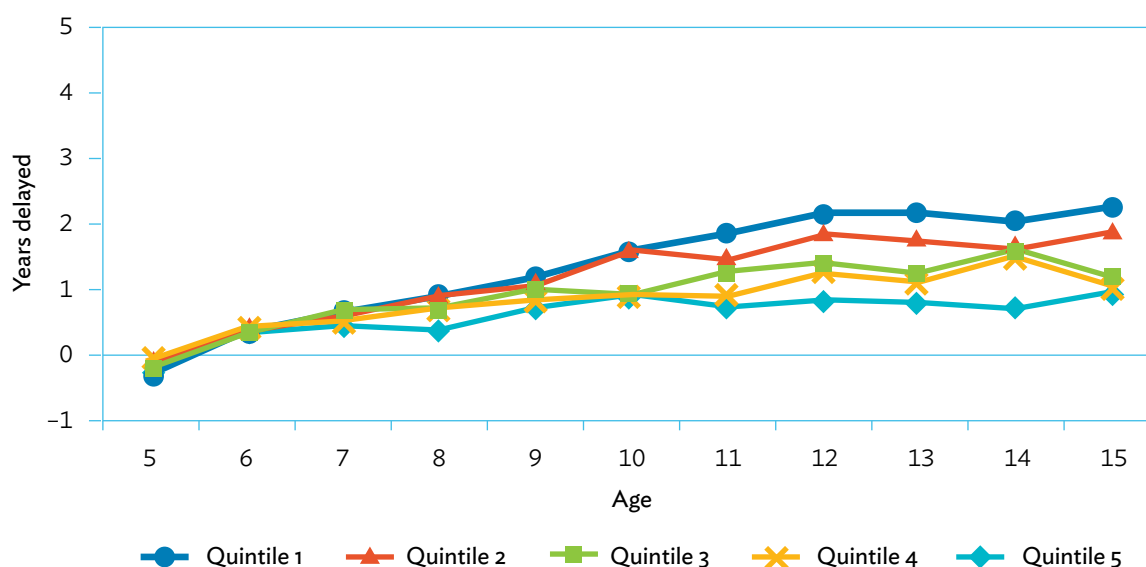
school.⁵⁶ Student dropouts and low progression rates in primary and secondary education are a challenge for the supply of higher education students.

Lower and upper secondary education enrollment and completion rates have improved; however, progress toward universalizing primary education is placing a growing burden on the secondary education subsector, which to date has been particularly under-resourced and has not received substantial international support. Issues of access and quality are often intertwined. For example, ongoing ADB-supported analysis under the Comprehensive Education Sector Review suggests that fewer than half of young adults have completed even 9 years of education (with the share less than 1 in 3 among the poor) in recent years, while roughly two-thirds of those reaching grade 11 (the final year of upper secondary education) failed the matriculation exam (at least on their first try), which is required for high school completion.⁵⁷ Responses in the Integrated Household Living Conditions Survey suggest that low perceived quality and relevance are a key reason for dropout and noncompletion. Similarly, anecdotal evidence suggests that many employers find that graduates from lower and upper secondary education are “untrainable” and lack basic flexible knowledge and soft skills required for the job.

Based on available data, the Comprehensive Education Sector Review Phase 1 assessment of higher education estimated that in May 2012 there were 470,912 students in higher education, though some estimates put the number at about 600,000. Just over 60% of these students were enrolled in distance education programs—affordability, convenience, and failure to have been admitted to

⁵⁶ See also Comprehensive Education Sector Review Phase 1 Technical Annex on the Secondary Education Subsector. This technical annex and the one being prepared as part of the second phase of the review provide in-depth analysis, including generation of detailed enrolment profiles by gender and socioeconomic status.

⁵⁷ Initial analysis is appended to the *CESR Phase 1 Technical Annex on the Secondary Education Subsector*. More thorough and disaggregated analysis is now being undertaken as part of Comprehensive Education Sector Review Phase 2.

Figure 4.11: Average Years of Lagged Enrollment

Notes: The schooling deficit is calculated as the actual age of the student minus the school age based on the level enrolled. For example, if a student is enrolled in grade 5, then the school age is 9, since pupils are expected to enter grade 5 at 9 years old. A positive value means the student is delayed and a negative value indicates advanced schooling.

Source: ADB staff estimates using Integrated Household Living Conditions Survey data.

regular programs are the main reasons for the large numbers of students in these programs. However, graduates from distance education programs have more limited employment opportunities; for example, they may not be able to access sought after positions as state employees. According to the review, 186,668 students enrolled in regular programs, of which 174,771 were undergraduates in May 2012.

Access to higher education is highly uneven

College enrollment is also highly unequal across socioeconomic and demographic groups (Figure 4.12). Although the normative age for entry into higher education is 16, the review's analysis suggests that university enrollment peaks between ages 17 and 20, for a 4-year bachelor's degree course due to a combination of factors.⁵⁸ About 11% of the college-age population is enrolled in college, with a slightly higher enrollment rate among females than males.

⁵⁸ These include that many grade 11 students are overage and two-thirds fail the matriculation exam, which means that they need to repeat and pass the exam the following year to pursue higher education.

Across socioeconomic groups, however, there is a vast disparity in access to college education. Only 3.7% of the college-age population in the poorest quintile is enrolled in college, compared with a quarter of their cohorts in the richest quintile.

Available data suggest that TVET is not functioning as an effective alternative to higher education by covering a broader population, and access to TVET appears to be particularly limited for poor and rural populations.⁵⁹ Figure 4.13 shows data on TVET participation (using the Integrated Household Living Conditions Survey-based proxy) among working-age adults, since TVET is aimed at providing the workforce with relevant labor market skills.⁶⁰ It shows that participation is low, with only 3.4% of adults aged 15–64 having attended training. Indeed, access to TVET is highly skewed toward the rich, with workers from the richest quintile eight times more likely to have attended TVET programs than those from the poorest quintile. As may be expected, workers in urban areas are more likely to

⁵⁹ See also *CESR Phase 1 Technical Annex on TVET Subsector*.

⁶⁰ The Integrated Household Living Conditions Survey data provide responses for "other training," which would likely exclude some forms of postsecondary TVET, but nonetheless could serve as a loose proxy for this training.

Figure 4.12: College Enrollment Rates among 17–20 Years Old



Source: ADB staff estimates using Integrated Household Living Conditions Survey data.

Figure 4.13: TVET Participation Rates among Working-Age Adults



TVET = technical and vocational education and training.

Source: ADB staff estimates using Integrated Household Living Conditions Survey-based proxy.

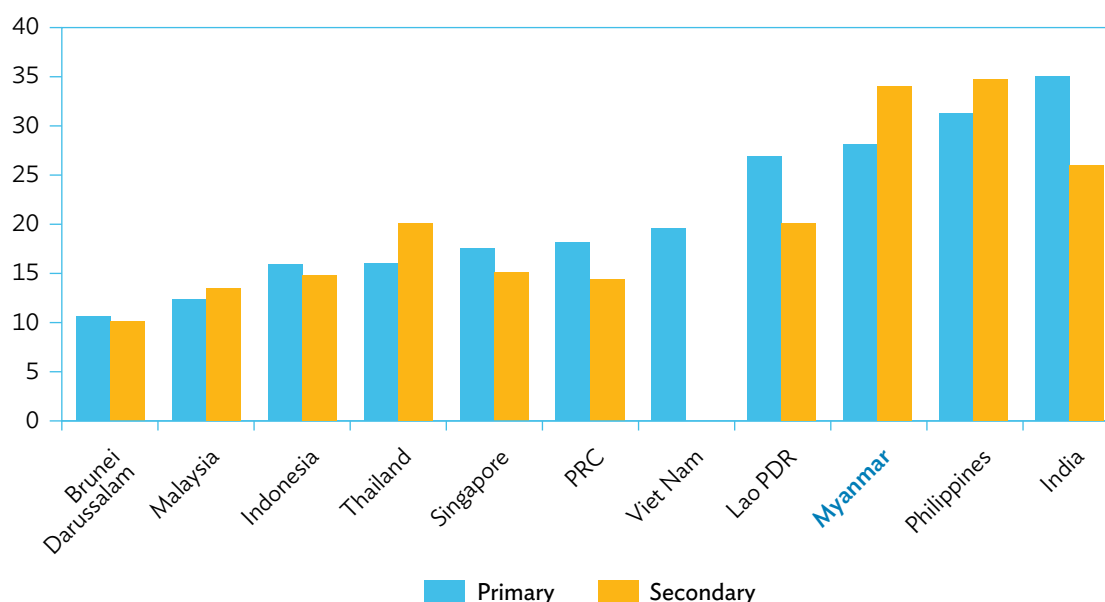
have obtained such training, with Yangon having the highest participation rate (10.5%).

Better investment in teachers and facility infrastructure is required for quality outcomes

Myanmar has one of the highest pupil–teacher ratios in the region, at 28.2 at the primary level and 34.1 at the secondary level. That said, it is in line with ratios in other countries in the region at a similar level of development and just lower than that of

the Philippines, which is already a middle-income economy (Figure 4.14). A low pupil–teacher ratio is indicative of the quality of education provided by the education system in a country, with a lower number implying potential for more attention per student. It would be desirable to examine regional and socioeconomic differences more closely, but this requires more disaggregated administrative data than is currently available.

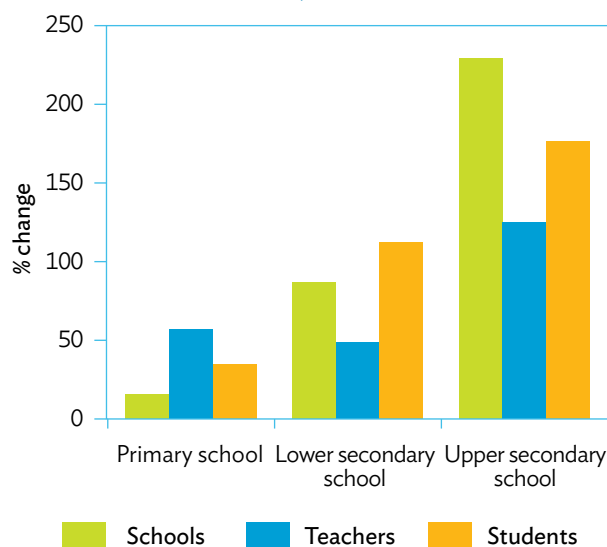
A significant effort has been made to hire more teachers and build more schools in recent years. Figure 4.15 shows that at the primary level the

Figure 4.14: Pupils per Teacher in Asia


Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Note: Data correspond to latest available year covering 2008–2012 (data for Myanmar is 2010). No bar indicates no data available.

Source: World Bank, World Development Indicators (accessed May 2014).

Figure 4.15: Growth in the Number of Schools, Teachers and Students, 1988–2012


Source: OECD (2013a).

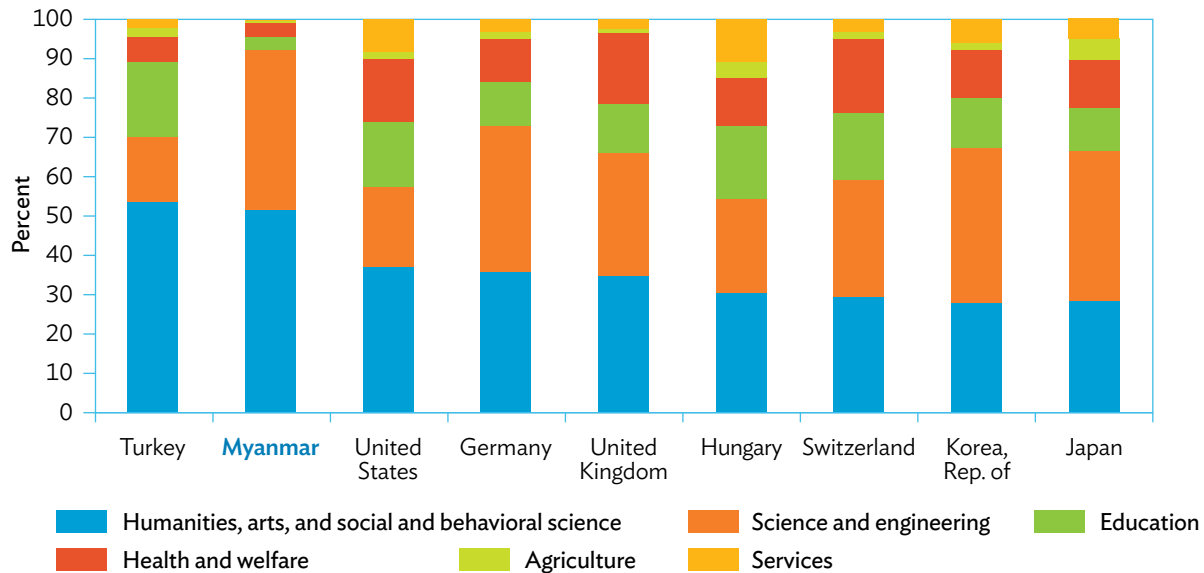
number of teachers has increased at a higher rate than that of students. But, at both lower and upper secondary levels, student numbers have increased faster than teacher numbers. At the upper secondary school level, the number of schools has increased dramatically.

Curricula and pedagogical methods need updating

The Comprehensive Education Sector Review's analysis of secondary education indicates that the curriculum, which is outdated and overloaded with topics, needs reform. This will be no small undertaking. It will require careful costing, planning, and sequencing, as well as retraining teachers for the new curriculum and publishing and distributing new textbooks.⁶¹ Pedagogical methods and teacher qualifications also need updating and strengthening, particularly with the planned extension of basic education from 11 to 12 years and the curricula revision. Teachers need access to knowledge and learning and should be subject to an accreditation scheme, something that currently does not exist. ICT penetration and access can greatly contribute to teacher-training services, testing, and accreditation, as well as quick dissemination of new education

⁶¹ As noted earlier, the Ministry of Education has started a review to develop new curricula for primary education (with support from the Japan International Cooperation Agency) and secondary education (with support from ADB in partnership with Australia). See also *CESR Phase 1 Technical Annex on the Secondary Education Subsector*.

Figure 4.16: Higher Education Courses by Popularity, Myanmar and Selected Countries



Source: OECD (2013a).

trends, best practices, and other learning guides for teachers.

Diversifying higher education specialties helps attract skilled professors and lecturers

According to the Organisation for Economic Co-operation and Development (OECD) (2013a), the number of higher education programs under the Ministry of Education increased from 79 to 215 between 1988 and 2012. The number of enrolled higher education students also increased fourfold during this period (in 2012 around half a million students were enrolled). Although there is significant uncertainty in the reliability of the available data on enrollment, given the sharp increase of the absolute number of students enrolled in higher education during recent years, the gross enrollment ratio in higher education could be higher than 13.8% in 2011 as reported by the World Bank’s World Development Indicators (Figure 4.8) and closer to the levels in other neighboring countries, such as the People’s Republic of China with a rate of 26% or India with 18% in 2010. Gross enrollment in higher education is often above 50% in the advanced economies.

Student-to-lecturer ratios are estimated at 43 in Ministry of Education institutions, 74 in Ministry of Science and Technology institutions, and 31 across the higher education system as a whole.⁶² The Comprehensive Education Sector Review and government consultations indicate a need to improve the infrastructure, resources, laboratories, and teacher training in higher education.

A larger proportion of students study science and engineering in Myanmar compared to OECD countries (Figure 4.16). And over 50% study humanities, arts, and social and behavioral science. By contrast, interest is very limited in more practical subjects such as education, health and medical sciences, accounting, and entrepreneurial studies, which are likely to be in high demand in the labor market. It is therefore necessary to diversify the curriculum by offering courses (as well as incentivizing students) in areas that are important to the country’s economic development, but may not be deemed as attractive as the more popular courses.

⁶² See CESR Phase 1 Technical Annex on the Higher Education Subsector.

Summary recommendations

Myanmar's education sector has three major constraints: insufficient funding, despite a sharp increase in public spending since FY2011; inequitable access; and poor quality in relevance and teaching standards. To obtain adequate resources for improving education outcomes and creating a better-educated workforce, education needs to be given a much higher priority in national policy discussions and in the budget allocation process. Moreover, innovative financing mechanisms such as public-private partnerships are needed to augment funds for improving access and quality.

The poor quality of education stems from inadequate and poorly trained teachers, outdated curricula and content, obsolete pedagogies, rote-based assessment, and inconsistent policies and standards. Addressing these problems will require careful coordination and sequencing of policy actions to ensure that improving quality and access to education does not benefit disproportionately urban or rich populations disproportionately more.

Even as it encourages public-private partnerships for postsecondary education, the government should not overlook the importance of continuing to increase public funding for basic education. Higher education and TVET rely on the supply of well-educated and competent primary or secondary school graduates. While nonpublic sector engagement and investment in education has been limited, with new laws encouraging private sector investment, there is likely to be a flourishing of non-state or private enterprise in education. It is necessary to both promote education as a sector for investment and ensure quality outcomes are maintained in private education.

Developing human resources is critical to improving education, but it will also be important to enhance management information systems and data platforms through which timely information can be extracted and used for planning and review. To enable the implementation of laws and regulations, human resource policies need to be designed to

ensure resource deployment addresses Myanmar's geographical peculiarities. This includes not only the appropriate deployment and recruitment of resources, but also motivation, career development, supply and qualification (training and retraining) of teachers, as well as infrastructure requirements (whether physical schools and number of classrooms, and information technology infrastructure for learning and development for both teachers and students), or social infrastructure that may involve housing or other needs to address constraints in getting teachers to teach in rural and remote areas.

Successful education reform requires clearly articulated policies and coordination among a wide variety of ministries and stakeholders. The enormous changes that the education system will undergo, such as increasing the number of years in the basic education cycle (adding kindergarten and extending high school through grade 12), will have wide-ranging effects, on teachers and further infrastructure needs, teacher capacity and the skills needed to implement new curricula, managing the expectations of families and students, further investment in human resources, and areas such as printing and logistics. New initiatives should also consider the impact of these changes on poor families, particularly in rural areas to ensure that distortions in equitable access do not become more pronounced.

The careful management of ICT could make major contributions to education in areas as varied as governance, teacher training, and student access to diversified education opportunities, including e-education. For teachers, it could help develop new teaching methodologies and, for students, improve access to knowledge. For higher education, the impact could be even more significant, as many students at this level use distance learning. However, there is a risk that these students do not have access to a mentor or the ability to debate and exchange knowledge. Distance learning through the internet, as many universities around the world are now pursuing, needs to include platforms whereby students and teachers can interact.

Employment and Labor Markets

Skills development is essential for equitable and sustainable growth. Myanmar's labor force is generally low skilled—and, in a related problem, the engagement and links between education and industry are limited. That said, the country has the advantage that it is starting out with economic and education reforms simultaneously and can benefit from an approach that ensures the needs of industry are continuously and systemically reviewed and fed back into the education system.

Myanmar needs to ensure that economic growth translates into adequate jobs to achieve sustained high and inclusive growth. Open, transparent, and cooperative industrial relations will be critical to the successful realization of ongoing labor market reform. Social security systems need to be enhanced and further extended to protect those who lose out during the process of structural change as well as the poor and vulnerable.

There is no doubt that institutional capacity and strong governance is required in the employment and labor sector. The Ministry of Labour, Employment and Social Security is primarily responsible for labor issues.⁶³ The objectives of the ministry are to (i) maintain industrial peace, (ii) provide free employment services, (iii) provide skill training, (iv) conduct research into labor matters and collect data, (v) ensure workers' rights under labor laws, (vi) guarantee occupational safety and health, (vii) provide for the social security of workers, (viii) supervise the smooth and steady flow of goods throughout the country, and (ix) participate in international labor affairs. On the other hand, the Ministry of Social Welfare, Relief and Resettlement oversees vulnerable sectors of society and the Department of Welfare in particular is a focal point for the National Committee on the Rights of the Child, the Myanmar National Committee for Women's Affairs, and ASEAN matters related

⁶³ The ministry has five departments: the Department of Labor, Social Security Board, Central Inland Freight Handling Committee, Factories and General Labor Laws Inspection Department, and the Department of Labor Relations.

to children, youth, women, and social welfare and development.⁶⁴

Capacity building of all constituents is critical to building an inclusive, flexible, and well-functioning labor market, while the establishment of effective social security systems, together with the provision of adequate infrastructure and resources for implementation, is essential for a strong cohesive social sector.

Myanmar has a favorable demographic profile for growth

The large, youthful population should be conducive to strong economic growth, although birthrates are dropping substantially, which could lead to a potentially rapid transition to an ageing population. The total population is estimated at 61 million and increasing at an annual rate of about 1.3% (CESR, ADB, and Australian Aid 2013b). The average age in 2010 was 27.8 years, and is forecast to rise to 29.8 in 2015 and 31.7 in 2020. The government is conducting a new population census in 2014.

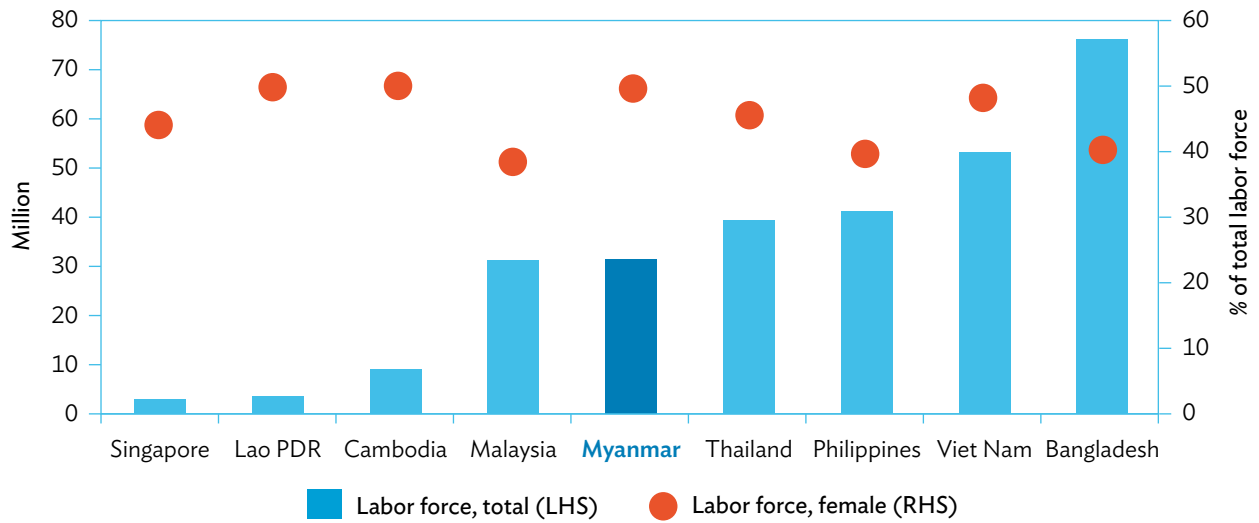
The labor force is about 31 million people, according to the latest World Development Indicators data, although different sources cite numbers up to 32.5 million. The share of the working-age population (15–64) is about 70% of the total, the fifth highest among ASEAN's 10 member countries. Furthermore, about 40% of the working-age population is between 15 and 29, and women account for almost half of the labor force (Figure 4.17).

Labor force participation is higher compared to other Asian countries

Myanmar has an almost 80% labor force participation rate, the second highest in Asia after Cambodia. Figure 4.18 shows labor force

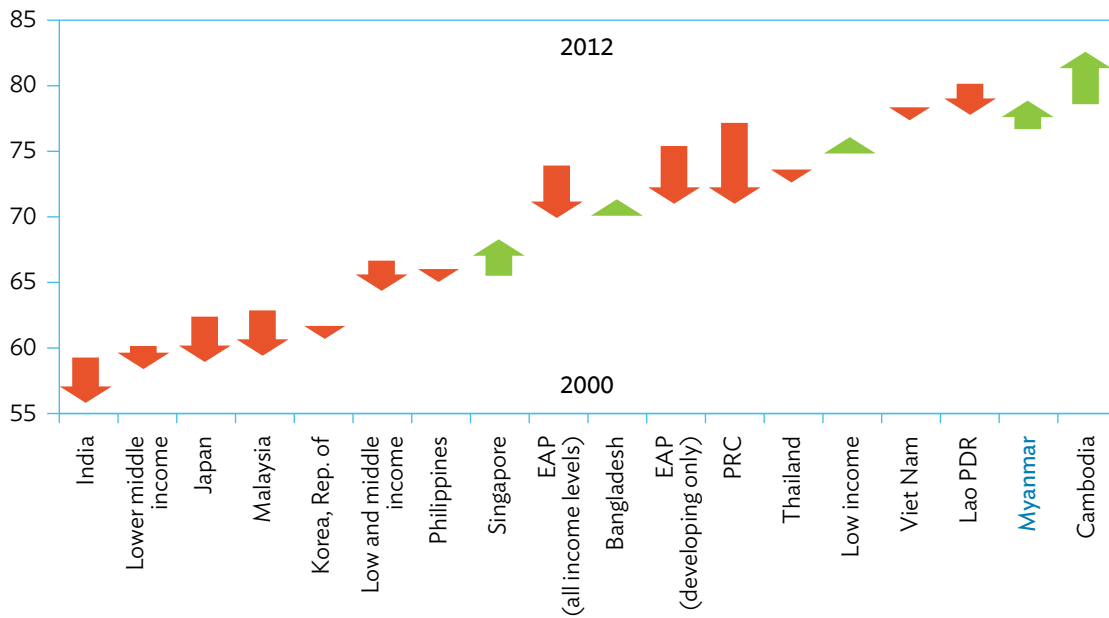
⁶⁴ The ministry provides the following services: child, youth, and women's welfare; care of the aged; rehabilitation for the disabled; grants to voluntary organizations; the resettlement and rehabilitation of vagrants; and the rehabilitation of former drug addicts.

Figure 4.17: Myanmar Labor Force Compared with Selected Asian Countries



Lao PDR = Lao People's Democratic Republic, LHS = left-hand side, RHS = right-hand side.
 Source: World Bank, World Development Indicators (accessed May 2014). The year of all population numbers is 2012.

Figure 4.18: Labor Force Participation Rates in Selected Asian Countries (%)



EAP = East Asia Pacific, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.
 Notes: The labor force participation rate is the proportion of the population aged 15 and older that is economically active. The chart shows data points for 2000 and 2012.
 Source: World Bank, World Development Indicators (accessed May 2014).

participation rates from 2000 to 2012, with 2012 data represented by the tip of the arrow head. It is interesting to note that the rates for both Myanmar and Cambodia have continued to increase, but have declined in many other countries. The global financial crises may have played a role in such declines, but it could be useful to study the underlying reasons to help Myanmar avoid common traps and learn from these experiences. Past research suggests innovation, entrepreneurship, access to finance, and incubation hubs are important factors to sustain labor force participation.

Ongoing structural transformation will require a more skilled labor force

Just over half of the workforce is engaged in agriculture (52% in 2010) followed by services, with 36%, and industry, with 12%. This distribution is not unusual for a country at Myanmar's level of development. Projections suggest that by 2030 there will be a major shift of workers from agriculture into services and a smaller shift into industry. At 7% annual GDP growth, the services sector is forecast to account for 53% of workers by 2030. Industry's share of employment is expected to rise from 12% currently to 17%, with a corresponding fall in the share of agriculture to 30%. At 9% growth, this structural change in employment would be slightly more pronounced.⁶⁵ Either way, the country's ability to achieve a diversified economic base that will expand job opportunities is essential to ensure that growth is inclusive with improved social equity and peace.

Weak economic conditions in the past have prompted many workers to seek employment in other countries, notably Thailand, where there are many garment factories and opportunities for construction work. Although the number of officially registered migrant workers is about 1.6 million, estimates of the actual number run as high as 4.7 million, almost 8% of the population (Win and Naing 2012). Attracting these workers back to Myanmar, in particularly those with higher

⁶⁵ ADB estimates.

education, could be an important contribution to the country's talent pool.

Wages are low but productivity is critical to competitiveness

According to a survey by the Japan External Trade Organization, wages in Myanmar are the lowest in the region (Figure 4.19). However, employers often say that finding skilled and talented workers is challenging, and attracting the country's professional diaspora back to the country may be difficult on grounds of these migrant workers' earnings expectations and adjusting to a different standard of living. To achieve sustained high growth, labor productivity needs to be enhanced, which will benefit both labor-intensive manufacturing and tourism. To this end, wage levels, after accounting for productivity, the supply of the workforce, and other indicators will need to be carefully monitored.

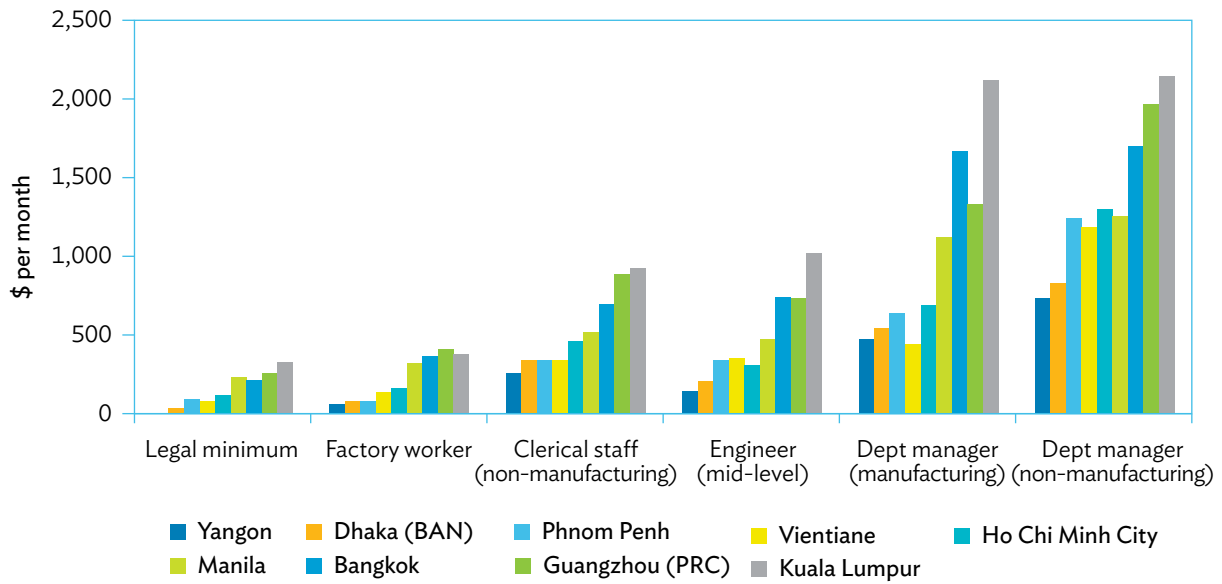
Unemployment is quite low by regional standards

Official data on unemployment are lacking, although there are numerous other data sources. The World Bank's World Development Indicators suggest that unemployment in Myanmar ranks in the middle of ASEAN and neighboring countries at around 4%, higher than Brunei Darussalam, Cambodia, India, the Lao People's Democratic Republic (Lao PDR), Malaysia, Thailand, and Viet Nam (Figure 4.20). The World Bank data also indicate that women have slightly higher unemployment rates (at 5%) than men (4%); in youth unemployment, however, the differences are more pronounced, with women at 13% and men 10%.

But much employment in Myanmar is informal and underemployment substantial

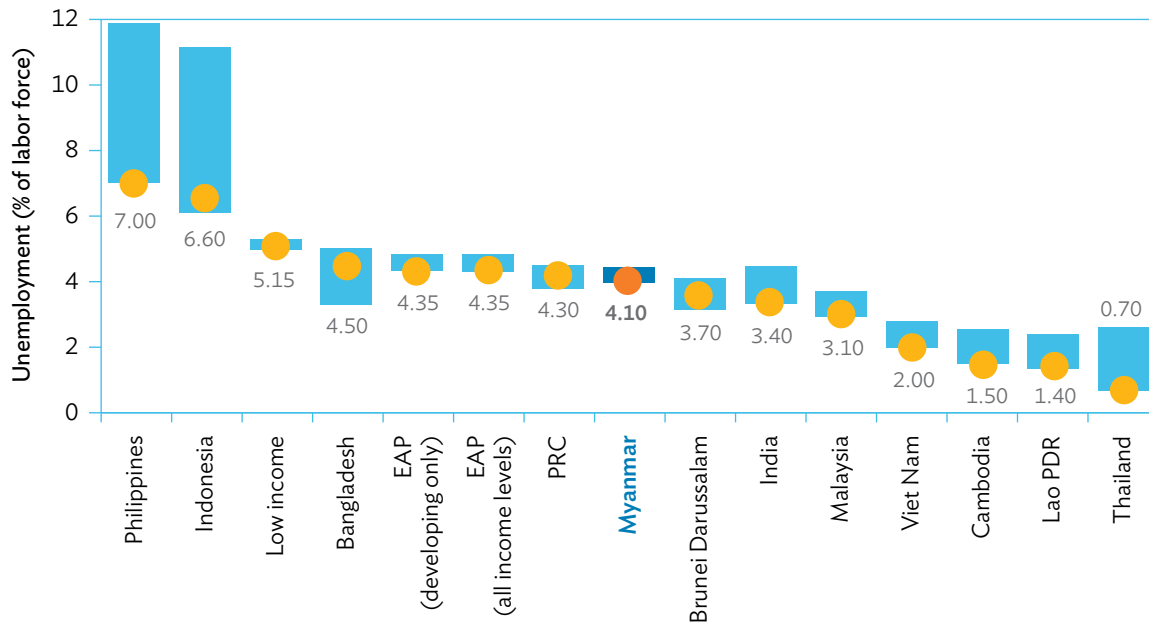
The nature of work in Myanmar is predominantly informal. Some 41% of the workforce is classified as

Figure 4.19: Wage Comparisons among Japanese Companies across Asia



BAN = Bangladesh, PRC = People's Republic of China.
 Source: Japan External Trade Organization (2013).

Figure 4.20: Unemployment Rates in Selected Countries, 2000–2012



ASEAN = Association of Southeast Asian Nations, EAP = East Asia Pacific, Lao PDR = Lao People's Democratic Republic, PRC = People's Republic of China.

Notes: Unemployment refers to the share of the labor force without work but available for and seeking employment. The bottom of the blue box indicates the lowest unemployment during 2000–2012, while the top indicates the highest unemployment over the same period. The red dots and data indicate unemployment in 2012. The chart is sorted from the highest unemployment data point over the period indicated.

Source: World Bank, World Development Indicators (accessed May 2014).

own-account workers, while 15% are contributing family members and 18% casual workers. Together, 74% of the workforce can be classified as informal (MNPED et al. 2011). While unemployment is low, there is considerable underemployment, with more than a third of the workforce (38%) working less than 44 hours per week (41% for women). Underemployment is also on the rise, climbing 3.6 percentage points from 2005 to 2010 (MNPED et al. 2011).

Opening the economy creates labor market challenges and opportunities

Myanmar is reforming and opening up in the wake of the establishment of the ASEAN Economic Community, with a freer flow of goods, services, and human capital. Although there is a general lack of understanding in the country—the business community, in particular—about what the ASEAN Economic Community means and how it will impact individual countries and industries,⁶⁶ Myanmar stands to gain from more open regional markets. Its entrepreneurs and innovators should benefit from greater foreign investment, and local labor can learn from the influx of foreign skills, exchange culture and ideas, and jointly develop best practices and thinking.

The government is conducting a new census and labor force survey in 2014, which will improve understanding of the labor force, its composition, and skills. There has been little recent study in this area and the available data are scant. The Integrated Household Living Conditions Survey provides indicators and insights into employment challenges, while the labor market analysis in the Comprehensive Education Sector Review Phase 1 looks at the issue from an education perspective rather than in terms of employment sustainability or quality of jobs. Although these reviews provide a good foundation, more comprehensive data will be essential for planning. In this regard, system upgrading is needed, not only in the central ministry,

⁶⁶ Discussions with private sector participants during visits to Myanmar.

but also throughout Myanmar's 76 decentralized labor exchange offices.

Reform of industrial relations is under way

Myanmar is implementing a modern system of laws and institutions to manage industrial relations and provide workers with social security and safety nets, a process started in the second half of the 2011. It has enacted five new labor laws and will amend 11. These new laws and bills cover aspects of the labor code, including trade unions, dispute settlement, social security, unemployment insurance, minimum wages, skills training, and occupational safety and health (Box 4.1).

Since the 1950s, Myanmar has observed two of the eight core international labor standard conventions,⁶⁷ but violated their provisions in later decades. The country was barred from technical assistance and attending events organized by the International Labour Organization for a decade beginning in 1999 over the issue of forced labor. Relations were normalized in 2012 and the situation has improved. In December 2013, Myanmar signed the Convention Concerning the Prohibition and Immediate Action for the Elimination of the Worst Forms of Child Labour, adopted by the International Labour Organization. This will come into force in December 2014.

Skills deficits could hamper economic growth

A key labor market problem is that much of the workforce is unskilled, with low educational attainment. An education system that does not focus on developing skills competency exacerbates this lack, although efforts are being made to address these challenges. Even so, engineering graduates, for example, often require 1–3 years of on-the-job training before they are of full value to their employers. The chief concern is that the

⁶⁷ Covering forced labor, freedom of association, and protecting the right to organization.

Box 4.1: Myanmar Labor, Employment, and Social Security Legislation Status

1. The Workmen Compensation Act, 1923
2. The Dock Laborers Act, 1934
3. The Payment of Wages Act, 1936
4. The Dock Workers (Regulation of Employment) Act, 1948
5. Employment Statistics Act, 1948
6. Oilfield (Welfare of workers) Act, 1951
7. The Factories Act, 1951
8. Leave and Holidays Act, 1951
9. Shops and Establishment Act, 1951
10. Social Security Act, 1954
11. Employment Restriction Act, 1959
12. The Law Related to Overseas Employment, 1999
13. Labor Organization Law, 2011 (enacted 11 October 2011)
14. The Settlement of Labour Dispute Law, 2012 (enacted 28 March 2012)
15. The Minimum Wage Law, 2013 (enacted 22 March 2013, effective 4 June 2013)
16. The Social Security Law, 2012 (enacted 31 August 2012, not yet effective)
17. Employment and Skills Development Law, 2013 (enacted 30 August 2013, not yet effective)
18. Occupational Safety and Health Bill
19. Alien Workers Bill

The list is as of March 2014. Eleven are to be amended (1–9 and 11–12 in the list), and one (10) is to be repealed. Five laws have recently been enacted (13–17) and two have been newly drafted (18–19).

Source: Ministry of Labour Employment and Social Security (2014).

education system focuses excessively on theory (from outdated textbooks) and fails to develop skill competency. The links between industry and the public education sector are weak and, as a result, educators are not aware of what skills are needed in the workplace. New entrants to the workforce often lack flexible knowledge, analytical skills, critical thinking, and soft skills (such as communication and interpersonal skills). Language skills needed for international business and tourism are also in short supply. Foreign firms often hire expatriates for management and higher-level technical positions in the absence of competent local managers. And higher wages in other countries often entice away locals who have managed to obtain good skills. Faced by the lack of qualified graduates, employers resort to training in-house or through external training providers. Recently, some industry and professional associations have started providing employee training programs for their members.

Myanmar is expected to experience significant structural change in which industry will play an increasing role in driving economic growth

and job creation. This has implications for skills development and labor force needs. A systematic breakdown of potential changes in employment patterns linked to an economic transformation would be a useful exercise to guide investment in education to better prepare the labor and talent pool for future opportunities.

Migration presents an opportunity and a challenge

Although there is little available data on migration numbers, a 2013 International Organization for Migration and Asian Reserach Center for Migration survey presents an interesting snapshot of migrants from Myanmar in Thailand and the important contribution of incomes these jobs provide, as well as the vulnerabilities young people face. The government is making efforts to better document migrant workers, but there is also a need to build administrative infrastructure and management tools to attend to the large numbers of them. The following highlights some of the main aspects and trends of migration from Myanmar.

- i. Migration is a valuable source of income, with about \$1.7 billion coming from Thailand alone. Of this, some \$1.4 billion goes to the Mon, Shan, Tanintharyi, and Kayin states alone, from which 76.4% of migrants come.
- ii. The young make up a sizable proportion of migrants, with 30.7% aged 15–24 and about 40% of those aged 15–17 migrating before the age of 14. Clearly, this has significant implications for managing migration, including child-safety issues.
- iii. More men are migrating than women; however, the closer the state to the border, the more women tend to migrate, likely due to information advantage and proximity. Females migrate at a younger age and are more documented. Although females earn less, they tend to send home more money than males.
- iv. Migrant workers are gaining valuable skills: 72% of men and 74% of women, in the same survey, state that they have gained technical, language, mechanical, and agriculture skills. Migrants also feel that their confidence has increased by working in culturally diverse environments. Some 48% believe the skills they gain abroad will help them get a job in Myanmar.

Industrial relations and supporting labor regulations are critical to development

Well-designed industrial relations and labor regulation policies not only promote investment and increase formal employment, but can also ensure that labor standards and the rights of workers and employers are understood and protected. Lack of focus on labor and social rights and regulations can distort development and growth or make it inequitable. Myanmar must implement a structured and peaceful industrial relations framework, particularly in its efforts to promote labor-intensive manufacturing. The emphasis on on-time production in the context of modern global value

chains is increasing. The lack of a predictable social environment threatens timely and reliable delivery of production. An industrial relations framework that allows effective and peaceful negotiation in addressing challenges and managing expectations is essential to timely delivery and to business sustainability.

In today's industrial relations environment in Myanmar, disputes are numerous and there are already strikes. The general social climate, as well as the promotion of public peace and law and order, cannot be underestimated as important factors in investment promotion and economic development. Cambodia's recent violent industrial action in January 2014, which stemmed from mismanaged expectations and a lack of clear and structured processes regarding minimum wages, is a good illustration of the importance of focusing on a robust industrial relations policy framework and managing expectations.

Labor laws are new and implementation is still incomplete

Labor laws deserve more attention in the context of promoting equitable and sustainable development, as they help reduce unpredictability in labor relations and promote productivity. While the development and reform of laws and regulations is an encouraging sign in the labor and social sector, implementation and ensuring that labor laws are accessible and equally understood by employers and workers are vital. As an example, an often contentious challenge in this regard in Cambodia is the fact that they are interpreted differently by different social actors. Such differences can lead to conflict and industrial unrest if improperly managed. It is therefore essential that the government plays a role in public awareness of the laws and coordination of various stakeholders in the implementation. Such initiatives can be conducted jointly with unions and employer associations.

Labor law sanctions and penalties should neither deter investors nor infringe on worker rights. It is important for employers and workers to take laws seriously. However, if violations result in sanctions

and penalties (such as fines), consideration should be given to comparing them with international best practice so as not to deter investment. The country is taking steps to ensure that its labor regulations are responsive to international obligations and economic needs, as can be seen in the number of laws and regulations it is updating and reviewing. This work will likely continue in the medium term and affect the structure and development of ministries involved in labor and social affairs. A coordinated and structured approach to industrial relations and labor developments is therefore necessary.

New industrial relations regulations created new challenges

The newness of laws and representative organizations has meant that industrial relations are in transition, with workers resorting to strike action to gain better working conditions. The number of labor disputes brought to the Ministry of Labour, Employment and Social Security, running at 100 a month, has grown rapidly.⁶⁸ The lack of labor courts and a well-functioning labor conciliation and arbitration system puts a considerable burden on the ministry. Industrial relations should improve, however, as the new legislation is better understood and dispute resolution mechanisms are established. Workers and employers could place greater emphasis on resolving differences through bilateral negotiations.

Industrial relations require coordination of government, union, and employer bodies. The formation and development of unions has flourished since the inception of the new Labour Organization Law, with their number jumping from about 635 in mid-2013 to over 950 by March 2014. Employer federation numbers provided by the government show 22 basic organizations in five different sectors. Other employer representative bodies include the Myanmar Chamber of Commerce. Discussions with government point to a variety of challenges in dealing with the union movement and coordination among different stakeholders. These

include (i) the unguided organization of the union movement, which makes it difficult to manage and engage with; (ii) internal conflict among unions and a lack of clear objectives in some individual unions; and (iii) the lack of institutional capacity to manage and coordinate with all stakeholders; that is, government, employers, and unions. While it will take time to achieve a structured labor and employer movement, it is important that laws and regulations support a structure with which all parties can engage constructively.

Other labor-related initiatives are still not fully in place

The Social Security Law, enacted in August 2012, introduced new measures based on international practice for invalidity, pensions, survivors' benefit, unemployment insurance, and other benefits for workers in the formal sector. As such, however, the new law benefits only about 2.5% of workers. Given the likelihood of an aging population in the next 2–3 decades, mechanisms to include the informal sector and migrant workers in social security coverage will be an important next step in social security development.

The Minimum Wage Law of 2013 is only a year old and the mechanisms to set wages in different regions and sectors are not yet operating. Inadequate wages sparked labor unrest in 2011 and led to the imposition of a temporary minimum wage in some sectors. Setting a structured wage process that is transparent and includes engagement and discussion among employees, employers, and the government is an important next step. These are rightfully covered in the Ministry of Labour, Employment and Social Security Notification No. 64/2013 (Minimum Wage Rules) issued on 12 July 2013. Experience in the region suggests that transparent and structured processes that can evolve and be updated as economies develop and that consider social and economic aspects of business sustainability and worker well-being can help foster constructive industrial relations and engagement and mitigate industrial action.

⁶⁸ Based on consultations with the Ministry of Labour, Employment and Social Security in Nay Pyi Taw in March 2014.

Occupational safety and health is emerging as a key workplace issue, especially in mining and manufacturing in which poor air quality can lead to respiratory problems. Worker safety is a particularly pressing issue in the construction industry. Building the capacity of regulatory bodies, including an improved labor inspectorate, would help ensure compliance with existing regulations on working conditions. That said, it is important to identify and prioritize the needs of labor and the social sector to address workplace issues in a systematic and strategic manner. While government regulatory bodies will play an important role in setting general guidelines for the workplace, more privately funded regulatory and inspection bodies or tripartite institutions are needed to address what will be a growing priority on the labor front as the economy develops.⁶⁹

Summary recommendations

Various dimensions of labor market issues require priority consideration to ensure productivity, stability, equity, and safety in the workplace.

Understanding labor and social sector needs

The need is urgent for better understanding of the needs of the labor and social sectors and policy measures to address them. The first step should include an in-depth review of critical issues such as health and safety in industry, which will help prioritize and sequence policy actions in the planning and management of the labor market for equitable and sustainable growth. Priorities in existing laws include the following:

- i. **Review of legislation and penalties:** Labor laws and the penalties in the laws should not be too onerous compared to those of other countries in the region so as not to deter investors, but they do have to be sufficiently strong to protect the rights of workers.
- ii. **Structured wage-setting mechanisms:** Wage levels are an important component of investment attraction and an important factor in attracting migrant skilled workers back to Myanmar. Wage legislation is only part of ensuring a structured and cohesive approach to wage setting. It is imperative to have wage setting mechanisms and bodies that are transparent and include all stakeholders—government, unions, and employers—in wage negotiations. Wage-setting authorities or bodies should be adequately financed and have the right skills to ensure active engagement and the smooth implementation of wage decisions.
- iii. **Labor inspection:** This is going to be crucial to the development and implementation of labor laws and regulations. Encouraging diversified language use in government inspection agencies will be useful for investors to interact with them, while further resource and capacity building will be needed to ensure that both workers and unions are aware of their responsibilities under the law. As an alternative, or addition, to these agencies, it is important to set up more inspection bodies with greater independence.
- iv. **Management of migrant workers:** Continued attention to migrant workers is important. This includes sending workers overseas and attracting those with the skills needed to help build a successful economy back home. For migrant workers, important policy areas include skills training, new legislation on recruitment agencies, and linking workers to social security programs when they come on stream.
- v. **International labor standards:** Myanmar does not have to rush to adopt further international labor standards. Rather, it should rely on international standards and instruments already in use in deliberating national labor priorities and for developing labor legislation and supporting

⁶⁹ An example from the region of such a tripartite body is the Arbitration Council Foundation in Cambodia, which is a labor dispute settlement system.

mechanisms. This implies taking a more measured approach to the ratification of standards, rather than adopting them first and then preparing for implementation. Such an approach will also ensure sufficient time for all constituents, employers, unions, and government agencies to deliberate on proposed conventions and their impact.

Promoting employment-intensive growth

Job creation and improved employment opportunities will ensure that economic growth is inclusive, but economic progress will ultimately depend on the full engagement of the country's workforce. This will require the following:

- i. **Employment-intensive growth policies:** Job creation must be a central consideration in the development of economic policy, both at the macro and micro levels. Key decisions on monetary, fiscal, trade, and regulation policy should be assessed for their impacts on the labor market.
- ii. **Investment for labor-intensive industries:** Government should promote domestic and foreign investment for labor-intensive industries, particularly for garments, light manufacturing and assembly, tourism, and some aspects of agro-processing. The development of these industries will ensure the economy is broadened beyond resource-based industries, some of which, such as natural gas, tend not to be particularly job creating.
- iii. **Labor information services:** These can be strengthened with ICT applications. The computer hardware and software for labor market information exchanges should be updated and modernized to allow job seekers up-to-date information on job opportunities and to encourage employers to use the system to post openings. It is important to increase the web-based access to job postings for job seekers.
- iv. **Dissemination of new labor laws and regulations:** These need to be widely disseminated and sufficiently clear in their language so that employers and workers understand the benefits and mechanisms available to them.
- v. **Skills and employability of workers:** Weak links between industry and education remain a major weakness of the labor market. Successful reform in expanding access to secondary education and improving the lower and upper secondary education curricula will be essential to better equip youth to pursue higher education or TVET and gain the knowledge and skills required in the labor market. Notwithstanding the vast and extensive reforms that education systems and policies will undergo, engaging industry early on in skills forecasting is essential to ensure the proactive development of the labor force. With a largely uneducated workforce, apprenticeship programs can be a tool to foster links between industry and education. Apprenticeship programs can be encouraged by including them in labor and skills development policies and making them a requirement for graduation. Providing industry with incentives to encourage structured apprenticeship programs could be a powerful mechanism to ensure stronger links and engagement. They can also provide feedback for the education sector and help mitigate the challenges young people face when making the school-to-work transition.

Establishing labor standards and dispute resolution mechanisms

Considerable progress has been made to correct past problems in labor standards, notably in the areas of trade union rights and forced labor. With new labor legislation passed, implementing and enforcing the new elements of the “labor code” is now a priority, as the threat of frequent labor disruption in the

absence of credible dispute resolution systems may scare off investors who would otherwise create jobs. An orderly process of representation, collective bargaining, and dispute resolution is needed to guarantee worker rights and reassure investors.

To ensure the success of the new labor legislation, greater awareness and capacity is essential among workers and the business community on the laws already in effect and those being developed. Understanding the benefits and mechanisms of these laws would certainly help reduce labor disruption. The need is also urgent for transparent mechanisms to prevent and resolve disputes. These should include establishing labor arbitration centers and strengthening labor courts, which have to be accessible to workers and their legal representatives. Formation of a cadre of judges specializing in labor law is also important, as is an adequate number of trained labor conciliators and arbitrators to help resolve disputes and shorten strikes. Trade unions and businesses should be aware of the role of such personnel and agree to conciliation and arbitration processes should parties fail to reach collective bargaining agreements on contracts or labor disputes.

Expanding the social security system's coverage

The social security system needs to take an active approach to marketing its importance and value to its “clients” who contribute to the system. Besides the formal sector, it should make a concerted effort to include the informal sector. To this end, the following measures need to be implemented:

- i. **Awareness building:** The benefits of the new social security system have to be clearly explained to workers and businesses, especially small and medium-sized enterprises. Understanding the benefits will allow for greater buy-in and help ensure that businesses do not seek ways to pay contributions below required amounts. More proactive awareness efforts for workers can be made through public campaigns and discussions with workers' associations.
- ii. **Expansion of social security coverage:** The government should set targets and seek to increase the coverage of the social security system from its current level of about 2.5% of the workforce to at least 15% by 2020. A first target could be to include all formal sector employees and then to expand social security to rural and informal workers. Alternative mechanisms for contributions—for example, direct or voluntary contributions—could be considered to increase the coverage.
- iii. **Information technology application for better management:** A substantial upgrading of the information technology systems used in managing and tracking social security contributions, benefit entitlements, and payments is needed to ensure the accuracy of these systems, including in the timely registration of contributors and contributions and payouts.

Gender

Gender equality and women's empowerment have to be fully integrated in any country's development plan. Women, as half the population, “hold up half the sky.” Without the participation of women in economic, social, and political decisions and activities, the country's development and transformation will be incomplete.

Women's leadership and political participation are limited

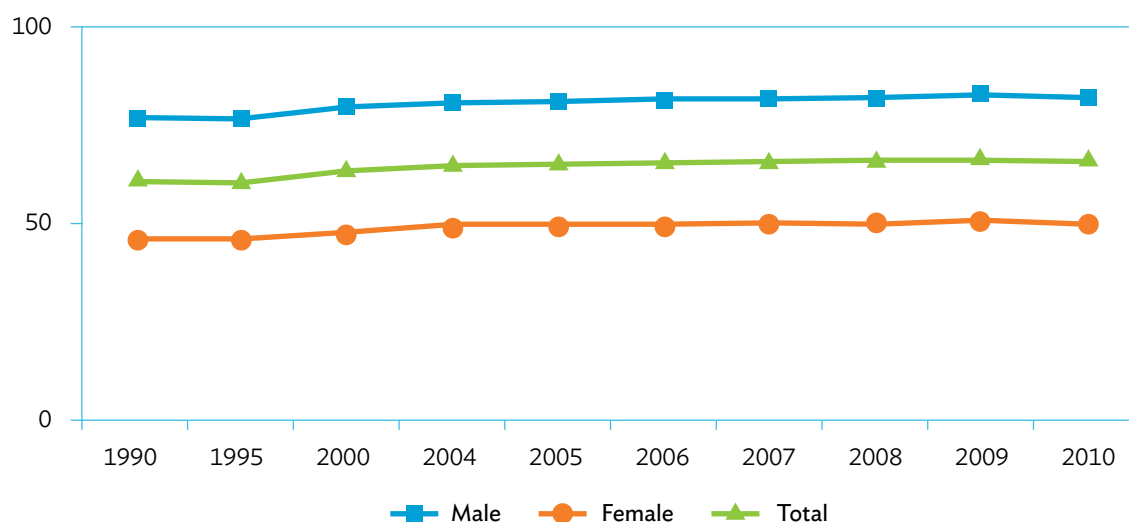
Female labor force participation rates have been near 50% since 1990 (Figure 4.21). Female participation in the state administrative organizations (SAO) and ministries is also almost equal to that of males. However, female participation in government leadership and politics is markedly less equal. Data show that women in director or above positions in SAO or ministries are

behind, at around 20% to 35%, although the percentage of female director or above positions in SAO has steadily increased to closely match the level of their ministry counterparts (Figure 4.22). The percentage of female representatives in parliaments in Myanmar was 6% in 2013, much less than in other ASEAN countries (Figure 4.23).

School enrollment rates for males and females are about the same

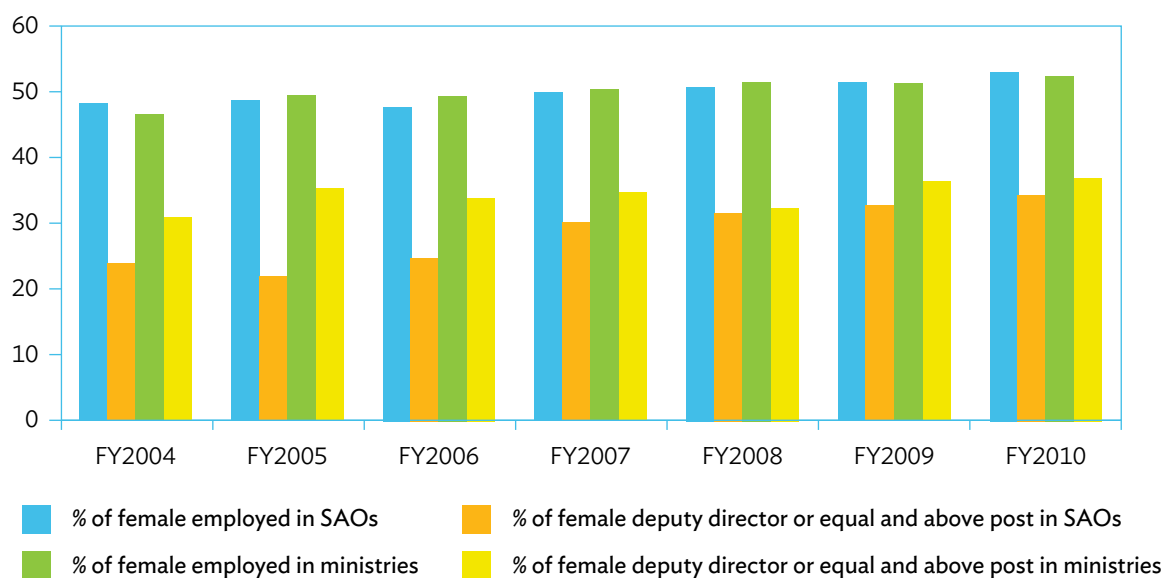
In primary school, girls are slightly more likely to be enrolled than boys, but secondary school enrollment rates are slightly higher among boys (Table 4.4). These differences are very small, however, and the overall ratio of girls to boys in primary education is

Figure 4.21: Labor Force Participation Rate, 1990–2010 (%)



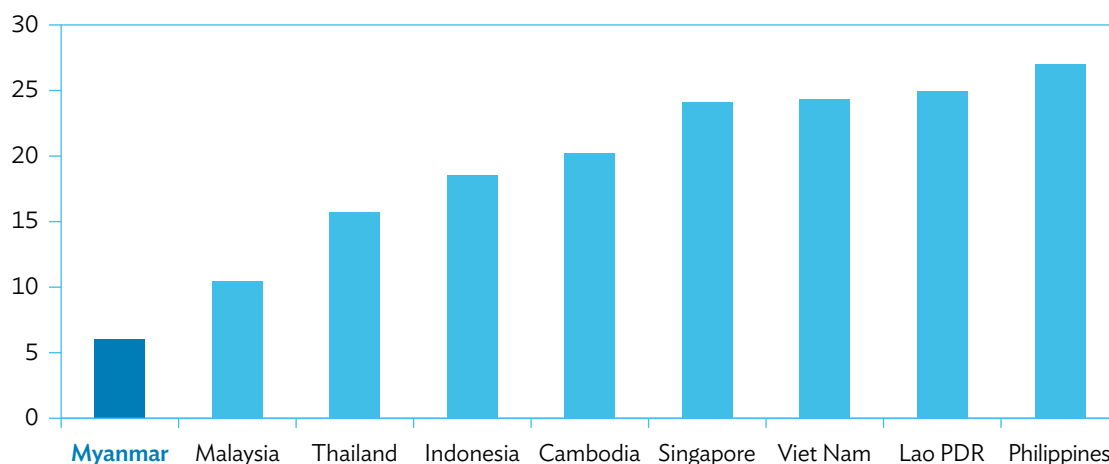
Source: ADB staff estimates using Central Statistical Organization (2012).

Figure 4.22: Female Employment in State Administrative Organizations and Ministries, 2004–2011 (%)



FY = fiscal year, SAO = state administrative organization.
Source: ADB staff estimates using Central Statistical Organization (2012).

Figure 4.23: Proportion of Seats Held by Women in Parliaments, 2013 (%)



Lao PDR = Lao People’s Democratic Republic.
 Source: World Bank, World Development Indicators Online (accessed April 2014).

Table 4.4: School Enrollment by Sex, 2010 (%)

| Level | All | Primary | Lower Secondary | Upper Secondary |
|------------------|-------------|-------------|-----------------|-----------------|
| Age Group | 6-16 | 6-10 | 11-14 | 15-16 |
| Male | 72.1 | 83.9 | 71.7 | 46.3 |
| Female | 71.0 | 84.5 | 69.7 | 45.5 |

Source: World Bank, World Development Indicators (accessed May 2014).

almost one. In fact, Myanmar has one of the highest girl-to-boy ratios in primary and secondary schools among its neighbors according to the World Bank’s World Development Indicators.

In Myanmar, the majority of teachers are women across all levels of education. More than 80% of teachers in all levels are women, the highest in secondary and tertiary education within ASEAN (Figure 4.24).

Women have limited health care access, although men face some greater health risks

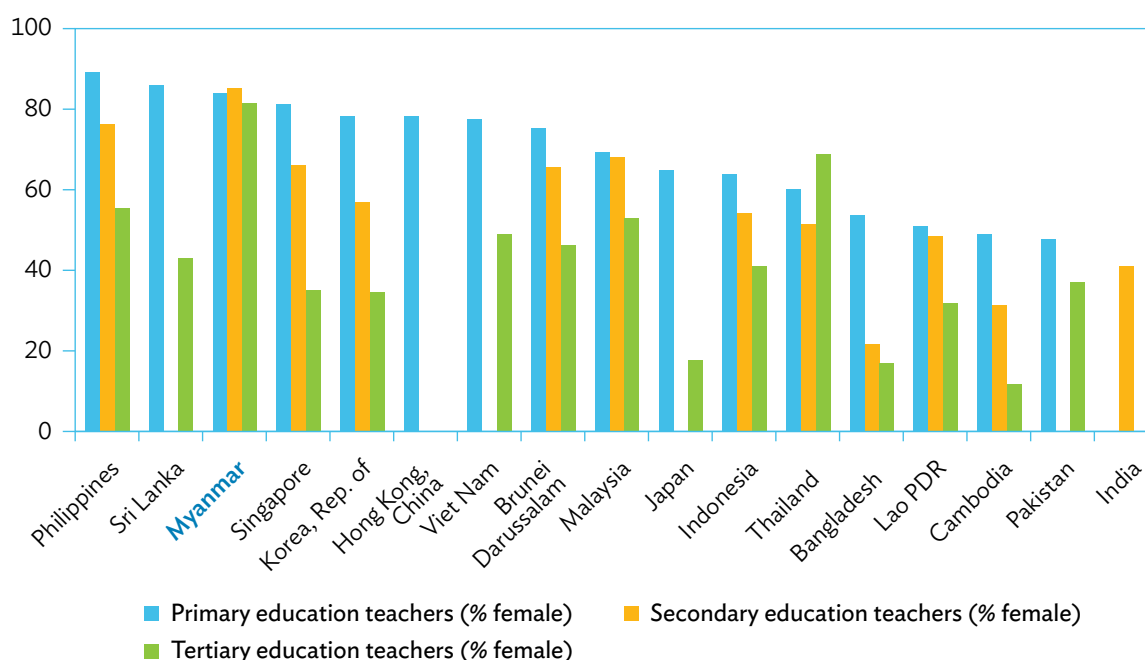
Women face multiple constraints in access to quality primary health care, particularly in poor rural areas, due to problems, noted earlier, in the health system. However, the leading causes of mortality reported in 2010 suggest that males are more vulnerable to health risks. For example, in head injury cases (male 879, female 260), plasmodium falciparum

malaria with cerebral complication (male 636, female 221), tuberculosis (male 551, female 291), and unspecified HIV (male 273, female 121) (Statistical Yearbook 2011).

The WHO’s STEPS chronic disease risk factor surveillance survey in 2009 (WHO 2011) shows that the percentage of men who smoke daily was 33.6%, much higher than 6.1% among women. The fraction of male drinkers (who drank alcohol in the past 30 days) was 31.2% (of whom 24% had taken five or more drinks on any given day). This was much higher than the female rate of 1.5% (of whom 2.94% had taken four or more drinks on any day in the last week).

Legal protections for women remain incomplete

Based on the OECD’s Social Institutions and Gender Index, Myanmar ranked 44th out of 86 countries in 2012, and 6th of 7 ASEAN countries

Figure 4.24: Percentage of Female Teachers

Lao PDR = Lao People's Democratic Republic.

Note: Data are latest available for each economy for 2005–2012.

Source: World Bank, World Development Indicators (accessed May 2014).

Table 4.5: OECD Social Institutions and Gender Index, 2012

| Gender Indicator | CAM | INO | LAO | MYA | PHI | SIN | THA | VIE |
|---|------|------|------|-------------|------|------|------|------|
| Violence against women (0 = specific legislation, 1 = no legislation) ^a | 0.16 | 0.42 | 0.50 | 0.42 | 0.25 | 0.33 | 0.25 | 0.16 |
| Access to land (0 = full, 1 = none) | 0 | 0 | 0.50 | 0.50 | 0.50 | 0 | 0.50 | 0.50 |
| Access to credit (0 = full, 1 = none) | 0.50 | 0.50 | 0.50 | 0.50 | 0.50 | 0 | 0.50 | 0 |

CAM = Cambodia, INO = Indonesia, LAO = Lao People's Democratic Republic, MYA = Myanmar, OECD = Organisation for Economic Co-operation and Development, PHI = Philippines, SIN = Singapore, THA = Thailand, VIE = Viet Nam.

Notes: The OECD Development Centre's Gender, Institutions and Development Database contains comparative data on discriminatory social institutions related to gender inequality. The database includes the 14 variables of the 2012 Social Institutions and Gender Index as well as the overall rankings and scores for the index and its subindices. Data are from 121 countries in all regions of the world.

^a The indicators measure legislative status on law on violence against women, including laws on rape, domestic violence, and sexual harassment.

Source: OECD Development Centre (2014).

(Brunei Darussalam, Malaysia, and Singapore were not included). For comparison, the Lao PDR ranked 49th.

Table 4.5 shows selected gender indicators for sample ASEAN countries. Myanmar's index level for violence against women is 0.42, second only to Lao PDR among the eight ASEAN countries. Legislation dealing with sexual harassment and rape cases is in place, but remains inadequate. Meanwhile, legislation is planned for dealing with domestic violence (Table 4.5). Under the law, women have

equal legal rights to own and buy land, but the reality is that they are restricted in both. Women also have a legal right to access credit, but in practice face discrimination, such as high interest rates.

Reality could be harsher than it seems

Even though available data are limited, it is nevertheless necessary to ensure that gender and equality issues are not merely written off and

assumed to be limited or nonexistent. Myanmar's cultural diversity lends itself to a wide variety of equality and diversity challenges that may not be adequately documented or studied in depth. Discussions with stakeholders in gender issues suggest that in their experience of working in Myanmar, equality challenges do exist. And gender challenges come in many different forms.

Vulnerability exists in differences in distance (rural–urban), income (poor–nonpoor), gender, age, and ethnicity, as well as for people with disabilities. These aspects need to be carefully monitored in the process of development. Often schools and teachers are not equipped to meet the learning needs of children with disabilities, and very few disabled children are mainstreamed into formal education. For example, hospital and health clinic facilities and infrastructure are limited for the disabled, and there are few education facilities for children with disabilities. Where these do exist, they often depend on private contributions to sustain programs (MNPED and UNICEF 2012).

Infrastructure Development

The lack of modern infrastructure is a major challenge for economic development and a major impediment to growth objectives. According to the United Nations Economic and Social Survey of Asia and the Pacific (UNESCAP 2013), the country has one of the largest infrastructure deficits in Asia and the Pacific. Its low ranking is evident in various indicators, including road density; access to electricity, water, and basic sanitation facilities; and number of telephone lines, mobile subscribers, and internet users. The deficit is most evident in rural and remote areas, where even the most basic amenities are wanting.

This immense infrastructure deficiency is the result of decades of underinvestment. Poor maintenance of public infrastructure has compounded the problem. Even in basic infrastructure, Myanmar fares poorly: it was ranked 141 out of 148 countries in the World Economic Forum's *Global Competitiveness Report 2013–2014*. The country needs to step up

efforts in narrowing infrastructure deficits, above all to enhance domestic and regional connectivity, support local businesses and enterprises, increase access to employment opportunities, and provide access to basic social services and economic centers.

Transport

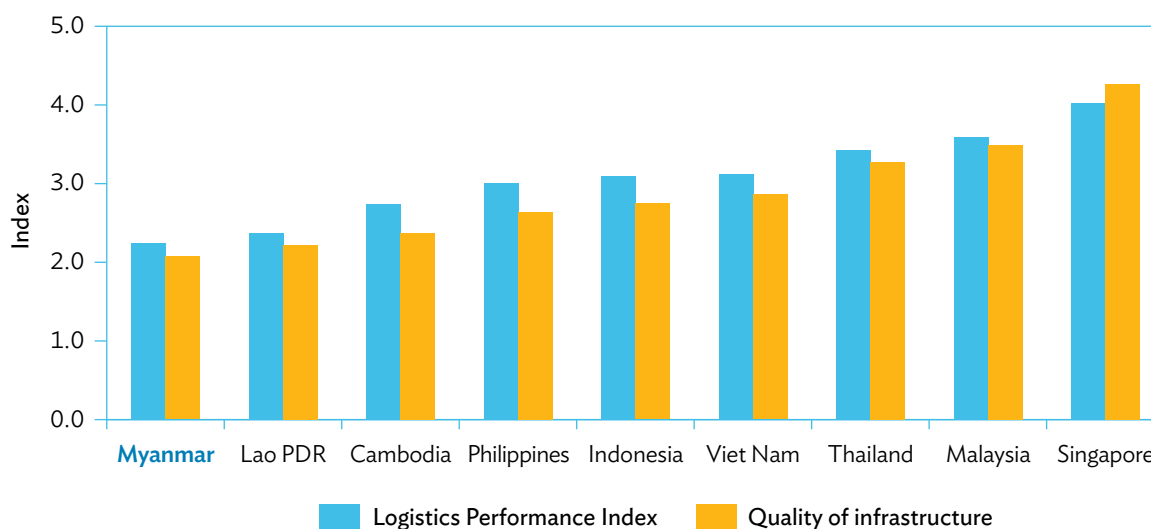
Inadequate transport networks constrain connectivity and limit the country's logistics capabilities

Transport infrastructure is critical to economic and social development. But Myanmar's domestic and international connectivity are inadequate for its logistics requirements for the production of goods and the movement of people, and are constraining its potential to be a hub for trading goods and services between Southeast Asia and South and East Asia (Htun et al. 2011). Transport links to neighboring countries are both limited and substandard. For example, the 201 kilometers (km) of road on the Myanmar side of the ASEAN highway network has yet to be constructed.⁷⁰ Similarly, the status remains uncertain of planned cross-border rail connections in Myanmar linking to the People's Republic of China (PRC), India, and Thailand, as well as the 111 km Thanbyuzayet–Three Pagoda Pass connection linking Singapore to Kunming. In the World Bank's 2014 Logistics Performance Index, Myanmar scored the lowest among Southeast Asian countries in overall logistics performance and quality of trade- and transport-related infrastructure (Figure 4.25).⁷¹

Domestic connectivity also suffers from inadequate transport infrastructure at both the regional and district level, with farm-to-market and rural roads mostly unpaved and inland waterways and railways badly in need of upgrading. Transport network development has been biased in favor of urban

⁷⁰ The ASEAN Highway Network is a flagship infrastructure project that seeks to bridge connectivity gaps across borders in the ASEAN, as espoused in the Master Plan on ASEAN Connectivity.

⁷¹ Quality of infrastructure is a subindex of the Logistics Performance Index. Respondents rated the quality of trade- and transport-related infrastructure, such as ports, railroads, roads, and information technology.

Figure 4.25: Logistics Performance and Quality of Infrastructure, 2014

Lao PDR = Lao People's Democratic Republic.

Source: International Bank for Reconstruction and Development/World Bank (2014).

centers or selected regions. Not surprisingly, a large segment of the rural population finds it difficult to access social services and economic centers, which in turn hampers the delivery of public services in these areas.

Road network. Among ASEAN countries, Myanmar's roads are the most underdeveloped. Although the road network expanded to 148,690 km as of 2012 from 90,713 km in 2004, road density remains among the lowest in the region; only 38.9% of the total road network is paved, with the secondary and local road network in generally poor condition (Table 4.6).

Water transport. Myanmar's ports and inland waterways need upgrading and rehabilitation. For the most part, navigational aids and safety equipment are outdated and need to be modernized. However, there has been some progress in the ports subsector, such as the ongoing construction of deepwater ports in Dawei to develop special economic zones. However, the main coastal ports at Thandwe, Patheingyi, Mawlamyine, Myeik, and Kawthaung are deteriorating. These still use simple, nonmechanized handling facilities. The infrastructure of inland waterways is in much the same condition. As of 2010, 218 river ports serviced a route length of 7,967 km for cargo and passengers to domestic destinations. Again, most river ports have

Table 4.6: Road Density and Paved Roads, 2004–2012

| Year | Road Length (km) | Road Density (km/km ²) | % of Paved Roads |
|------|------------------|------------------------------------|------------------|
| 2004 | 90,713 | 134.1 | 24.4 |
| 2005 | 92,859 | 137.2 | 24.6 |
| 2006 | 104,058 | 153.8 | 23.0 |
| 2007 | 111,737 | 165.2 | 22.1 |
| 2008 | 125,355 | 185.3 | 20.4 |
| 2009 | 127,942 | 189.1 | 20.6 |
| 2010 | 130,050 | 192.2 | 20.9 |
| 2011 | 142,395 | 210.5 | 21.7 |
| 2012 | 148,690 | 219.8 | 38.9 |

km = kilometer, km² = square kilometer

Source: Ministry of Construction, Public Works Department.

only basic infrastructure, such as landing beaches and gangplanks, instead of modern equipment for handling cargo.

Rail transport. The rail network has nearly doubled since 1988, with a total route length of 3,722 km in 2014. This expansion, however, has used a huge portion of government's capital expenditure, leaving meager resources for the maintenance of the core network, leaving it in poor condition. Moreover, related infrastructure, such as locomotives and

rolling stock, signaling, and communications systems, are showing their age. The worsening condition of rail facilities has slowed operating speeds, made rides uncomfortable, and stretched travel times. For example, the journey from Yangon to Nay Pyi Taw takes 9 hours by rail, compared with 5 hours by road. It is hardly surprising that rail passenger traffic has been declining since FY2008 (Figure 4.26).

Air transport. Myanmar’s air transport facilities will be put to the test by the expected increase in traffic from higher tourist and business arrivals. The country has three international airports (Yangon, Mandalay, Nay Pyi Taw) and 30 domestic airports. Twenty-five international airlines and six domestic airlines operate regular flights serving 20 regional destinations. Although the existing transport facilities will be able to service traffic in the short to medium term, air traffic control facilities and air navigational aids will have to be regularly upgraded to meet forecast demand.

The proposed transport master plan will guide overall strategy

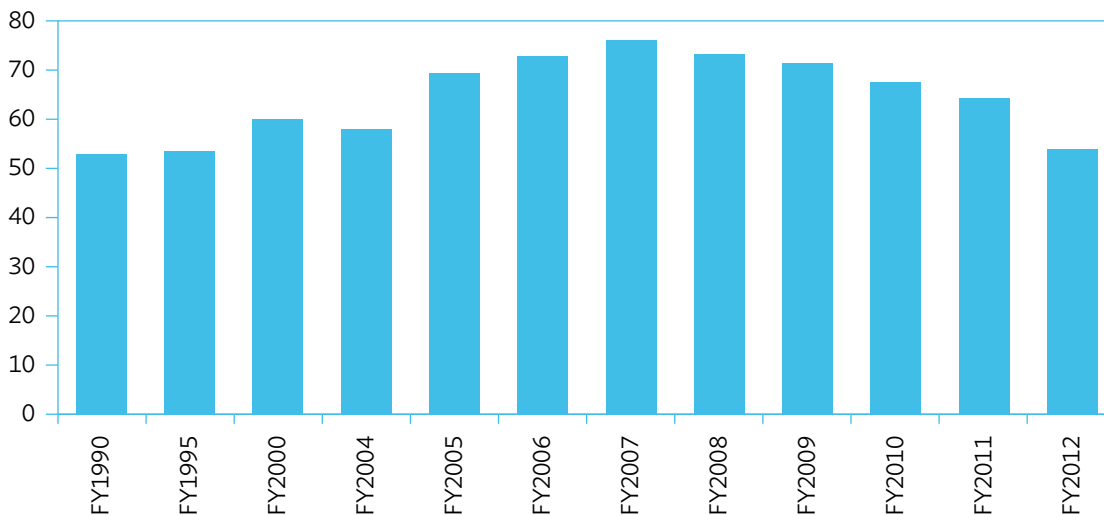
Lacking an overall transport strategy, the country has largely developed its transport networks on

an ad hoc basis. Transport investments have been made without the benefit of review under an overall transport master plan or from feasibility studies to determine whether approved projects are complementary or duplicative. This lack has resulted in projects with precisely the same objectives as those of other projects, thus reducing the intended impact of each. Compounding the problem is that many investments with poor intermodal connectivity have been made due to a lack of coordination across transport subsectors. But the government recognizes the problem and has begun to develop an overall transport sector strategy. The transport master plan was recently proposed to develop an integrated transport system with much stronger intra-governmental cooperation to coordinate transportation development (Box 4.2).

Improving operation and maintenance requires budget increases

The government has to expand the transport budget to provide for the sector’s recurrent expenditures. Although the state transport budget has increased in recent years, it still does not meet the needs of the subsectors providing transport. The lack of an investment planning, programming, and

Figure 4.26: Railway Passenger Traffic (million)



FY = fiscal year.
Source: Myanmar Railways.

Box 4.2: Summary of Proposed Transport Master Plan

With the assistance of the Japan International Cooperation Agency, a master plan is being proposed to establish an integrated and sustainable transport system.

The vision statement in the proposed National Transport Development Plan is “to develop an efficient, modern, safe and environmentally-friendly transportation system in a coordinated and sustainable manner that embraces all transport modes for the benefit of the country and the people of Myanmar.”

In line with this, sector-wide policies take into account five key elements:

- i. **Better planning and coordination.** The plan proposes preparing and updating transport statistics, promoting public participation in the planning process, and building human resource capacity in transport planning and administration. It also focuses on establishing a systematic coordination mechanism among transport-related stakeholders and keeping the private sector informed of future transport plans for better coordination.
- ii. **Infrastructure development.** The plan provides for substantial investment in transport infrastructure. The goals include ensuring an efficient rural and cross-border transport system by developing integrated domestic and international transportation networks, and improving connectivity along development corridors, major transport hubs, and growth centers. The plan also calls for maximizing the use of existing roads, railways, air, maritime, and inland waterways.
- iii. **Better environment, safety, and security.** The plan envisions promoting environmentally friendly, all-weather and safe transport systems; improving traffic safety; improving and enforcing national standards for security and safety; and integrating emergency planning into all transport modes.
- iv. **Institutional and regulatory development.** This entails defining the role of each transport agency; improving and updating regulations to encourage private investments in the sector; defining the role of the private sector in developing, operating, and maintaining transport infrastructure; and implementing international standards in transportation.
- v. **Reasonable transport pricing and secured budgeting.** This component involves following market-oriented mechanisms in providing transport infrastructure and services while guaranteeing that transport remains affordable and securing sufficient annual budgets for continuing sector development.

The proposed plan identifies issues affecting each subsector, and puts forward strategic objectives, strategies, and action plans for each of them. These are summarized below.

- i. **Develop a comprehensive database of roads, railways, and water transport assets,** which requires external support for urgent implementation.
- ii. **Enhance the capacity of institutions to conduct infrastructure planning, administration, and management of subsectors,** which requires establishing a road planning unit in the Public Works Department, enhancing the capacity of the Rail Planning Department and the planning units of the Ministry of Transport, modernizing planning systems using information and communications technology and other advanced technology, and establishing bilateral technical cooperation with transport agencies in advanced countries.
- iii. **Regularly update infrastructure designs to conform to international standards,** which requires reviewing current designs of transport infrastructure, establishing a new road classification system, and seeking the help of international experts.
- iv. **Develop efficient, safe, and cost-effective road, rail, water, and air transport networks,** which will require establishing an asset management system, developing transport networks along key corridors, upgrading roads and railways to conform to Association of Southeast Asian Nations transport agreements, as well as improving connectivity to tourist destinations, economics zones, major dry, sea, and river ports as well as airports.
- v. **Promote environment-friendly technology in the sector** by using energy-efficient vehicles, locomotives, and vessels using renewable energy and developing social and environmental guidelines in each transport subsector.
- vi. **Promote private sector participation in developing and managing infrastructure** by establishing a fair and accountable business environment to facilitate public-private partnerships and logistics development, and by improving port procedures to encourage logistics development by the private sector.
- vii. **Establish effective institutional framework** by establishing a clear line between the central government and region/state governments, including decentralizing the role of the Public Works Department, separating the service provision functions particularly in airport and air navigation services from the Department of Civil Aviation, and strengthening its regulatory functions.

continued on next page

Box 4.2 (continued)

- viii. **Secure sustainable funding for the sector** by exploring possible sources of financing, such as imposing fuel and development levies, user fees, and revisions to tariff structures.
- ix. **Improve Myanmar Railway's business performance** through market-responsive services and improving nonrail businesses such as use of land and other assets, and real estate related business.
- x. **Enhance the cargo-handling capacity of ports and inland hub ports to provide efficient but affordable port services**, which requires improving the terminal in Yangon, developing a deep seaport to join the major ocean liner networks, and mechanizing cargo-handling processes.
- xi. **Increase the share of the freight market**, particularly bulk commodities by promoting the use of new and more efficient private and government-owned vessels.
- xii. **Develop a safe and efficient airport system** by completing Yangon International Airport and Hanthawaddy International Airport, and encouraging their use by airlines; developing a nationwide airport system to cope with increasing air traffic by formulating a civil aviation sector master plan and airport development plans; and identifying and developing airports for international air services.
- xiii. **Upgrade transport facilities**, including the establishment of roadside service areas, and maritime, inland water, and air transport navigation and communications facilities.

To help identify valuable transport projects, a corridor-based transport infrastructure development approach is proposed. This entails analyzing the socioeconomic framework, transport demand, and the passenger and cargo traffic capacity of key transport corridors, of which 10 have been identified. Of these, four priority corridors have been selected based on the following criteria: connectivity to growth centers, contribution to regional economies, traffic demand, and investment efficiency. The four are the Central North-South Corridor (Yangon–Nay Pyi Taw–Mandalay), the East-West Corridor (Yangon–Hpa An–Myawaddy), the Northern Corridor (Mandalay–Muse), and the Western North-South Corridor (Yangon–Pyay–Magway).

Source: Japan International Cooperation Agency (2014).

budgeting system further aggravates the constraints on the transport budget, as this leaves insufficient resources for operations and maintenance of transport infrastructure. While tariffs are being levied for publicly provided transport services, these barely cover operation and maintenance requirements. Failure to provide a sufficient transport budget, especially for operation and maintenance, will continue to compromise the sustainability of these capital investments and the realization of the economic benefits.

Electricity

Shortage of electricity supply adversely affects growth potential and the quality of life

Myanmar's electricity consumption increased sharply from 2000 (3.5 terawatt-hours) to 2013 (10.1 terawatt-hours), but its per capita electricity consumption is still one of the lowest in the region (Figure 4.27). About 70% of the population still has no access to grid electricity, and even Yangon and other major cities continue to experience

power outages that limit the expansion of economic activity.

More importantly, the current capacity of electricity generating plants is insufficient to meet growing domestic demand. The peak load of demand has been increasing over the past several years (Figure 4.28), reaching 2,001 megawatts in 2013. Because demand for power exceeds available capacity, this has resulted in frequent load shedding, especially during the morning peak.

Myanmar has abundant energy resources, including renewable alternatives. Although hydropower is the main source of electricity generation, followed by natural gas and coal (Figure 4.29), its huge potential has not yet been fully exploited due to considerations of environmental impact, resettlement, issues related to ethnic groups, seasonal variations, and large capital requirements.

During the dry season, hydropower plants cannot operate at maximum capacity, causing substantial load shedding in the power grid. Gas- and coal-fired plants also operate significantly below potential capacity due to limited

resources for upgrading and maintenance and because of high fuel costs. Compounding these difficulties are high system losses from outmoded transmission and distribution infrastructure (Table 4.7).

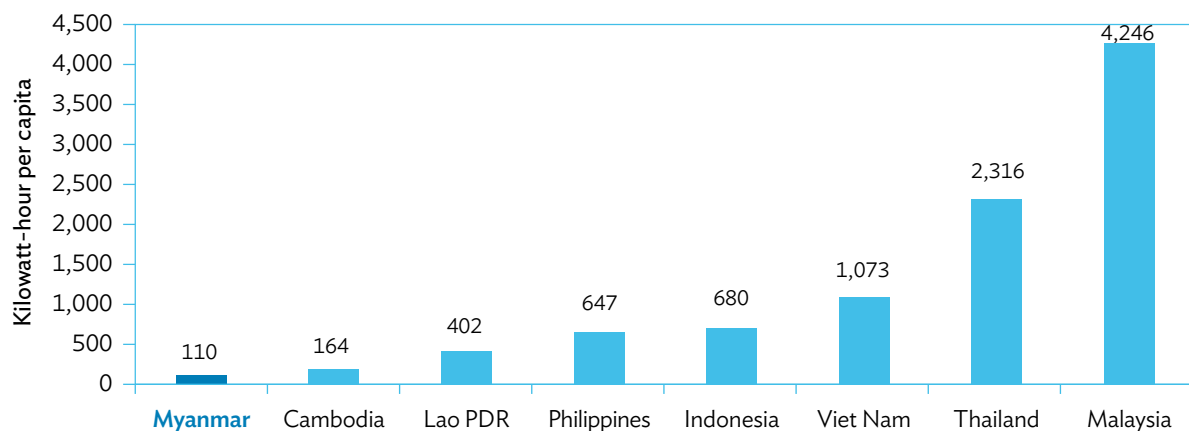
Limited access to electricity hinders inclusive growth

The number of electrified towns and villages in Myanmar has increased slightly in recent years, but overall electrification remains low, at 31% of

households in 2013. Rural electrification rates are a concern, especially in the states of Tanintharyi and Kayin, where electrification rates are below 10% (Figure 4.30). Even in areas with access to power, supply is intermittent; wealthier districts get an average of 6 hours of power per day as compared to 1 hour for poorer districts (World Economic Forum, Asian Development Bank, and Accenture 2013).

An increase in electrification rates will not immediately drive industrial development, but it could spur the growth of micro-, small, and medium-sized enterprises or home businesses, especially

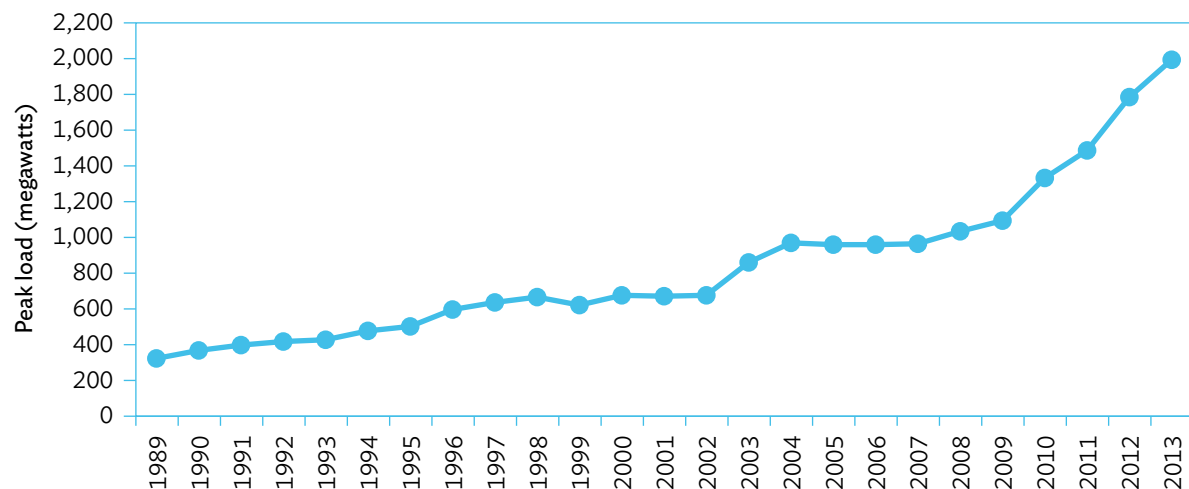
Figure 4.27: Electricity Use per Capita in Selected ASEAN Countries, 2011



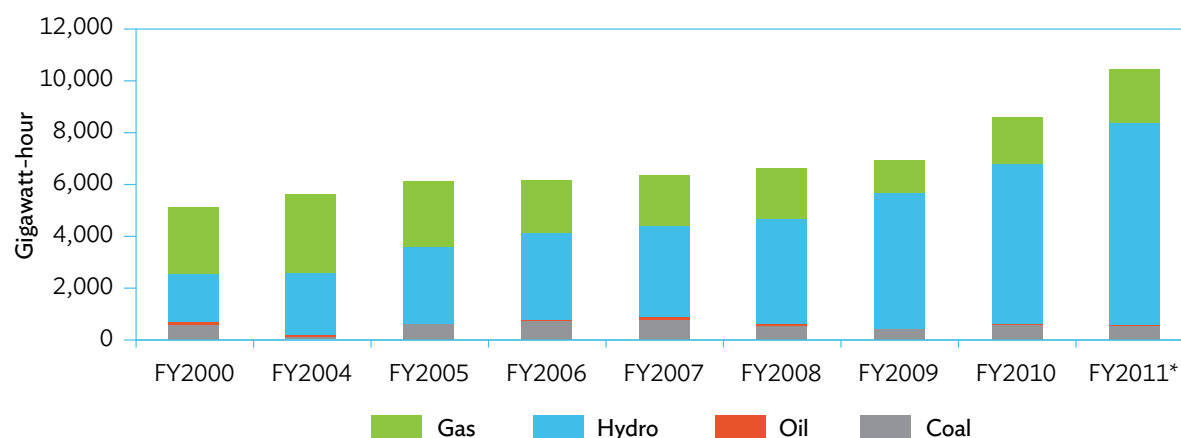
ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.

Source: World Bank, World Development Indicators except for the Lao PDR, which is for 2012 and taken from Greater Mekong Subregion Core Environment Program, Statistics for Lao PDR, accessed July 2014.

Figure 4.28: Peak Load, 1989–2013



Sources: Asian Development Bank (ADB) staff estimates and ADB (2012b).

Figure 4.29: Electricity Generation by Fuel Type


FY = fiscal year.

Note: The years are the equivalent of the fiscal year from April to March, such that, 2000–2001 is FY2000 and 2011–2012 is FY2011; 2011–2012 is estimated using data from Asian Development Bank (2012b) and Aye (2013).

Source: Central Statistical Organization (2012).

Table 4.7: Transmission and Distribution Losses

| Year | Net Transmitted Energy (GWh) | Net Received Energy Distribution Side (GWh) | Energy Losses (GWh) | Transmission Losses (%) | Distribution Losses (%) |
|------|------------------------------|---|---------------------|-------------------------|-------------------------|
| 2013 | 11,386 | 10,853 | 533 | 4.68 | 12.5 |
| 2012 | 10,567 | 9,820 | 747 | 7.07 | 16.7 |
| 2011 | 9,812 | 9,041 | 771 | 7.86 | 19.2 |
| 2010 | 7,614 | 7,042 | 573 | 7.52 | 19.6 |
| 2009 | 6,665 | 6,167 | 499 | 7.48 | 19.4 |
| 2008 | 6,281 | 5,921 | 361 | 5.74 | 22.3 |
| 2007 | 6,007 | 5,588 | 419 | 6.93 | 21.6 |

GWh = gigawatt-hour.

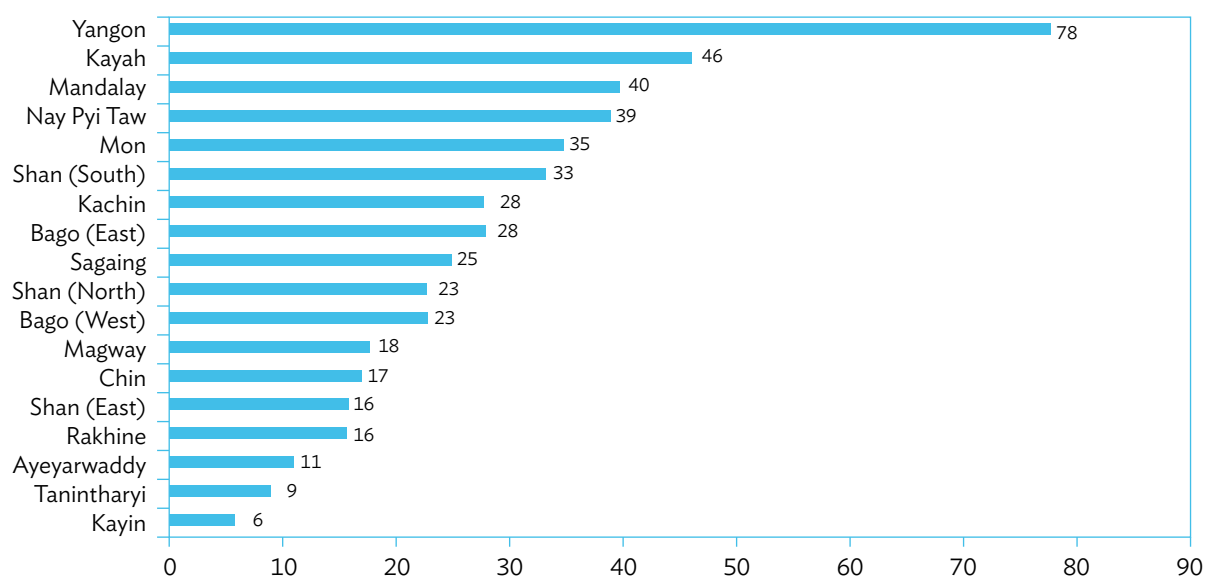
Sources: For 2012–2013: Ministry of Electric Power; Asian Development Bank (2012b, 2013d).

in rural areas. It would also improve the quality of life and access to information. For example, lighting alone brings benefits like increased daily activity time and improved study environment for school children.

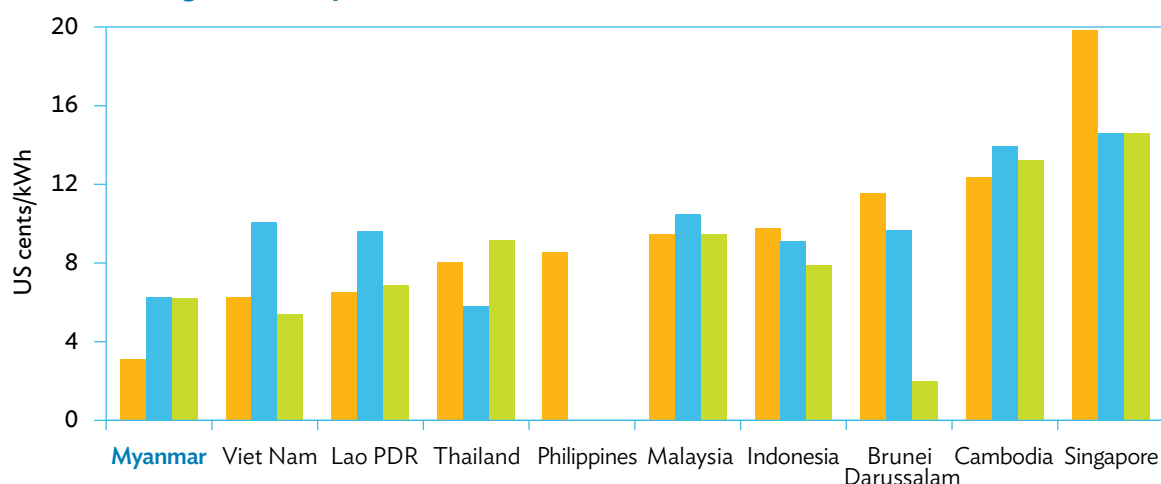
Electricity prices are affordable but not sustainable

Based on 2011 data, Myanmar's electricity tariffs are one of the lowest in Southeast Asia, making electricity especially affordable to residential and commercial end-users (Figure 4.31). The government has implemented tariff hikes, most recently in April 2014. The current household electricity rate is MK35–MK50 per kilowatt-hour (kWh) (4 to 5 US cents/kWh) while industrial users pay

MK75–MK150 per kWh. For off-grid consumers, tariffs vary depending on the cost of generation by type of power plant, with tariffs ranging from MK100 to MK300 per kWh. The very low price of electricity does not reflect the true cost of generation and distribution. Including transmission costs, it is estimated that the cost per kilowatt should be at least MK125 per kWh (Song 2013). The government spends around MK185 billion (\$190 million) annually to cover the shortfall in generation and distribution costs, with the subsidy used to sustain the continuous operation of power plants. However, this is not only an added strain on government fiscal capacity, but also discourages private power producers from investing and expanding operations, knowing that the present tariff structure will not generate sufficient profit.

Figure 4.30: Electrification Rates, 2013 (%)


Source: Ministry of Electric Power.

Figure 4.31: Average Electricity Tariffs in ASEAN Countries


| | Myanmar | Viet Nam | Lao PDR | Thailand | Philippines | Malaysia | Indonesia | Brunei Darussalam | Cambodia | Singapore |
|-------------|---------|----------|---------|----------|-------------|----------|-----------|-------------------|----------|-----------|
| Residential | 3.09 | 6.04 | 6.465 | 7.94 | 8.585 | 9.36 | 9.67 | 11.465 | 12.195 | 19.76 |
| Commercial | 6.17 | 9.935 | 9.58 | 5.65 | ... | 10.385 | 9.06 | 9.555 | 13.78 | 14.5 |
| Industrial | 6.17 | 5.31 | 6.785 | 9.05 | ... | 9.355 | 7.76 | 1.91 | 13.17 | 14.5 |

... = data not available, ASEAN = Association of Southeast Asian Nations, Lao PDR = Lao People's Democratic Republic.

Note: Average electricity tariffs were computed for each sector.

Source: Poch and Tuy (2012).

Low tariff rates, however, do not necessarily allow for easy access to electricity. Private households applying for electricity connection face long waiting times and a connection fee of MK100,000 (excluding the cost of internal wiring and related materials and service charge), which is high for most of the population outside urban areas.

Myanmar urgently needs to reform its tariff structure

A reliable and affordable supply of power is critical for the production of goods and for most services. As such, Myanmar must give policy priority to formulating a comprehensive, least-cost power expansion plan that optimizes the use

of available endowments and upgrades power-supply infrastructure to reduce high transmission and distribution losses. To secure the adequate electricity supply, the country must develop a more diverse energy mix and introduce off-grid, mini- and micro-renewable energy systems to provide electricity in rural areas.

Given the problems with the current tariff structure, Myanmar should review and adjust its tariff structure and subsidy schemes to pass the true cost of electricity on to consumers, allowing cost recovery (with targeted assistance to the poor). To start with, the government could consider increasing electricity tariffs for industrial users and households with high electricity consumption, while maintaining “lifeline rates” for the poor. This would enable the government to make additional investments to expand power production, increase overall access to electricity, and attract private investments in the power sector.

Information and Communication Technology

ICT sector development requires updating of legal and institutional framework

ICT sector has not kept up with the times. The country lags far behind the rest of Southeast Asia, with the lowest internet, mobile, and telephone usage rates. ICT infrastructure is weak and the industry is in its infancy. But developing ICT, despite high up-front costs, could raise productivity and deliver public and private services more efficiently. This can also give Myanmar a chance to leapfrog the intermediate stages of development, providing abundant opportunities for innovation and growth.

Right now, telecommunication services are beyond the reach of the average person in Myanmar, making access rates to ICT services extremely low. ICT industry growth has been weak, despite

a rising population and an increasing need for domestic and international connectivity. The 2012 World Development Indicators show that only 1% of the population had access to fixed lines. Mobile subscription rates at 11%, although rising, are low by regional comparison. Internet access is only at 1% of the population. And telecommunications infrastructure development has favored urban areas even though about 70% of the population lives in rural areas. Still, mobile subscription rates are gradually rising in rural and remote areas on the back of government efforts to improve connectivity.

To meet ICT sector requirements, Myanmar needs to update its legal and institutional frameworks for ICT. Of immediate concern is the need for an independent ICT regulator as the sector liberalizes. The development of ICT knowledge and skills is also of immediate concern since demand for qualified ICT graduates will increase as the economy expands. That said, university and private training for computer skills is rising and producing ICT graduates and technicians.

Cross-Cutting Policy Issues across Infrastructure Subsectors

Although Myanmar’s infrastructure subsectors each face unique issues, some solutions are common to transport, electricity, and ICT. The first is the need to develop an integrated overall approach to sector planning. Sector master plans should be well-coordinated and prepared with explicit linkage of infrastructure plans to development objectives. The second is the need to bolster government human resources to allow prioritization of key development projects based on high-quality economic assessments. Finally, private sector participation is important to improve infrastructure-related services.

Funding requirements for infrastructure are substantial

Myanmar's potentially high growth trajectory will likely bring increased demand for infrastructure services, both for consumer and commercial uses. For this purpose, estimates have been made of demand and investment requirements for road transport, railways, power, and ICT for 2014–2030. The demand gap is measured as the difference between the projected infrastructure stock level and the current stock levels of infrastructure. For transport and ICT, an econometric baseline model is used to project stock levels of infrastructure under two growth scenarios—low (5% GDP growth rate) and high (10%).⁷² For the power sector, projections of installed capacity up to 2030 are based on ADB estimates in collaboration with the Ministry of Electric Power in Myanmar.⁷³

Investment gaps for infrastructure could total as much as \$80 billion by 2030 (Table 4.8). Under the high-growth scenario, the demand for power or electricity is expected to reach 19.2 gigawatts

by 2030, a volume that would require a total of \$19.7 billion–\$29.6 billion in investments. For the transport sector, increasing the total road network to 47,639 km would require \$12.7 billion–\$18.9 billion in investment, and to upgrade and maintain the existing railway stock, the total investment requirement would be \$1.7 billion–\$2.5 billion. For the ICT sector, \$1.4 billion–\$2.7 billion would be needed to increase fixed telephone lines to 9.7 million lines, while \$11.7 billion–\$22.0 billion would be needed to increase the number of mobile subscribers to 41 million. Increasing internet usage to 11.7 million users would entail investments of \$2.4 billion–\$4.5 billion in related infrastructure.

Fiscal constraints bind across all the infrastructure subsectors

Meeting these huge financing requirements is one of the biggest challenges Myanmar faces. While infrastructure assets have been deteriorating, the country's limited fiscal resources restrict the ability to allocate adequate operations and maintenance budgets for these assets. The government's tariff-setting policy, likewise, undermines the sustainability of infrastructure investments. Though current subsidies make services affordable and address to some extent equity considerations, they are an additional burden on the government's limited fiscal resources.

Private sector participation needs to be promoted given fiscal constraints

The shortage of public funding resources means that private sector participation should be encouraged to provide infrastructure services. Similarly, since domestic resources are unlikely to meet all funding needs, some innovative financing mechanisms should be considered to attract foreign investment.

However, private sector participation in infrastructure projects is still in its infancy. To encourage more participation, it is important

⁷² The baseline econometric model is as follows:

$$I_t^j = \alpha_1 I_{t-1}^j + \alpha_2 Y_t + \alpha_3 A_t + \alpha_4 M_t + \alpha_5 U_t + \alpha_6 P_t + \varepsilon_t$$

where

I_t^j is the natural logarithm of demand for infrastructure stock of type j in Myanmar at time t ,

Y is the natural logarithm of real GDP per capita,

A is the natural logarithm of the share of agriculture value added in GDP,

M is the natural logarithm of the share of manufacturing value added in GDP,

U is the natural logarithm of urbanization,

P is the natural logarithm of population density, and

ε_t is the error term.

The variables used are kilometers of paved roads and rail (for transport), and the number of fixed telephone lines, mobile subscriptions, and internet users (for ICT), all in per capita terms. The data were organized with yearly observations for the period 1981 to 2010 from a number of databases, including United Nations Statistics Division, World Development Indicators of the World Bank, ADB Statistical Database System, and those provided by various government agencies in Myanmar such as the Ministry of Construction and Myanmar Railways. Using these historical data, the coefficient estimates of this model can be derived and used to project the future demand for physical infrastructure stock each year during the period 2014–2030.

⁷³ The projected levels of installed capacity are calibrated from power generation; its projections are based on GDP, population, urbanization, and crude oil prices, which represent the low-growth scenario averaging an annual installed capacity growth rate of 12%. The high-growth scenario has an average annual installed capacity growth rate of 13%.

Table 4.8: Investment Gaps from New Capacity and Replacement Needs in Myanmar, 2014–2030 (\$ billion)

| | Using Low Unit Cost | | Using High Unit Cost | |
|---|---------------------|----------------|----------------------|----------------|
| | 2014–2030 | Annual Average | 2014–2030 | Annual Average |
| Low growth scenario¹ | | | | |
| Power | 15.2 | 0.9 | 22.7 | 1.3 |
| Roads | 9.4 | 0.6 | 14.0 | 0.8 |
| Railway | 2.0 | 0.1 | 2.9 | 0.2 |
| Fixed Telephone | 0.3 | 0.0 | 0.6 | 0.0 |
| Mobile | 9.8 | 0.6 | 18.5 | 1.1 |
| Internet | 2.4 | 0.1 | 3.1 | 0.2 |
| TOTAL | 39.1 | 2.3 | 61.8 | 3.6 |
| High growth scenario² | | | | |
| Power | 19.7 | 1.2 | 29.6 | 1.7 |
| Roads | 12.7 | 0.7 | 18.9 | 1.1 |
| Railway | 1.7 | 0.1 | 2.5 | 0.1 |
| Fixed Telephone | 1.4 | 0.1 | 2.7 | 0.2 |
| Mobile | 11.7 | 0.7 | 22.0 | 1.3 |
| Internet | 2.4 | 0.1 | 4.5 | 0.3 |
| TOTAL | 49.7 | 2.9 | 80.2 | 4.7 |

¹ Low growth scenario refers to GDP growth rate of 5% for transport and ICT sectors, and 12% average growth rate for installed capacity for the power sector.

² High growth scenario refers to GDP growth rate of 10% for transport and ICT sectors, and 13% average growth rate for installed capacity for the power sector.

Source: ADB staff calculations.

to first establish the enabling policies and regulatory frameworks for the provision of “public service.” Such policies and the regulatory environment must be sufficiently accommodative of private participation (domestic or foreign) and the institutions that manage these sectors should be competent and efficient.

Ultimately, the effective development and management of any sector depends on whether a ministry or institution has the mandate to govern all issues related to the sector. This is because when the institutional structure of a sector is fragmented and complex, roles and responsibilities usually overlap and coordination can become a problem.

CHAPTER 5: SOCIAL INCLUSION, REGIONAL INTEGRATION, AND ENVIRONMENTAL SUSTAINABILITY

Myanmar faces enormous challenges in creating broad-based, inclusive, and sustainable growth. Poverty remains high and access to economic opportunities and social services unequal across regions. Decades of economic and political isolation have left the country ill-equipped to leverage its geographic advantages and the dynamic economies of its neighbors, and the current pattern of growth is heavily reliant on natural resources, straining the environment. Rapid economic growth is in little doubt in the coming decade, but to sustain it in the medium to longer term, the government has to meet three cross-cutting challenges—social inclusion and regionally balanced development, regional integration and connectivity, and environmental sustainability.

Social Inclusion and Regionally Balanced Development

The severe imbalance in income distribution and social development across different regions and ethnic groups is a major weakness that needs to be urgently addressed. Most of the majority ethnic “Bamar,” or “Burman,” live in the river valleys and coastal regions, while the major indigenous minorities, such as the Shan, Kachin, and Chin, live in the upland interior and border regions. Measures of income and nonincome poverty show sharp divisions along these lines of geography and ethnicity. Poverty in the western state of Chin, bordering Bangladesh and Assam, for example, is nearly three times higher than the national average of 25%. By contrast, poverty is below 18% in most of the ethnic Burman areas in the dry zone and delta

regions. A special effort is needed beyond short-term and purely economic reasoning to allocate more resources to the poorer areas.

Building national unity is crucial for peace and stability

Building a nation-state out of Myanmar’s diversity means creating harmony among multiple ethnic groups, cultures, and religions. Although the constitutional issue of whether the country is to be a unitary or federal state is beyond the scope of this study, all ethnic groups should adhere to the spirit of the landmark 1947 Panglong Agreement between the majority population and the various minorities, which laid the foundation for an independent and united Myanmar.⁷⁴

The present administrative system—of seven states, seven regions, five self-administered zones, a self-administered division, and a union territory—reflects the complexity of the ethnic divisions. While the Bamar mostly occupy the regions, the ethnic minorities dominate the states, zones, and administrative divisions. But there is a significant risk of exclusion of ethnic groups that do not belong to the current administrative division. This risk, or inability to exercise a degree of autonomy, threatens social stability. An increasing number of

⁷⁴ On the verge of independence from British rule, the majority Bamar and many non-Bamar minorities reached an agreement for the newly independent federal state at the Panglong Conference, as stipulated in the new constitution of 1948. In exchange for joining the majority in a federal union, the Chin, Kachin, Shan, and other non-Bamar groups were promised the right to exercise administrative, judicial, and legislative powers in their own autonomous national states and to preserve and protect their languages, cultures, and religions.

ethnic groups could also demand separate states as growing democracy releases pent-up demand for independence.

Economic, social, and political exclusion could fan ethnic tensions, even to the point of large-scale civil unrest, and reverse recent hard-earned gains. A negotiated, peaceful resolution of conflicting interests among all ethnic and social groups is imperative, as is a balance between the aspirations of local communities and the goals of a unified nation. Only with all sides agreeing to a workable resolution can Myanmar continue the reform process with a true sense of participation and ownership by all the country's people.

The challenge here is over the next few decades to build a sustained path of economic development within a more open and democratic political system. If broad agreement can be reached on a general development strategy, the legitimacy and sense of public ownership will be of incalculable value far into the future. A real danger exists, nonetheless, that discordant special interests will divide the legislature into competing factions, each of trying to co-opt or frustrate the executive in implementing reforms. Securing the “autonomy of the state” under these circumstances is essential and calls for strong powers of leadership and a willingness to compromise among all parties and segments of civil society and the military.

In this context, consultation and participation with diverse stakeholders are vital for inclusive and sustainable growth. While many are part of development discussions with the government, including the private sector and development partners, civil society is still not fully involved. Fully integrating the elements of civil society—local communities, farmers' associations, labor unions, religious organizations, women's groups, research institutes, ethnic groups, and nongovernment organizations, among others—into all planning processes will allow the government to design better solutions to development needs, give its approaches stronger local ownership, and help create more sustainable development (Box 5.1).

Pervasive poverty and regional disparities threaten successful reform

Despite progress in poverty reduction, poverty incidence remains high, with one in every four citizens poor. Although countries use different methods to calculate poverty rates, Myanmar's is certainly higher than in most Asian countries, including Cambodia at 21%, Viet Nam (21%), and the People's Republic of China (PRC) (10%). And in comparison with neighboring countries, the pace of poverty reduction was slower over past decades, likely due to slower economic growth.

The concentration of poverty is linked to geography; the poverty headcount rate is 29% for rural areas, where 84% of the poor live, and 16% for urban areas. Across states, there are significant disparities in poverty headcount rates. For example, the western state of Chin, near the borders with Bangladesh and India, has poverty incidence of 73%. This is in stark contrast to 11% in Kayah, an eastern state near northern Thailand, which has the lowest poverty incidence. High poverty rates also prevail in the coastal states of Ayeyarwaddy and Rakhine, and Tanintharyi region, as well as the landlocked states of Shan and Kachin; about one-third of the population of these states is poor.

However, income inequality in Myanmar is surprisingly low for the region. In 2010, the Gini coefficient of per capita household consumption expenditure, which increases with higher inequality, was 21. It was above 35 in Viet Nam, the Lao People's Democratic Republic (Lao PDR), and Cambodia, and over 40 in the PRC, Malaysia, the Philippines, and Thailand. Myanmar's income inequality is mostly accounted for by within-group inequality. In comparison to other Asian countries, inequality is low across different areas and groups, such as between urban and rural areas, states, education and occupation groups, sectors of employment, and across religious groups. Inequality across states, though significant, is lower than in other Asian countries. The Gini coefficient of state-level mean per capita household

Box 5.1: Engaging Civil Society in Development Planning

In January 2013, the Government of Myanmar adopted the Nay Pyi Taw Accord for Effective Development Cooperation to ensure effective cooperation between it and its development partners.^a The accord, a set of government commitments to development, outlines specific actions. The first commitment is to deepen consultation; that is, to engage strategically with civil society in participatory approaches, including providing greater voice to women, minorities, and marginalized people. Under the accord, the government committed to creating an enabling environment to allow civil society to contribute more fully to policy formulation, budgetary processes, and delivery of services at the grassroots level, as well as to consider the views of development partners on development priorities and plans. This single initiative could result in significant returns and reduce risks across a spectrum of issues, including many addressed in this report, such as good governance and environmental sustainability.

The government has committed to adopting—as a priority—a people-centered approach to development planning in line with the Framework for Economic and Social Reforms (see Box 1.1). At the first Myanmar Development Cooperation Forum in January 2013, President Thein Sein, in his opening address, stressed the importance of having a government that pays attention to the interests, expectations, and wishes of the people.^b Civil society is holding the government accountable to this goal. At the 2014 Association of Southeast Asian Nations People’s Forum in Myanmar, participants declared in their statement that: “Despite its progress, Myanmar still must overcome its overdue deficit in meeting the needs of the people. For peace-building efforts, all peoples must be included in the process, including women. The furthering of democratization in Myanmar will require full, transparent, and participatory reform to reinstate all fundamental rights and freedoms.”^c

Inputs from civil society during project design will provide the government with new perspectives, local knowledge, and a better understanding of the context of the development needs it seeks to address. In particular, the government must, as it has promised, reach out to those whose voices are often overlooked: women, indigenous people, the disabled, ethnic minorities, and youth, among others. And their inputs will help ensure that projects meet their needs. For example, among the poorest in Myanmar, school attendance at the secondary school level is extremely low. Consultations with local communities could help identify specific access issues faced by students in those communities, and educational reforms could then address access issues on a region-specific basis to boost attendance rates. Likewise, more consultation at the local level would allow the government to better tailor its efforts to address development issues related to the country’s geographical challenges. Similarly, tapping local knowledge could improve environmental impact assessments and projects affecting indigenous people and other vulnerable groups, particularly during the planning stages.

Consultation and dialogue are key as Myanmar moves toward resolution of ethnic and religious conflicts. Without resolutions, these conflicts present grave risks to the country’s development. By adopting transparent and rights-based policies and engaging all stakeholders in dialogue, the government can hear different solutions, understand different perspectives, and design lasting solutions to long-standing challenges.

See ^a <http://www.president-office.gov.mm/en/?q=briefing-room/announcements/2013/01/29/id-1493>

See ^b <http://www.burmalibrary.org/docs14/NLM2013-01-20-red-op.pdf>

See ^c <http://aseanpeople.org/official-statement/>

Source: Contributed by Asian Development Bank staff member Elaine Thomas based on ASEAN Civil Society Conference/ASEAN Peoples’ Forum (2014); President Office (2013); The New Light of Myanmar (2011).

consumption expenditure is 6.8 in Myanmar, compared with 23 in the PRC and even higher in India and the Philippines.

Access to basic services is starkly unequal

Access to basic social services varies significantly across states and between rural and urban

areas. Take access to safe drinking water: from 2005–2010, overall access increased from 63% to 69%, in line with Asian nations of similar income levels. Even so, only 65% of rural residents had access to safe drinking water, compared with 81% of the urban population—a clear indication that urban areas benefit more from access to basic services. Similarly, the poor in Myanmar continue to benefit less from such access than do the rich.

Development strategies need to be anchored on inclusive growth

Inclusive growth ensures that everyone in society can participate equitably in and benefit from development. A sophisticated analysis of inclusive growth draws a distinction between inequality in opportunity arising from differences in circumstances outside the control of individuals—such as inequality from religious, ethnic origin, gender, parental education, or location differences—and inequality arising from differences in individual effort. Approaches to inclusive growth should therefore focus on reducing inequality in opportunity to reduce poverty and income inequality. In this sense, inclusive growth is a pattern of growth that is coupled with greater equality of opportunity.

A development strategy anchored on inclusive growth requires the three following main policy pillars:

- i. keeping economic growth high and sustained to create economic opportunities, especially quality jobs;
- ii. promoting social inclusion to ensure equal access to opportunity, which in turn requires adequate investment in education, health, and basic social services to enhance human capacity, especially for the disadvantaged: this requires the elimination of market and institutional failures and social exclusion to promote a level-playing field and broaden access to productive assets such as infrastructure, credit, and land; and
- iii. installing social safety nets to enable households to mitigate transitory livelihood shocks caused by, for example, natural disasters and economic downturns initially and then broadening them to protect vulnerable groups more generally and more consistently.

The government needs to consider these strategies for the National Comprehensive Development

Plan—a set of four 5-year plans covering fiscal year (FY) 2011–FY2030 which is currently under preparation. Recent positive developments in the domestic and external environments give Myanmar an excellent opportunity to implement policy and institutional reforms for higher and more inclusive growth.

To secure inclusive growth, justice and equity across different ethnic groups need to be ensured

The state must ensure justice and equity between the different ethnic groups and corresponding geographical regions in the country, especially for “inclusiveness” objectives in the development strategy. Failure to do so in the past, as noted, bred hostility and conflict. The previous military regime excluded many ethnic groups from powerful positions in the government and broader society, limiting professional and social mobility.

Restoring justice will involve introducing policies that address inequity associated with ethnic and social status. It is also important to attract broad-based talent into government administration and create a career path for an elite cadre of officials irrespective of ethnic, religious, and cultural background. Affirmative action is a useful policy instrument, as it can strengthen the position of minorities. Poorly managed, however, it could also create new injustices and worsen ethnic tensions.

Decentralization is critical for regionally balanced growth

Balancing regional development is crucial to provide ethnic minority groups with better economic opportunities and greater access to public services. Many of these groups live in border areas where ethnic insurgencies are harming their socioeconomic development. Such insurgencies are also detrimental to the development of border trade, hindering economic integration with neighboring countries. Developing these local communities is important for maximizing Myanmar’s geostrategic

potential and improving relations with neighboring countries. Better economic opportunities will also help stop opium growing and drug smuggling, as well as the illegal trade of minerals and forestry products in border areas.

The government is promoting the creation of national and regional growth centers and development corridors, with a particular emphasis on connecting these centers to each other for regionally balanced development. Ongoing plans include using Yangon and Mandalay as “twin growth poles” and connecting various secondary growth centers to them, although there is still uncertainty about which areas will be designated as growth centers. For example, the Ministry of Construction has a preliminary plan identifying eight growth areas; and the Ministry of National Planning and Economic Development, meanwhile, has identified three cities—Yangon, Mandalay, and Taunggyi (the state capital of Shan State)—for growth centers, with the possibility of adding more (Ministry of Land, Infrastructure, Transport and Tourism, Japan). Strategic spatial planning will be essential to fully exploit the advantages of such growth centers.

Although the government has identified “decentralization” as a priority reform area to spur regionally balanced economic development, in the Framework for Economic and Social Reforms, much needs to be done before decentralization can make substantial progress. Laws and regulations related to decentralization are incomplete, and the eventual relationship between central and regional governments and the division of their responsibilities is still unclear. This underscores the need for a more comprehensive policy on decentralization. Ongoing efforts to promote decentralization made an encouraging start with the establishment of new state and regional governments, but further reforms are needed to facilitate decentralization. One priority will be to align the new political structures with administrative and fiscal autonomy. Furthermore, it is important to strengthen efforts to address subnational governance issues and build subnational governance capacity so that decentralization does not lead to inefficiency or poor governance.

Regional Integration and Connectivity

Myanmar can serve as a land bridge between Southeast and South Asia, and between Southeast Asia and the PRC. Regional cooperation and integration provides a great opportunity to secure access to regional and global markets, technology, as well as finance and management expertise. It can promote foreign direct investment, which will help the country link up with regional and global supply networks, expand employment opportunities, and address social and environmental concerns through cooperation with neighboring countries (Asian Development Bank [ADB] 2012c).

Myanmar can leverage regional economic integration initiatives

The country participates in several regional and subregional economic cooperation initiatives, including Association of Southeast Asian Nations (ASEAN), of which it has been a member since 1997; the Greater Mekong Subregion program;⁷⁵ and the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation.⁷⁶ Myanmar views its involvement in these regional and subregional initiatives as a means to accelerate growth and reduce poverty, especially in its border areas. And the government recognizes the benefits that will accrue from further cooperation and integration and is committed to making progress in meeting the requirements for the establishment of the ASEAN Economic Community (Box 5.2). Signed at an ASEAN leaders summit in 2007, the ASEAN Economic Community Blueprint lays the foundation for realizing the 10-member grouping’s goal of an integrated economic region by 2015. Given past regional experience, low-income countries such

⁷⁵ The six member countries of the Greater Mekong Subregion program are Cambodia, the Lao PDR, Myanmar, Thailand, Viet Nam, and the PRC through Yunnan Province and the Guangxi Zhuang Autonomous Region.

⁷⁶ The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation includes two ASEAN member countries and five member countries of the South Asian Association for Regional Cooperation: Bangladesh, Bhutan, India, Myanmar, Nepal, Sri Lanka, and Thailand.

Box 5.2: Implementing the ASEAN Economic Community Roadmap

Under the Association of Southeast Asian Nations (ASEAN) Economic Community (AEC) Blueprint, Myanmar is expected to achieve most of its commitments by 2018 and to implement all undertakings by 2020, the original end-date for the AEC. ASEAN's official scorecard for commitments met in 2008–2011 contains only limited information on implementation rates by country, but it is believed that Myanmar has not lagged behind Cambodia, the Lao People's Democratic Republic (Lao PDR), and Viet Nam, as Table B5.2.1 shows.

Table B5.2.1: AEC Scorecard of Cambodia, Lao PDR, Myanmar, and Viet Nam

| Phases I & II | CAM | LAO | MYA | VIE | ASEAN |
|------------------------------|-----|-----|-----|-----|-------|
| Free flow of goods | 2 | 2 | 2 | 2 | 2 |
| Free flow of services | 2 | 2 | 2 | 2 | 2 |
| Free flow of investment | 2 | 2 | 2 | 2 | 2 |
| Freer flow of capital | 3 | 3 | 2 | 3 | 3 |
| Free flow of skilled labor | 3 | 3 | 3 | 3 | 3 |
| Priority integration sectors | 3 | 3 | 3 | 3 | 3 |
| Food, agriculture, forestry | 2 | 2 | 2 | 2 | 2 |
| Competition policy | 3 | 3 | 3 | 3 | 3 |
| Consumer protection | 2 | 2 | 2 | 2 | 2 |
| Intellectual property rights | 2 | 2 | 2 | 3 | 2 |
| Transport | 2 | 2 | 2 | 2 | 2 |
| Energy | 2 | 2 | 2 | 2 | 2 |
| Mineral | 3 | 3 | 3 | 3 | 3 |
| ICT | 3 | 3 | 3 | 3 | 3 |
| Taxation | 1 | 3 | 3 | 3 | 1 |
| e-commerce | 3 | 3 | 3 | 3 | 3 |
| SME development | 2 | 2 | 2 | 2 | 2 |
| IAI | 2 | 2 | 2 | 2 | 2 |
| External relations | 2 | 2 | 2 | 2 | 2 |

AEC = ASEAN Economic Community, ASEAN = Association of Southeast Asian Nations, CAM = Cambodia, IAI = Initiative for ASEAN Integration, ICT = information and communication technology, LAO/Lao PDR = Lao People's Democratic Republic, MYA = Myanmar, SME = small and medium-sized enterprises, VIE = Viet Nam.

Note: 1 means less than half of measures indicated in this area were implemented; 2 means more than half of measures indicated in this area were implemented; 3 means all measures targeted in this area were implemented.

Note: The monitoring of the AEC using the scorecard mechanism started in 2008 and is reported regularly to the ASEAN Leaders. It is undertaken in four phases: 2008–2009, 2010–2011, 2012–2013, and 2014–2015. Table B5.2.1 provides an assessment of AEC implementation including key accomplishments and challenges for the first two phases, covering 1 January 2008–31 December 2011.

Source: ASEAN Secretariat (2012).

Thuzar (2013), citing official Myanmar sources, however, notes that the country's implementation record is mixed, reflecting uneven levels of awareness, understanding, and commitment to the AEC and its goals and requirements among government officials and the business community. Myanmar has certainly been handicapped by its decades-long pursuit of inward-looking development and economic isolation, and it will need to accelerate implementation of its AEC commitments and obligations to meet the 2015 deadline.

Agreements on trade in goods and services are largely on track. Table B5.2.2 shows implementation of tariff reductions under the Common Effective Preferential Tariff. Myanmar has some way to go in achieving its commitments under the ASEAN Trade in Goods Agreement (ATIGA),^a which came into force in 2010, with the elimination of import duties on

continued on next page

Box 5.2 (continued)

all products by 2010 for ASEAN-6^b and by 2015–2018 for the ASEAN subgrouping of Cambodia, the Lao PDR, Myanmar, and Viet Nam. Under ATIGA, Myanmar has yet to transpose the ASEAN Harmonized Tariff Nomenclature 2007 into the ASEAN Harmonized Tariff Nomenclature 2012.^c

The scorecard shows Myanmar performed weakly on trade facilitation. It ranks lowest on customs modernization, second lowest (after the Lao PDR) in implementing the National Single Window, second lowest (after Cambodia) in implementing agreements on trade facilitation (ASEAN Framework Agreement on Facilitation of Goods in Transit, ASEAN Framework Agreement on Facilitation of Inter-State Transport, and ASEAN Framework Agreement on Multimodal Transport), and lowest in logistics performance. It also ranks poorly in lowering technical barriers in standards and conformance assessments and in technical regulations.

Some of the major challenges in implementing the AEC Blueprint Thuzar identifies are awareness and dissemination of existing, new, and revised laws; coordination among line ministries for implementation; capacity to implement harmonization requirements for institutional connectivity under the Master Plan on ASEAN Connectivity and requirement to implement self-certification of origin (dispensing with the need to apply for preferential certificate of origin or Form D) in customs harmonization; and implementation and coordination of services liberalization. Myanmar has agreed to and initiated the implementation of the domestic measures required by the AEC Blueprint. Recent political and economic reforms should provide the impetus for speedy action.

Table B5.2.2: Common Effective Preferential Tariff Schedule

| Category | HS96 1998 | AHTN2002 2004 | AHTN2002 2005 | AHTN2002 2006 | AHTN2002 2007 | AHTN2002 2008 | AHTN2007 2010 | AHTN2012 2012 |
|--------------------------------|--------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Inclusion List (IL) | 2,356 | 8,936 | 10,461 | 1,0521 | 10,611 | 10,615 | 8,240 | 9,496 |
| % | 43.06 | 83.60 | 97.87 | 98.43 | 99.27 | 99.31 | 99.28 | 99.35 |
| Temporary Exclusion List (TEL) | 2,987 | 1,646 | 135 | 77 | ... | ... | ... | ... |
| % | 54.59 | 15.40 | 1.26 | 0.72 | ... | ... | ... | ... |
| Sensitive List (SL) | 21 | 36 | 34 | 32 | 27 | 23 | 11 | 11 |
| % | 0.38 | 0.34 | 0.32 | 0.30 | 0.25 | 0.22 | 0.13 | 0.12 |
| General Exemption List (GEL) | 108 | 71 | 59 | 59 | 51 | 51 | 49 | 51 |
| % | 1.97 | 0.66 | 0.55 | 0.55 | 0.48 | 0.48 | 0.59 | 0.53 |
| Total | 5,472 | 10,689 | 10,689 | 10,689 | 10,689 | 10,689 | 8,300 | 9,558 |

... = data not available, AHTN = ASEAN Harmonized Tariff Nomenclature, HS = harmonized system.

Source: Thuzar (2013), taken from Myanmar Ministry of National Planning and Economic Development (2011).

The government is also accelerating actions to fully implement commitments under the AEC. In particular, customs modernization is under way for the implementation of the national and ASEAN single window, customs clearance times for container exports and imports are being reduced, a one-stop service for company registration is being put in place, and measures are being taken to develop the capital market. However, the underdeveloped financial system, lack of infrastructure, weak institutions, and lack of awareness of AEC programs and implementation remain major obstacles that can only be overcome over the medium term.

^a ATIGA aims to achieve free flow of goods in ASEAN as one of the principal means to establish a single market and production base for the deeper economic integration of the region and realization of the AEC by 2015.

^b ASEAN-6 is composed of Brunei Darussalam, Indonesia, Malaysia, the Philippines, Singapore, and Thailand.

^c For ATIGA, the classification of goods in trade between and among member states shall be in accordance with the ASEAN Harmonized Tariff Nomenclature as set out in the Protocol Governing the Implementation of the ASEAN Harmonized Tariff Nomenclature signed on 7 August 2003 and any amendments thereto.

Source: Compiled by Asian Development Bank staff.

as Myanmar are set to benefit more than average ASEAN countries from such regional economic integration through lower transport costs, improved trade facilitation, and customs harmonization using the “national single window.”⁷⁷

Trade liberalization helps integration into regional production networks and global supply chains

Regional integration and trade liberalization have been major drivers for the emergence of production networks and regional value chains in Southeast Asia. The experience of many countries in this region attests to the importance of the foreign direct investment (FDI)–trade nexus in promoting export-oriented manufacturing and facilitating integration into regional production networks and global supply chains. Trade and liberalization measures undertaken by governments, either unilaterally or through free trade agreements such as the ASEAN Free Trade Area, ASEAN Economic Community, and the ASEAN+1 free trade agreements,⁷⁸ have played a major role in promoting trade and FDI.

The diversity in development levels and cost structures among ASEAN members, which acted as a deterrent to ASEAN economic integration decades ago, has emerged as a binding force for fostering regional production networks and intra-industry trade in parts and components. These networks hold significant opportunities for low-income economies in the region, such as Cambodia, the Lao PDR, and Myanmar, which do not need to develop capabilities and competencies for producing an entire product, but only for some segments of the value chain.

⁷⁷ A trade facilitation concept, the implementation of a single-window system enables cross-border traders to submit regulatory documents (such as customs declarations, applications for import/export permits, and other supporting documents such as certificates of origin and trading invoices) at a single location or single entity, increasing the efficiency of transactions with government authorities through time and cost savings.

⁷⁸ ASEAN+1 free trade agreements include ASEAN-Australia-New Zealand Free Trade Area, ASEAN-Japan Comprehensive Economic Partnership, ASEAN-India Free Trade Area, ASEAN-PRC Free Trade Area, and ASEAN-Republic of Korea Free Trade Area.

The prospects of Myanmar’s integration into regional production networks and global supply chains are closely dependent on its policies toward trade, FDI, and economic integration. The country can leverage ASEAN economic integration through improved trade and investment climates, improved transportation and telecommunications connectivity, and spillover from industrial relocation and technological diffusion.

Myanmar needs to fully integrate trade policy into its reform program

No country in economic history has been able to grow and develop over the long run without opening up to international trade and exploiting the international marketplace. With economic reform comes efficiency-enhancing structural adjustment, which can be particularly difficult in a transitional economy like Myanmar. Prior to reform, the inward-looking nature of the economy meant that competitive sectors were not able to achieve their potential and hence underperformed, while uncompetitive sectors continued to play a large role in the economy. Reallocating resources from the latter to the former makes impeccable economic sense, but needs to be done carefully for reasons of equity (winners and losers are different agents), efficiency (to expedite the process as much as possible), and political economy (to garner support for economic reform). In all this, there is a vital role for government leadership for guidance and management, and the effective sequencing of trade-policy reform.

Tariffs applied on imports in Myanmar are not particularly high; indeed, averages are lower than in India and in the mid-range in ASEAN. Nevertheless, tariffs are far less significant as a trade barrier in the 21st century. These days, non-tariff barriers, extensive red tape on imports and exports, inefficient trade-related services, and other behind-the-border measures create far greater impediments to trade-oriented economies. In these areas, Myanmar fares much worse. According to the World Bank’s Doing Business survey, it ranks 113th out of 189 countries

in “trading across borders.” In Myanmar, it takes three times as many documents to export and import as in Singapore and the “time to export” is four times longer (worse even than some land-locked countries). Reforming these areas should be a government priority.

ASEAN economic cooperation in general and the ASEAN Economic Community in particular offer a way forward for crafting these reforms. For example, the ASEAN single window and cooperation in areas of trade facilitation will bring down trade costs, improve the competitiveness of existing exports, and create new opportunities. Myanmar can also learn “best practices” from the more advanced ASEAN members, such as Malaysia, Singapore, and Thailand. A better trade policy regime would also provide a strong incentive for FDI in industries along the supply chain and, more generally, in manufacturing, thereby increasing employment, diversifying the economy, and boosting productivity. Moreover, extended economic cooperation with external partners, through the ASEAN+1 agreements, the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation, and the Regional Comprehensive Economic Partnership,⁷⁹ which is currently under negotiation, could significantly reduce barriers to exports, reduce the costs, increase the variety of productive inputs to local firms and consumers, and allow the country to plug into regional production networks.

Myanmar could also gain significantly from the Aid for Trade program under the Doha Development Agenda. The Organisation for Economic Co-operation and Development (OECD) and World Trade Organization (WTO) (OECD and WTO 2011, 2013) have also highlighted the potential for regional approaches to aid for trade, which would be particularly advantageous given the country’s membership in ASEAN and its role as a bridge between South and Southeast Asia. Regional aid for

trade could also be particularly effective in helping the country integrate into production networks.⁸⁰

Policy support is needed to maximize the benefits of FDI

Heavy FDI is needed to facilitate economic development and fund massive infrastructure requirements. Policies for encouraging the inflow and best performance of FDI depend on the type of investments that the country wants to attract. Currently, abundant natural resources, geographic advantage, low-cost labor, and potential market access are driving FDI.

Abundant natural resources. Here, FDI consists largely of location-specific investments, and the host country’s policies regarding such investment should take into account the sustainability of natural resource exploitation, environmental deterioration and pollution, the limited employment potential of many of these investments, as well as incentives to encourage domestic downstream processing. The positive and negative experiences of resource-rich countries, particularly Indonesia and Malaysia, offer important lessons for Myanmar.

Geographic advantage. Myanmar’s potential as a regional hub should be a plus for attracting FDI, and here again the country can draw on lessons from others on how to leverage its geographical advantage. Singapore offers a good example as it has exploited its natural locational advantage in Southeast Asia by providing and encouraging excellent physical and cyber connectivity and logistics, efficient public and private service delivery, and pro-business and pro-FDI policies, which helped it become the financial, trade, transportation, and knowledge hub of Southeast Asia. For Myanmar, it is also important to accelerate policy and institutional reforms to remove corruption and improve the efficiency of its public services, to fully exploit its locational advantage.

⁷⁹ The Regional Comprehensive Economic Partnership is a proposed free trade agreement between the ten member states of ASEAN and the six states with which ASEAN has existing free trade agreements (Australia, the PRC, India, Japan, the Republic of Korea, and New Zealand). Negotiations were formally launched in November 2012 at the ASEAN Summit in Cambodia.

⁸⁰ See OECD and WTO (2013), Chapter 3, on how regional aid for trade can be effective in facilitating regional integration in developing economies.

Low-cost labor. Myanmar is well known for abundant and cheap labor. However, its ability to attract FDI for its low-cost advantage is not a given—property and rental costs are rising, while the low-wage advantage is offset by low labor productivity and poor connectivity, which increase distribution and procurement costs. More trade facilitation measures are essential to keep production costs attractive.

Market access. Myanmar has a sizable internal market and there is a possibility of access to regionally integrated markets through ASEAN. Although growth prospects for its domestic markets are positive, the country has very low per capita incomes, and its attraction is mainly limited to mass consumer goods and capital goods for the immediate future. However, integration with regional markets, through ASEAN, various ASEAN+1 free trade agreements (currently with Australia, the PRC, India, Japan, the Republic of Korea, and New Zealand) and the Regional Comprehensive Economic Partnership should help increase the market size for producers in Myanmar. For this, however, the business environment needs to significantly improve for the country to be able to compete effectively with its neighbors.

Overall on FDI policy, Myanmar has to ensure a balance between incentives to attract FDI and the “performance requirements” of such investments. On the former, overly generous tax incentives, particularly in natural resource development leading to a leakage of resource rent, would deprive the country of fiscal revenues. On the other hand, overly demanding performance requirements in sector exclusions and equity caps on FDI, requirements on joint ventures, local content requirements, and tough restrictions on inflows of foreign skills and professionals would discourage FDI. Instead, Myanmar should try to improve the competitiveness of small and medium-sized enterprises as joint venture partners and as local suppliers of inputs to foreign multinational companies. The electronics industry in the Malaysian state of Penang and the automobile

industry in Thailand offer good examples of success in this area.

Enhanced ASEAN connectivity is essential for economic cooperation

Myanmar will play an important role in enhancing regional connectivity and hence regional economic cooperation for three main reasons. First, as noted, it is at the center of a number of important regional land, rail, and maritime networks from South Asia, Southeast Asia, to East Asia. Second, it has the potential to be a gateway for goods and services moving between these regions—provided the extended free trade agreements covering these regions become effective. And third, given its very considerable resource potential in energy and other minerals around border areas, the country could provide significant opportunities for regional energy cooperation. To realize its vast potential as a regional hub, the country needs to continue enhancing its domestic transport infrastructure connecting to the region’s economic corridors.

Connectivity in ASEAN refers to the physical, institutional, and people-to-people linkages that compose the foundational support and facilitative means to achieve the economic, political-security and sociocultural pillars that will allow a realization of the vision of an integrated ASEAN community. The key elements of ASEAN connectivity include: (i) physical connectivity—transport, information and communication technology, and energy; (ii) institutional connectivity—trade liberalization and facilitation, liberalization and facilitation of investment flows and services, mutual recognition of agreements and arrangements, regional transport agreements, cross-border procedures, and capacity-building programs; and (iii) people-to-people connectivity—education, culture, and tourism (ASEAN Secretariat 2010).

There are two flagship land transport infrastructure projects within ASEAN: the ASEAN Highway Network and the Singapore–Kunming Rail Link.

Box 5.3: Greater Mekong Subregion Transport Corridors

The three main Greater Mekong Subregion economic corridors are the North-South Economic Corridor, East-West Economic Corridor, and Southern Economic Corridor.

North-South Economic Corridor has three routes along the subregion's north-south axis: the Western Subcorridor: Kunming (People's Republic of China [PRC])–Chiang Rai (Thailand)–Bangkok via the Lao People's Democratic Republic (Lao PDR) or Myanmar, the Central Subcorridor: Kunming–Ha Noi (Viet Nam)–Hai Phong (Viet Nam), which connects to the existing Highway No. 1 running from the north to the south of Viet Nam; and the Eastern Subcorridor: Nanning (PRC)–Ha Noi via the Youyi Pass or Fangchenggang (PRC)–Dongxing (PRC)–Mong Cai (Viet Nam). The North-South Economic Corridor will play a critical role in providing Yunnan Province and northern Lao PDR access to important sea ports. Potential market coverage is extensive, given the existing road network from Singapore via Malaysia to Chiang Rai, and from Kunming to Beijing. The corridor is virtually complete, except for a bridge between the Lao PDR and Thailand, which is to be constructed soon.

East-West Economic Corridor runs from Da Nang port (Viet Nam) through the Lao PDR, and Thailand to the Mawlamyine port (Myanmar). It runs 1,320 kilometers as a continuous land route between the Indian Ocean (Andaman Sea) and the South China Sea, intersecting the North-South Economic Corridor at the provinces of Tak and Phitsanulok in Thailand. The East-West Economic Corridor links important commercial nodes in each member country: Mawlamyine–Myawaddy (Myanmar), Mae Sot–Phitsanulok–Khon Kaen–Kalasin–Mukdahan (Thailand), Savannakhet–Dansavanh in the Lao PDR, and Lao Bao–Hue–Dong Ha–Da Nang (Viet Nam).

Southern Economic Corridor, connecting major towns and cities in the southern part of Greater Mekong Subregion, includes the Central Subcorridor: Bangkok–Phnom Penh–Ho Chi Minh City–Vung Tau; the Northern Subcorridor: Bangkok–Siem Reap–Stung Treng–Rattanakiri–O Yadov–Pleiku–Quy Nhon; and the Southern Coastal Subcorridor: Bangkok–Trat–Koh Kong–Kampot–Ha Tien–Ca Mau City–Nam Can. The Intercorridor Link includes Sihanoukville–Phnom Penh–Kratie–Stung Treng–Dong Kralor (Tra Pang Kriel)–Pakse–Savannakhet, which links the three subcorridors of the Southern Economic Corridor with the East-West Economic Corridor.

Myanmar forms the western end of the East-West Economic Corridor, the Greater Mekong Subregion corridor in the most advanced stage of development. Part of the 240-kilometer road section in Myanmar in the East-West Economic Corridor has been developed with the assistance of the Thai private sector. Myanmar is also part of the Southern Economic Corridor with Dawei being included in it at the GMS Ministerial Conference in Phnom Penh in 2011. Myanmar also participates in the Greater Mekong Subregion Economics Corridor Forum.

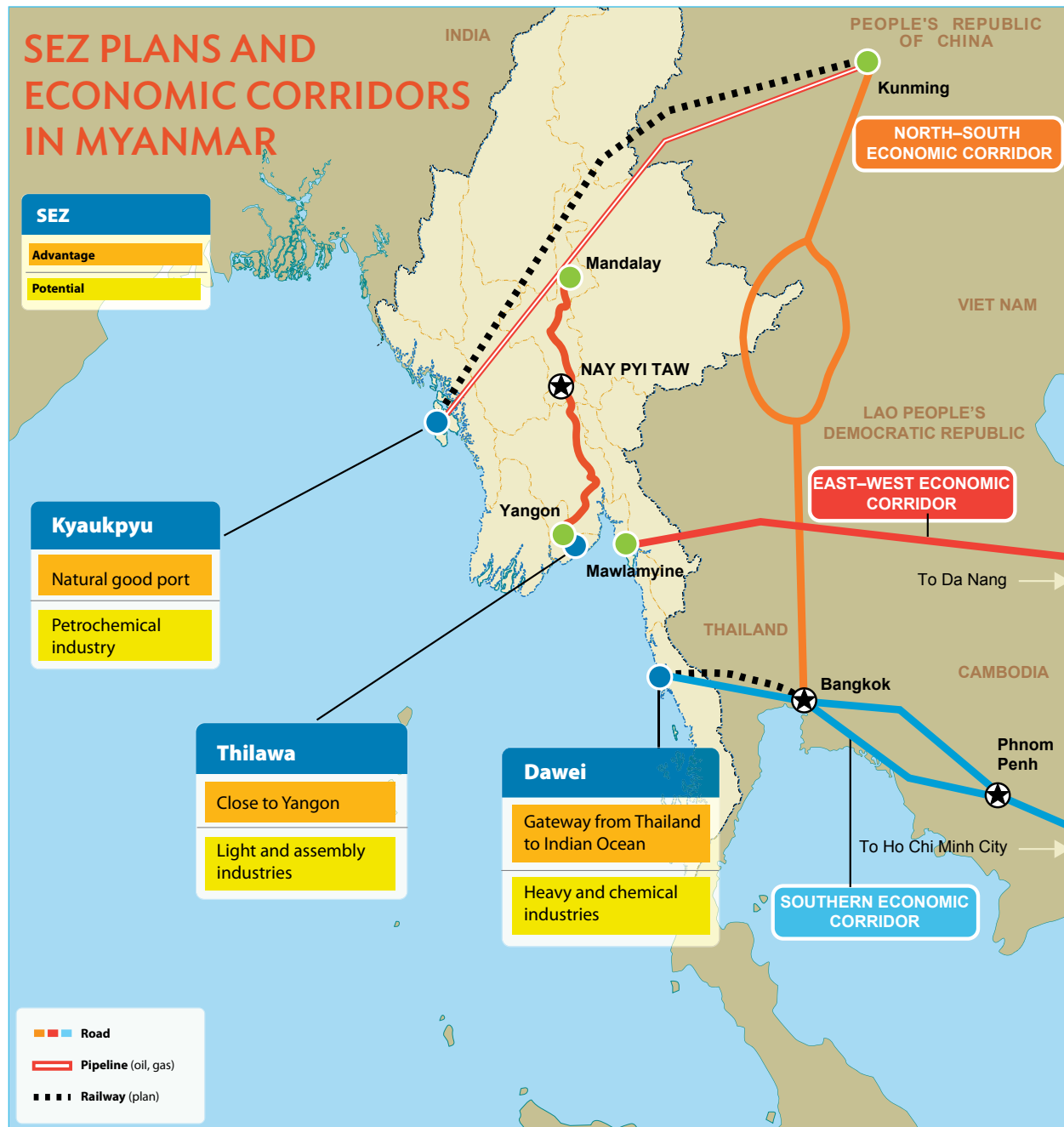
Source: ADB (2012d).

The highway is an expansion of the Asian Highway Network within ASEAN.⁸¹ Although member states have made significant progress on lengthening the highway and upgrading road quality, some countries are still missing links—totaling 227 kilometers, mostly in Myanmar—and have below standard roads.

⁸¹ The Asian Highway Network is a part of the Asian Land Transport Infrastructure Development project, which is supported by the United Nations Economic and Social Commission for Asia and the Pacific. It is a 141,000-kilometer network of roads running across 32 countries aimed at improving transport facilities throughout these nations, and provides road links to Europe. The ASEAN Highway Network basically follows the Asian Highway Network for the major routes, adding some routes of importance to the region.

The focus of the Greater Mekong Subregion program was also on improving subregional connectivity, including the smooth transit of goods along the regional corridors. The program was established in 1992 to promote regional cooperation in nine priority sectors: agriculture, energy, environment, human resource development, investment, telecommunications, tourism, transport infrastructure, and transport and trade facilitation (ADB 2012d). The transport infrastructure investment component has focused on three main regional corridors that should contribute to regional integration through increased trade (described in Box 5.3).

Figure 5.1: Special Economic Zone Plans and Economic Corridors



SEZ = special economic zone.
Source: Based on Takahashi (2013).

Maritime transport is expected to become the dominant transport mode for the movement of international trade, as is already the case for trade within the Greater Mekong Subregion. Trade among the region’s five countries (excluding the PRC) is about 30 million tons per year, of which about 70% is maritime transport, with collection or delivery by road or rail. The rest moves by road. With Thailand

at the center of the regional grouping, the main maritime routes are Cambodia–Thailand (Poipet–Aranyaprathet), Cambodia–Viet Nam (Bavet–Moc Bai); Lao PDR–Thailand (Vientiane–Nong Khai), and Myanmar–Thailand (Myawaddy–Mae Sot and Tachileik–Mae Sai). Trade facilitation would benefit regional integration most if maritime gateways formed part of the overall initiatives. The Greater

Mekong Subregion is working to enhance the connectivity of ports to corridors and the hinterland (ADB 2012e).

The economic benefits of enhancing connectivity to link domestic and regional growth centers are potentially huge, and the government also plans to establish special economic zones, with an emphasis on their connectivity to the growth centers to unlock this potential. Figure 5.1 shows how the three officially designated special economic zones are expected to be developed in connection with the Greater Mekong Subregion economic corridors.

Integrated efforts for regional integration can unlock vast economic potential

In sum, while the lifting of sanctions has improved Myanmar's prospects in outward-oriented industrial development, ASEAN still represents its best bet in the short and medium term; hence, the importance of the ASEAN Economic Community. The country is a rapidly growing market with comparative advantage in natural resource exports, particularly food, wood products, oil, and natural gas. Given geographic proximity and transportation and logistics connectivity, ASEAN is also a low-cost source of imports, together with the PRC. As the more advanced ASEAN countries such as Malaysia, Singapore, and Thailand face labor shortages and rising wage costs, industrial relocation from these countries will likely increasingly turn to Myanmar once it has established the prerequisites for integration into regional production networks.

Investment in trade-related infrastructure and human-capital development will be critical to the success of the economic reform program. Myanmar has embarked on a number of projects to increase its physical connectivity with Southeast Asia, the PRC, and South Asia, as well as projects in other areas, such as communications. In addition to increasing efficiency and improving its attractiveness to foreign investors, improvements in infrastructure will allow the country to better leverage its locational advantage.

Environmental Sustainability

Myanmar has rich natural assets, with extensive forest cover and a largely pristine coastline. This remarkable bounty is largely due to the absence of pressures associated with development, as the country has been isolated from major sources of trade and foreign investment. But this delicate situation is under threat and environmental problems are already emerging. Environment-based sectors such as forestry, agriculture, fisheries, and mining will now clearly play important roles in the country's economic transformation, with operations in these sectors becoming increasingly intensive and extractive.

Many environmental challenges need to be addressed for the country to achieve sustainable economic development. Key among these are (i) deforestation, which leads to biodiversity loss; (ii) land-use changes and commercial agriculture development; (iii) unrestricted and unregulated mining activities; (iv) accelerating industrial and transport emissions, waste, and effluents; (v) expanded hydropower development; and (vi) water pollution. Awareness of these issues among policy makers and the general public will be critical to creating policy measures and gaining active support and participation in sound environmental planning and conservation.

The conservation of the country's ecological wealth will depend on a clear focus for ensuring that sound environmental policies, laws, and regulations are applied and enforced. While there are already general policies in place that aspire to environmental management, specific regulations and protection measures need to be established. The government and the public also need to recognize the issue of climate change and take adaptation and mitigation measures to this global threat.

Rapid growth increases environmental pressure

With the economy heavily reliant on its environmental goods and services, environmental

degradation can directly impact productive capacity in key sectors and will undermine their resilience to future shocks, particularly from climate change. In addition to agriculture, which is a dominant sector of the economy (see Chapter 3), forestry contributes 10% of export earnings and is likely to rise. Growing fisheries production and increased use of hydropower will put pressure on marine and aquatic resources. And the poorest rural populations and ethnic minorities, who are the most directly reliant on these resources and the most vulnerable to shocks, will feel this most. Effective regulation to check these rising environmental pressures is urgently needed to ensure that economic development is sustainable and inclusive. However, according to international indices (Hsu et al. 2014), Myanmar is among the world's lowest ranked countries on environmental management. Principal environmental issues arise in two categories: (i) natural resource management, including how forests, biodiversity, fisheries, and water are used; and (ii) pollution control, covering air, land, and water, and measures to effectively regulate pollution through effluents, discharges, and other contamination.

Important natural assets are already being lost

Forests, biodiversity, water, and fisheries resources are all essential to Myanmar's economic development and resilience. However, over-exploitation is causing these assets to be degraded.

Forests

Deforestation is the biggest environmental challenge (National Commission for Environmental Affairs and UNEP Regional Resource Centre for Asia and the Pacific 2008). The country's still extensive forests play an essential role in maintaining ecological balance. They provide watershed protection, prevent land degradation, and help recharge water resources for households, agriculture, and power. They conserve a vast range of biodiversity and act as a carbon sink. They currently provide most of the materials for energy and construction for rural populations, while contributing large amounts of foreign exchange through exports. Forests are

disproportionately located in border regions of the country and serve many needs of ethnic minorities.

The forest area declined from 39.7 million hectares (ha) in 1989 to 30.5 million in 2010, with an average annual loss of 438,000 ha (Table 5.1). This is an annual decline of 1.1%, which accelerated to 1.9% from 2006 to 2010. The rate of forest degradation has been even faster, as closed forest areas declined 2.5% annually during 1989–2010. This has also accelerated to 3.1% during 2006–2010. Not only are forest areas declining rapidly, but this loss is also concentrated in the most dense and biologically important forest areas. The main causes are overharvesting and illegal logging, over extraction of wood for fuel, the expansion of forest concessions, increased farming by smallholders, and road construction.

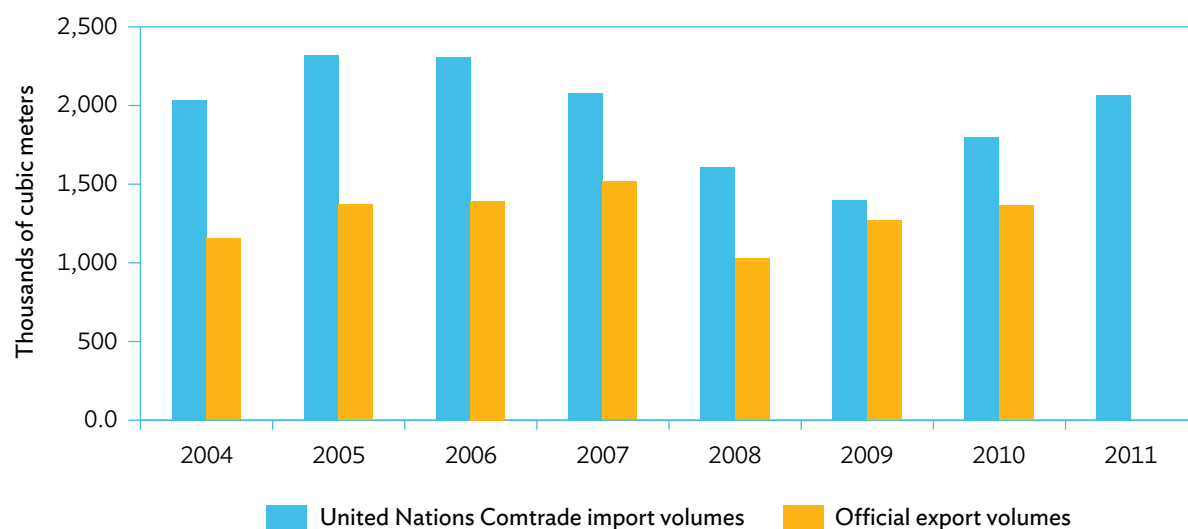
Unlike in most developed countries, the majority of timber in Myanmar comes from felling natural, rather than planted forests. Official timber extraction has grown in volume over recent years at 6.4% annually during FY2005–FY2009 (Woods and Canby 2011). Extraction of teak has regularly exceeded its annual allowable cut of 298,000 cubic meters, reaching 540 to 700 thousand cubic meters. Hardwood extraction has also exceeded the annual allowable cut at times. Accordingly, the volume of standing timber is falling. The volume of the top 10 timber species with the highest share of timber volume fell from 1.34 billion cubic meters to 0.66 billion cubic meters between 1990 and 2000. A large share of exports are illegal, as indicated by the volume of reported wood imports from Myanmar, estimated from the United Nations Comtrade Database, which amount to nearly twice as much as officially reported exports on the Myanmar side (Figure 5.2).

Forests remain the primary source of energy for most people living in rural areas while approximately 60% of national energy consumption is derived from fuelwood (ADB 2013). The pressure on forest resources is compounded by rising fuelwood use, from 18.6 million tons in 2000 to 23.2 million tons in 2009 (Central Statistical Organization [CSO] 2012). To address this, the government has set guidelines to promote community fuelwood plantations and is targeting the establishment of 920,000 ha

Table 5.1: Area of Total and Closed Forests in States and Regions, 1975–2010 (hectares)

| Area (State and Division) | Total Land | Total Forested Area | | | | | | Closed Forest | | | | | |
|---------------------------------|---------------|---------------------|--------------|--------------|--------------|--------------|--------------|---------------|--------------|--------------|--------------|--------------|--------------|
| | | 1975 | 1989 | 1997 | 1998 | 2006 | 2010 | 1975 | 1989 | 1997 | 1998 | 2006 | 2010 |
| Kachin | 8,904 | 7,134 | 7,708 | 7,147 | 6,452 | 6,126 | 6,487 | 7,001 | 7,362 | 4,611 | 4,382 | 4,819 | 4,675 |
| Kayah | 1,173 | 824 | 689 | 753 | 753 | 437 | 449 | 578 | 435 | 520 | 520 | 130 | 160 |
| Kayin | 3,038 | 1,837 | 1,751 | 2,439 | 2,281 | 2,044 | 1,409 | 1,433 | 1,429 | 1,208 | 1,088 | 1,151 | 576 |
| Chin | 3,602 | 2,488 | 2,419 | 2,337 | 2,336 | 2,329 | 2,342 | 1,505 | 2,288 | 2,058 | 2,058 | 1,472 | 1,416 |
| Sagaing | 9,462 | 6,198 | 6,550 | 5,753 | 5,753 | 5,050 | 4,626 | 5,370 | 5,770 | 4,023 | 4,023 | 3,231 | 2,796 |
| Tanintharyi | 4,335 | 3,651 | 3,739 | 3,520 | 3,733 | 3,411 | 2,956 | 3,021 | 3,408 | 2,717 | 2,751 | 2,480 | 1,890 |
| Bago | 3,941 | 2,067 | 1,768 | 1,309 | 1,309 | 1,107 | 1,212 | 1,501 | 1,500 | 439 | 439 | 381 | 389 |
| Magway | 4,482 | 2,577 | 1,688 | 1,044 | 1,044 | 706 | 802 | 709 | 501 | 687 | 687 | 546 | 562 |
| Mandalay | 3,702 | 1,416 | 1,297 | 716 | 716 | 913 | 717 | 879 | 684 | 493 | 493 | 124 | 182 |
| Mon | 1,230 | 575 | 484 | 485 | 485 | 495 | 477 | 206 | 301 | 361 | 361 | 227 | 198 |
| Rakhine | 3,678 | 2,416 | 2,316 | 1,765 | 1,765 | 2,477 | 2,165 | 1,921 | 2,058 | 1,211 | 1,211 | 831 | 495 |
| Yangon | 1,017 | 146 | 150 | 93 | 93 | 108 | 51 | 115 | 116 | 34 | 34 | 16 | 6 |
| Shan | 15,580 | 8,796 | 8,277 | 7,593 | 8,344 | 7,411 | 6,319 | 5,540 | 5,209 | 6,709 | 7,246 | 1,940 | 1,848 |
| Ayeyarwaddy | 3,514 | 1,071 | 853 | 423 | 423 | 401 | 459 | 545 | 494 | 224 | 224 | 120 | 113 |
| Union Total | 67,658 | 41,196 | 39,685 | 35,375 | 35,487 | 33,012 | 30,473 | 30,322 | 31,554 | 25,294 | 25,517 | 17,469 | 15,306 |
| % of Total Land | | 61.0% | 59.0% | 52.0% | 52.0% | 48.8% | 45.0% | 45.0% | 47.0% | 37.0% | 38.0% | 25.8% | 22.6% |

Source: Ministry of Environmental Conservation and Forestry.

Figure 5.2: Wood Exports, 2004–2011

Note: Official export volumes are based on official Government of Myanmar statistics for exports and compared with the estimated exports based on import statistics reported by countries importing wood from Myanmar through the United Nations Comtrade Database.
Sources: Central Statistical Organization (2012) and United Nations Comtrade Database (accessed April 2014).

of these by 2030. However, only 40,000 ha have been established since 1995 (Burma Environment Working Group 2012). This means that sustainable levels of production are stagnant, whereas extraction rates are increasing, with the net effect that forests being degraded rather than replenished.

Plantation crop concession areas have rapidly expanded in recent years and now cover more than 2 million ha. Most concession areas are being developed by the private sector in border regions, often with involvement of businesses from neighboring countries, and at scales exceeding 100,000 ha. Tellingly, only 23% of the total allocated concession area is actually being cultivated (Woods 2013), whereas the proportion cleared of forest is higher. This suggests that much of the land allocation may offer implicit subsidies through the transfer of wood that can be cleared by concession holders without paying full market values through royalties. Concessions for mining and hydropower development are also located in areas of forest cover, causing forest clearance.⁸²

“Forest transition theory” implies that as an economy begins to develop based on agricultural growth, agricultural land rent rises, inducing deforestation for small-scale agriculture (Barbier, Burgess, and Grainger 2010). In recent years, Myanmar’s physical area of crop cultivation has expanded rapidly from 8.58 million ha in 2003 to 12.8 million ha in 2010, with much of this expansion probably coming at the expense of forests (Ministry of Agriculture and Irrigation 2011). The construction of transport infrastructure that improves access to forested land may exacerbate this effect, as the number of kilometers of roads in Myanmar has been rising at 4.9% annually from 1990 to 2010 (CSO 2012).

Biodiversity

Many wildlife and plant species in Myanmar are at risk of extinction from loss of natural habitats.

⁸² A study by Raitzer, Nam, and Samson (2014) of changes in closed forest cover by region and state on changes in deforestation drivers between 2006 and 2010 suggests that agribusiness concessions were associated with the loss of about 1.13 million ha of closed forest between 2006 and 2010, or more than half of the close forest loss over this period.

Threatened species include 46 mammals, 44 birds, and 47 plants (IUCN 2014). The effects on biodiversity arising from habitat loss are being compounded by growing and indiscriminate use of pesticides in agriculture (see Chapter 3) as well as direct extraction of threatened species. Although Myanmar enacted regulations against the capture of wildlife in 1995, the country borders the PRC, which has a large market for illicit animal products. Border areas are often not under effective government control and market for illicit animal products is one with high returns, making it worth the risk for traffickers in these products. Myanmar has made good progress in expanding protected areas to conserve threatened species. Yet, the proportion of the protected area (7.3% of total land area) is lower than in neighboring countries, and the majority of biodiversity areas remain unprotected (Wildlife Conservation Society 2013 and World Bank, World Development Indicators).

Water resources

Dam development, particularly for hydropower, is a primary issue affecting future water resources. From 1990 to 2009, 252 dams and reservoirs were constructed for irrigation and flood protection. An estimated 88 hydropower projects are currently being proposed, built, or are operating on major rivers, including the Thanlwin, Irrawaddy, Chindwin, and Sittaung (Burma Environment Working Group 2011). Dam development can physically constrict downstream water availability and reduce the environmental services offered by river systems. For example, nutrient supplies mobilized through silt and sediment deposits can be reduced or eliminated, and fish migration and spawning habitats impeded. Currently, such effects are given little consideration in Myanmar’s dam designs.

Fisheries resources

Catches have risen dramatically since the late 1990s. From FY2003 to FY2012, fisheries production rose at an average annual rate of 11%, based on growth in aquaculture (9.8% annual growth) as well as capture fishery production. One of the main reasons for this boom is the increase in foreign demand for Myanmar’s fish products. Between 1990 and 2009,

exports grew from 9,300 tons to 464,700 tons due to rising foreign demand for marine and freshwater fish and crustaceans. It is not clear whether the country's capture fisheries can sustain such growth, as sustainable catch estimates have not been updated since the 1970s. Moreover, the protected fisheries areas are miniscule, at 0.22% of water area.

Despite this rise, the pressure on fisheries resources remains relatively low and is not now a major constraint to the sustainability of marine resources and fish stocks. However, as Myanmar opens, more advanced fishing equipment will become available and more market opportunities for fisheries products will emerge. Thus, improved marine protection will become increasingly necessary.

Climate change may amplify the effects of natural resource degradation and loss

Forests are vulnerable to climate change because tree species with long life cycles have little ability

to tolerate the associated change in environmental conditions. Hannah et al. (2013) project a 60% habitat loss in the Himalayan area of Myanmar due to changes in rainfall and temperature. And this may be compounded by the effects of increased extreme climate events and an increased risk of forest fires as dry seasons lengthen and traditionally prescribed burning systems break down. Coral bleaching is also to be expected and fisheries stocks are expected to migrate to cooler waters away from warming tropical seas.

Weak regulatory guidelines for natural resource management will likely increase the impacts of climate change (Box 5.4). As forest cover declines, the effects of more intense rainfall will be aggravated as watershed runoff increases and flood risks rises. Loss of mangroves means greater vulnerability to cyclones for coastal environments and communities. So for Myanmar, given its geography, natural resource protection is important to minimize risks from global warming, and climate change needs to be incorporated into natural resources management.

Box 5.4: Myanmar's Vulnerability to Climate Change

Myanmar's climate is already changing. Data from weather stations show that it has already experienced changes in annual total rainfall and mean temperature (World Bank Group Climate Change Knowledge Portal). Greater rainfall was observed by weather stations in the northern and coastal regions of the country, while the opposite was observed in the mid- and eastern regions. Higher temperatures were observed in a majority of the weather stations, except in the lower mid- central region. The average length of the monsoon season has also been shortening (Ministry of Agriculture and Irrigation 2010).

The frequency and magnitude of extreme climatic events such as drought, extreme temperature, tropical cyclones, and flooding have grown (United Nations Environment Programme, Ministry of Environmental Conservation and Forestry, and Ministry of Transport 2012). Severe drought periods have increased in frequency between 1990 and 2002. Before 2000, cyclone landfalls along Myanmar's coast happened about once every 3 years. However, cyclones have hit Myanmar every year after 2000; including Cyclone Nargis, which caused the greatest destruction to date. From 1900 to 2000, only 12 major floods were recorded, but there were already four in the 2000s.

Climate change will be pronounced. The Department of Meteorology and Hydrology compared Providing Regional Climates for Impacts Studies downscaled modeling of temperature and rainfall with a recent reference to the 2020–2050 period under the A2 Intergovernmental Panel on Climate Change Standard Reference Scenario.^a Mean temperatures increased by 0.8 – 1.4 degrees Celsius, and rainfall increased by up to 660 millimeters over this relatively short period.

continued on next page

Box 5.4 (continued)**Table B5.4.1: Actual and Modeled Temperature and Rainfall Using the PRECIS Regional Downscaling Model under the A2 SRES Scenario**

| Station | Mean Temperatures | | | | Mean Rainfall (mm) | | | |
|--------------------|-------------------|-----------|---------------|-----------|--------------------|-----------|---------------|-----------|
| | 1971-2000 | | A2 Projection | | 1971-2000 | | A2 Projection | |
| | Observed | A2 Output | 2001-2020 | 2020-2050 | Observed | A2 Output | 2001-2020 | 2020-2050 |
| Myitkyina | 24.4 | 24.3 | 24.9 | 25.4 | 1,668 | 2,203 | 2,431 | 2,400 |
| Mandalay | 27.6 | 27.7 | 28.1 | 28.5 | 812 | 931 | 1,037 | 1,085 |
| Sittway | 25.7 | 24.0 | 24.6 | 25.1 | 4,593 | 4,117 | 4,073 | 4,778 |
| Kengtung | 23.2 | 23.3 | 23.7 | 24.3 | 1,250 | 1,314 | 1,340 | 1,350 |
| Mingladon (Yangon) | 27.5 | 27.4 | 28.1 | 28.8 | 2,661 | 2,661 | 2,604 | 2,805 |
| Pathein | 27.1 | 27.2 | 27.8 | 28.4 | 2,843 | 2,960 | 3,005 | 3,252 |
| Dawei | 26.6 | 27.6 | 28.1 | 28.7 | 5,376 | 3,547 | 3,489 | 3,701 |

°C = degree Celsius, mm = millimeter, PRECIS = Providing Regional Climates for Impacts Studies, SRES = Special Report on Emissions Scenarios. Note: A2 SRES scenario corresponds to a high-emissions scenario. Source: Ministry of Environmental Conservation and Forestry (2010).

According to Kreft and Eckstein (2013), Myanmar had the world's second highest climate risk during 1993–2012, based on losses, damage to property, and death tolls attributed to extreme weather events. Climate change is expected to increase the frequency of such events. Future climate-change-related hazards identified by the Department of Meteorology and Hydrology (Ministry of Environmental Conservation and Forestry 2010) include cyclones, floods, intense rainfall, extreme day temperature, drought, and sea level rise. Coastal regions are particularly vulnerable, with a high risk of four out of these six climate change related hazards. Combining climate risk information with population data (Table B5.4.2) shows that about 20% of the total population (those who live in coastal regions) is at high risk of four climatic hazards, while the rest is at high risk of at least one of the hazards.

Table B5.4.2: Population and Climate Hazard Risk of State and Divisions

| Division/State | Population | Climatic Hazards | | | | | |
|----------------|------------|------------------|--------|------------------|-------------------------|---------|----------------|
| | | Cyclone | Flood | Intense Rainfall | Extreme Day Temperature | Drought | Sea Level Rise |
| Ayeyarwaddy | 5,842,093 | High | High | High | Low | Low | High |
| Bago | 4,515,202 | Low | High | Medium | Medium | Medium | Medium |
| Chin | 502,683 | Medium | Low | Medium | Low | Low | None |
| Kachin | 1,215,644 | Medium | Medium | Medium | Low | Low | None |
| Kayah | 234,560 | Low | Low | Medium | Low | Medium | None |
| Kayin | 1,324,504 | Medium | Medium | Medium | Low | Low | None |
| Magway | 3,759,749 | Medium | Medium | Low | High | High | None |
| Mandalay | 5,759,958 | Low | Medium | Low | High | High | None |
| Mon | 1,874,205 | High | Low | High | Low | Low | Medium |
| Rakhine | 2,947,859 | High | High | High | Low | Low | High |
| Sagaing | 4,842,801 | Medium | High | Medium | Medium | High | None |
| Shan | 4,474,830 | Low | Low | Low | Low | Low | None |
| Tanintharyi | 1,208,212 | Low | Low | High | Low | Low | Medium |
| Yangon | 5,706,846 | High | High | High | Low | Low | Medium |

Source: Ministry of Environmental Conservation and Forestry (2010).

^a A2 corresponds to a high greenhouse and aerosol emissions scenario. Source: Authors.

Pollution is increasing

With economic development, Myanmar is increasing its generation of waste and emissions. However, the country's ability to regulate and manage these growing pressures remains limited. The types of waste and pollution effects are assessed below.

Solid waste

Industrialization and urbanization increase the need for strong wastewater and solid waste management. Currently, waste disposal is principally through open dumping (73%), with only 22% of waste recycled (ASEAN Secretariat 2009). Myanmar does not have sanitary landfills and waste management remains inadequate, particularly in the rural areas (ADB and United Nations Environment Programme).

Water pollution

Maritime and river waters absorb most of the country's land-based wastes. Water quality screening conducted by the University of Yangon (2010) showed that major physiochemical water properties in major coastal zones of Rakhine, Deltaic, Dawei, and Myeik regions still remain within acceptable quality standards. However, inland water bodies are starting to show signs of chemical and nutrient loading, with high nitrate concentrations observed in Inle Lake and the Ayeyarwaddy River system (Akaishi et al. 2006, Directorate of Water Resources and Improvement of River Systems 2013). With industrialization and economic development, land-based waste will increase. For example, the total mass of pesticides used by farmers increased 331% between 2009 and 2010, and many of these pesticides will end up in water resources (CSO 2012). The number of mines increased 293% during 2009–2010, and mine tailings, if not properly handled, can cause water pollution (CSO 2013). In the absence of detailed regulations on hazardous materials, pollutant discharges, and wastewater treatment, water pollution is likely to become an issue in the near future.

Air pollution

Air pollution is becoming a problem in urban areas. Coarse particles (PM₁₀) levels, a measure of particulate pollution, in Yangon and Mandalay were measured from 71.75 $\mu\text{g}/\text{m}^3$ –112.49 $\mu\text{g}/\text{m}^3$ along commercial areas, 61.7–65.3 $\mu\text{g}/\text{m}^3$ in residential areas, and 131.54–136.92 $\mu\text{g}/\text{m}^3$ in industrial areas. For comparison, the upper limit for acute and infrequent events in the United States National Ambient Air Quality Standards is 150 $\mu\text{g}/\text{m}^3$ (Environmental Protection Agency 2011). A primary cause of this pollution is reconditioned vehicle emissions. Given the rapid rise in the number of motorized vehicles (more than tripling between 2007 and 2012), these problems are likely to worsen if not regulated. More generally, Myanmar has no air quality monitoring system or official air quality standards (Ajero and Patdu 2013). Clearly, much regulatory development is needed to cope with the problem of air quality that will accompany economic diversification and growth.

Greenhouse gas emissions

Myanmar currently has negative net greenhouse gas emissions, and acts as an overall carbon sink, largely due to carbon dioxide removals by its remaining forest stands. However, these carbon removals are falling as forest areas shrink and are degraded. The vast majority of emissions are from agriculture and from deforestation (Table 5.2). Although per capita emission levels in the absence of forest sinks are still low in comparison to the rest of the world, they will likely rise sharply as the economy develops and consumption of goods and energy increases.

Regulations and enforcement capacity are essential for coping with environmental threats

There is recognition in Myanmar of the importance of environmental sustainability, and the country's main environment policy principles aim to achieve

Table 5.2: Initial Results of Myanmar's National Greenhouse Gas inventory, 2010

| Source/Sink | CO ₂ removal (Gg) | CO _{2e} Total Emissions (Gg) | CO _{2e} net emissions (Gg) |
|--|------------------------------|---------------------------------------|-------------------------------------|
| Energy sector | 0 | 7,860 | 7,860 |
| Industrial sector | 0 | 460 | 460 |
| Agriculture sector including livestock | 0 | 22,840 | 22,840 |
| Land use change and forestry sector | 142,220 | 40,400 | -101,820 |
| Waste sector | 0 | 2,830 | 2,830 |
| Total | 142,220 | 74,400 | -67,820 |

CO₂ = carbon dioxide, CO_{2e} = carbon dioxide equivalent, Gg = gigagram.
Source: Ministry of Environmental Conservation and Forestry (2010).

harmony and balance between protecting the environment and achieving high, sustainable economic growth (Burma Environment Working Group 2012). Based on these policy principles, various environmental protection laws have been passed. However, while many commitments to environmental conservation have been made, key regulations and procedures to implement them have not yet been established.

The capacity for environmental regulation is currently limited. Myanmar does not have a ministry exclusively devoted to environmental regulation. Environmental conservation is most directly handled by the Ministry of Environmental Conservation and Forestry, within which only one department (of six) handles environmental conservation. There is currently no government agency devoted to the development of regulations on discharges, pollution, waste disposal or, more broadly, environmental quality. Regulations on emissions and their effect on the environment from particular sectors are ostensibly developed by line ministries regulating those sectors, with some broader coordination by the Environmental Conservation Committee. Myanmar would benefit greatly from having a line ministry with clear accountability for environmental policy making across sectors, as is the case in most other countries. Creating such a ministry would be an important step toward better environmental planning, strong regulatory frameworks, and an important resource for overseeing other line agencies with environment-related portfolios.

Myanmar, however, faces constraints in its human, financial, and logistical resources for implementing

environmental policies, with these constraints often derailing efforts by the Ministry of Environmental Conservation and Forestry to carry out effectively its mandate. Compounding the problem is that Myanmar has insufficient expertise and environmental monitoring capacity for ensuring the implementation of the stringent measures needed to control air pollution and waste discharges. Investment and political will is needed to develop this capacity.

Safeguard processes are not yet implemented effectively

Myanmar faces increased environmental pressures from new economic drivers, and particularly from extractive industries that exploit natural resources. With underdeveloped environmental regulations and lack of enforcement capacity, the country will have to look to safeguard processes for mitigating projects with potential for large environmental destruction. Although Myanmar has required environmental impact assessments since 1994, the procedures and regulations for these were only recently initiated, as Myanmar is in the process of developing modalities for environmental impact assessment implementation. In the absence of fully developed national procedures and regulations, it is essential that these safeguard procedures at the project level are well designed and comprehensively implemented to appraise environmental threats appropriately. Currently, only draft environmental safeguards have been developed—and social safeguards, particularly for investment projects that affect disadvantaged groups, are absent.

Realigning economic incentives is urgent for sustainable resource management

Some current government policies and practices actually incentivize unsustainable resource management. For example, when concessions are allocated for the development of plantations, hydropower, or mining, the concessionaires are granted the timber from forest-cleared areas at little to no cost, even though the market value of the timber may be high. When the concessionaires sell this timber on the market, they capture “economic rent,” an implicit subsidy. The opportunity for rent then favors the location of such projects in forest-rich areas. It is therefore crucial that concession allocation in Myanmar be reformed quickly and that areas of high conservation value be excluded from concessions. Furthermore, concessionaires should pay the full market value for wood cleared from natural forests to correct the incentive distortion. Similar distortions exist in other areas and should also be given immediate attention. Some progress in addressing economic drivers of environmental degradation is being made, such as a 2014 ban on unprocessed roundwood exports. The enforcement of the ban can potentially lead to a win-win situation by both stimulating value addition in the domestic economy and reducing economic incentives for deforestation (Box 5.5).

Certification of environmentally sustainable management offers a means for environmental values to be internalized in product marketing and pricing, and thus enables a form of payment for environmental services. Moving toward a modern chain of custody system for natural resource products, wherein consumers can accurately appraise sources, sets incentives for sustainable management practices, and can lay the groundwork for future certified sustainable production and access to premium markets.

Many other resources are currently under open access, as they belong to the state and lack rules to regulate exploitation. This is particularly the case for forestry and fisheries, where fuelwood and

fish collection are not effectively regulated, and may suffer from “the tragedy of the commons,” where each individual actor benefits more from the decision to exploit than to conserve resources in the absence of expectations of conservation decisions by others. In this context, establishing effective stewardship over common pool resources, such as through community forestry, is necessary to mitigate incentives for overexploitation.

Targeted actions can put Myanmar on a sustainable growth path

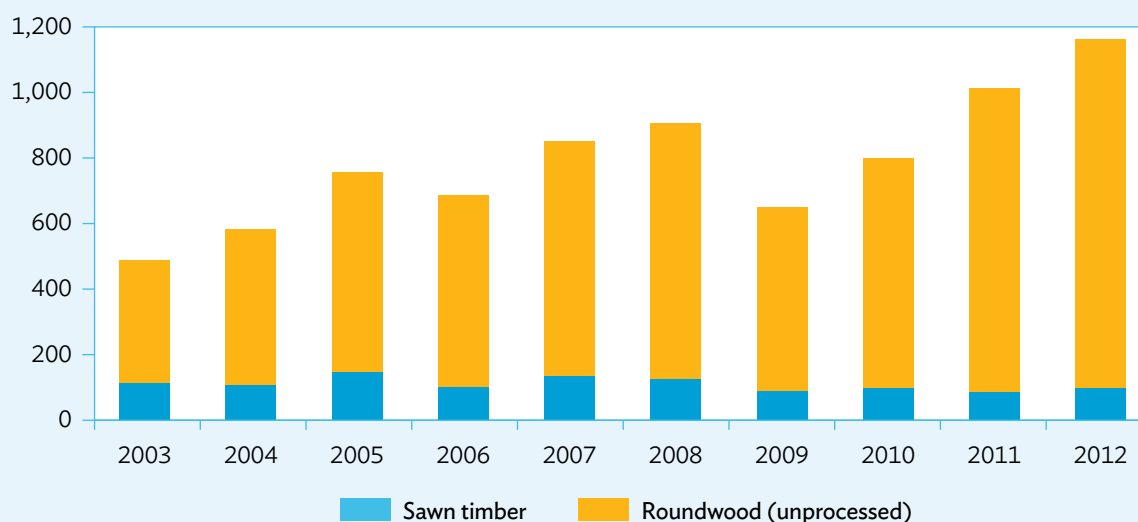
Developing a basis for sustainable development will require investment in institutions, regulations, and implementation capacity, as Myanmar is starting from a low level in these areas. At the same time, there are areas of “low hanging fruit” where simple actions can substantially improve environmental performance, while setting the basis for sustainable economic development. These include:

- i. Resolving fundamental incentives that drive environmental degradation, particularly open access resource management and implicit subsidization of environmental destruction through royalty charges on “conversion timber” that do not reflect full market values.
- ii. Reforming concession allocation processes, such that publicly available forest inventories precede allocation, high conservation value areas are excluded from concessions, and royalty payment compliance on conversion timber can be monitored.
- iii. Finalizing environmental and social impact assessment regulations and procedures, such that meaningful assessments are ensured for projects with the potential for large impacts, environmental management plans are robust, and compliance is complete.

Box 5.5: Increasing the Sustainability and Economic Contribution of Forest Resources

Myanmar’s forest sector is dominated by unprocessed log exports, as the value of exported roundwood is more than 10 times that of exported sawn timber, on a rising trend (Figure B5.5.1). This limited processing has achieved little value addition for forest products. To address this, unprocessed roundwood was banned for export in April 2014—a positive step in line with the policies of most other forest-rich countries. If enforced, the ban should depress domestic wood prices, and reduce economic incentives for deforestation. However, enforcement is uncertain given the large volume of timber that is already exported illegally over Myanmar’s long, porous, and contested land borders. Moreover, the ban requires only a low level of domestic processing, with sawn timber exports still permitted, and there is no accompanying strategy to develop a domestic processing industry, which currently only has capacity for a tiny fraction of the sustainable production potential.

Figure B5.5.1: Composition of the Value of Primary Wood Exports



Note: Data based on import statistics reported by countries importing wood from Myanmar through the United Nations Comtrade Database. Source: United Nations Comtrade Database (accessed April 2014).

To maximize the sustainable contribution of forest resources to economic development, Myanmar should develop a strategy that integrates private sector processing industry development with scientific forest management, such that capacity for value addition is closely matched to sustainable yield levels and wood quality. In so doing, Myanmar will need to both address current processing undercapacity while avoiding the potential pitfall of developing excess processing capacity over the longer term, which can also lead to pressure for overextraction and suboptimal timber yields. In parallel, new institutional arrangements and incentives need to be established for extraction regulation to be effective.

Indonesia’s teak furniture industry illustrates the potential of focusing on value addition. According to Purnomo, Guizol, and Mhutaman (2009), only 16% of teak furniture value accrues to the teak grower, which is 45% of domestic value addition. This implies that it should be possible to more than double the economic contribution from forestry per timber unit harvested through processing improvements.

Source: Authors.

- iv. Finalizing environmental quality standards, pollutant discharge and waste stewardship regulations for protecting air, water, and ground resources.
- v. Building analytical capacities within regulatory bodies for determination of sustainable forestry and fisheries harvesting levels, implementation of environmental regulatory processes, prioritization of conservation measures, and monitoring of environmental compliance.
- vi. Establishing clarity, stability, and accountability for regulatory decision-making and environmental approvals so that violations of approval procedures can be traced.
- vii. Helping to set the conditions for a robust and independent civil society, one that can help to monitor and ensure accountability for environmental policy enforcement.
- viii. Developing a chain of custody documentation requirements for extractive resources so that sources are clear and to set the stage for the development of sustainable management certification.

Myanmar should be able to take advantage of the considerable opportunity presented by support from international and regional cooperation initiatives and funding sources for programs that promote the protection and preservation of ecological resources. With the right investments, the country could serve as a showcase for sustainable development.

CHAPTER 6: CONCLUSION

Myanmar is at a pivotal moment in its economic, social, and political transition. It has begun an ambitious reform program for the country's multifaceted transformation that is unparalleled in its modern history. With substantial progress already made on many fronts, the country should seize the opportunity to provide a springboard for rapid, sustainable, and equitable growth. The government has made clear its commitment to reform, but there are still immense challenges to be surmounted, and a detailed, integrated policy framework is needed to build on the reform thrust.

The overall growth strategy should be one that lays a firm foundation of good governance and macroeconomic stability. It should explore the value-added potential of its rich endowments to further develop the agricultural and natural resource sectors while ensuring environmental sustainability, and fuel economic transformation with effective industrial strategies. It should also responsibly and inclusively expand the tourism and services sectors, and promote sustained high and inclusive growth by fostering human capital and improving soft and hard infrastructure across the country.

This report presents many of the components for an integrated reform program that the government could consider in its development goals and plans and that are consistent with the core growth strategy proposed in Chapter 1. Because of the complexity of the country's contexts and the scale of the proposed reform program, the policy recommendations for consideration are voluminous (see the summary of the proposed policy recommendations in Appendix 3). Nevertheless, there are important themes that emerge from the detailed sectoral analyses and they should not be lost in the details.

Rapid increases in government capacity will be needed to push forward an ambitious reform program. Many reasons for increasing government capacity are discussed in this report, but they boil down to a simple truth: developing, planning, executing, and managing a complex reform program requires skill, knowledge, diligence, and commitment. The importance of quickly increasing government capacity in every aspect of development cannot be overemphasized, from central planning to sectoral and local implementation. While in some cases, an initial shortage of skills may be addressed by importing foreign experts—such as to develop the capacity of the newly independent central bank—the long-term focus should be on developing the country's capacity to plan and execute its own policies. It is also critical to root out endemic corruption, which presents one of the most serious challenges to the progress of economic and political reform and development.

Improved coordination of government ministries and agencies is key to effective integrated development planning. Issues related to the coordination of policy making and policy execution appear to be considerable hurdles in systemically implementing complex reforms in an integrated framework. While there are already efforts to improve coordination and intra-government communication at various stages, streamlining Myanmar's decision-making bodies is fundamentally important. There is still a need for coordination to be formalized, with inter-ministerial and inter-agency committees given clear roles. The roles of ministries, departments within ministries, and government agencies also need to be clearly defined to create clear responsibilities, prevent duplication of effort, and aid in coordinating government activities.

Increased cooperation and communication with the private sector will enable more rapid development. In almost every sector of the economy and with every policy initiative, there are opportunities to accelerate and improve development by fostering cooperation and communication with the private sector. This report suggests many specific examples in infrastructure, health care, education, and other areas. A common feature is that they allow the use of private capital to assist in the provision of public services, which is of special value to Myanmar, where the needs are great and government resources limited. Improved communication with the private sector will help to better target policy initiatives in many areas and make the provision of public services more responsive to the economy's needs.

Clear regulatory structures, well-defined property rights, and effective contract enforcement will spur growth in the private sector. Policy reform should not stop where constraints are removed and bottlenecks addressed. An important process is to create an environment in which businesses can thrive and new opportunities can arise. This requires establishing regulatory frameworks and market institutions that reduce uncertainty and allow firms, workers, and entrepreneurs to do what they need to do. The government has already made strides in improving regulation, but there is more to be done in electricity, telecommunications, finance, land rights, and many other areas (and specific recommendations are presented in this report). Clear regulatory structures and property rights will encourage private investment, both domestic and international. And this, too, is an area where critical improvements can be made at modest cost.

Myanmar's natural resource wealth, if managed properly, can be a springboard for rapid, inclusive, and sustainable growth. Much of recent economic growth and government revenue have come from the extractive sector. But such growth has been for Myanmar, as for many other countries, uneven and comes at a potential cost of crowding out other types of development or creating macroeconomic and even political instability. For

these reasons, broadening the focus of economic development as quickly as possible is a priority. This is implicit in the discussions of strategies for reviving and expanding agriculture, as well as developing manufacturing and tourism. There is an urgent need to expand and reform the tax system to improve the management and allocation of these valuable but exhaustible resource revenues. Myanmar's move toward the Extractive Industries Transparency Initiative is an important step in managing its new wealth, and this should be a government priority. Transparency in the use of resource revenues would allow them to be used as dedicated funding sources for essential longer-term investments, such as for infrastructure and human capital, and to help broaden and accelerate economic growth.

Laying the groundwork for future growth will require putting policies into place today. The country needs to make important investments for the future, especially in infrastructure and human capital. Sustained high growth will be an outcome of building up all productive inputs together, as these are complementary with each other. With substantial foreign direct investment (FDI) potential, capital investments can be made rapidly for the country. However, investments in infrastructure and human capital tend to take more time and require significant effort from the public side. Unreliable or inadequate electrical supplies are pressing problems for almost every sector. There is considerable potential for hydropower development and gas production, but the country suffers greatly from short electricity supplies. Although infrastructure needs are great, electricity deserves special consideration because it presents an immediate bottleneck to development. As such, addressing this problem, even by stop-gap measures, should take priority. As the economy transforms, there will be increasing demand for highly skilled and educated workers. Developing such a workforce will allow Myanmar to move up global value chains, better absorb technologies and ideas, develop its own entrepreneurial culture, and retain more of the benefits of FDI.

The overall growth strategy should be rooted in the conviction of inclusive, environmentally sustainable, and regionally connected

development that respects ethnic and social diversity, precious environments, and shared regional goals. The most critical factor for sustained and successful reform will be Myanmar's ability to maintain political and social stability. In fundamental ways, the public needs to learn to live with diverse ethnicities and religions. All leaders—political, social, and religious—must encourage and promote ethnic and religious tolerance through continued education and counseling. It is also essential to develop a mechanism to allow constructive negotiation among all ethnic and social groups to reach a peaceful resolution of conflicting interests. Economic and political transition is never easy, and there will be winners and losers in the process. Therefore, the first priority is to ensure the benefits of reform are shared as broadly as possible by making social inclusion and balanced regional development central to reforms and their implementation. Rapid economic development and liberalization could have grave environmental consequences unless carefully managed and monitored. Myanmar has a wealth of natural resources, which need to be conserved to the extent possible for future generations. The country must establish a sound policy framework for environmentally sustainable development to ensure that rapidly increasing investments are made responsibly.

Increasing economic integration, both regionally and globally, can help increase overall growth prospects. Myanmar could be one of the region's most attractive destinations for foreign investors, as long as reforms continue to improve the business

and investment environment. There are many positive effects from international integration and FDI, including knowledge and technology transfer. The main pathway to modern manufacturing development is participation in global value chains (and this will be important for other sectors, including agriculture). Becoming a link in value chains will be greatly assisted by better international integration. Myanmar's neighbors, especially the People's Republic of China and Thailand, are already deeply embedded in many global value chains; increased regional integration will help to create global relationships that can provide opportunities for Myanmar to produce higher-quality, higher-value products using the region's production and business networks. Meanwhile, pent-up global demand to visit Myanmar is already fueling rapid tourism growth, and properly planning the industry's growth is essential to prevent an ill-conceived expansion of tourism beyond the country's capacity from harming its reputation and damaging growth potential.

Myanmar's advantages—natural, cultural, and historical—are positioning it to be the next big Asian success story. The extensive reforms put in place by the government since 2011 are already starting to pave the way for long-term success, both economic and in terms of human development. If that momentum is maintained and based on an integrated, well-planned, and coordinated design, the vision for growth can be realized and the country will again become one of Asia's leading countries.

APPENDIX 1: RECENT REFORMS IN MYANMAR

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|--|--|---|
| National Development Planning | | |
| Myanmar Comprehensive Development Vision | Lays out the foundation for infrastructure and human resource development plans in urban and rural areas. (http://www.irrawaddy.org/commentary/across_irrawaddy/the-prospects-for-burmas-economic-development.html) | Being drafted. |
| National Comprehensive Development Plan | Four 5-year plans covering a 20-year period (2011–2031), of which the Framework for Economic and Social Reforms is the first plan. | The other three plans being drafted. |
| Framework for Economic and Social Reforms (2012–2015) | The framework has the following objectives: (i) transitioning to a market economy, (ii) developing agriculture as a springboard for the development of other sectors, and (iii) attracting private domestic and foreign investments and expertise. It is a 10-point basic economic and social framework covering finance, tax, and monetary reform; relaxing regulations on trade and investment; and promoting private sector development, health and education reforms, food sufficiency and agriculture development, upgrading of mobile communication services and the internet system, infrastructure development, and programs for an effective governance system and transparency. | Published in January 2013. |
| Monetary and Finance Sectors | | |
| Central Bank Law | Authorizes the operational autonomy of the Central Bank of Myanmar (CBM), enabling it to conduct an active monetary policy. The new law accelerates reforms in the financial and banking sector. It repeals the Central Bank of Myanmar Law of 1990, but the rules, regulations, by-laws, orders, and directives issued under the repealed law remain in force until implementing regulations are issued. Under the new law, the CBM becomes an autonomous body, independent of the Ministry of Finance. The CBM is tasked with two main objectives: (i) promote efficient payment mechanisms, and ensure liquidity, solvency, and proper functioning of the financial system; and (ii) foster monetary, credit, and financial conditions conducive to sustainable economic development. For these objectives, the CBM may independently adjust interest rates and conduct currency and exchange operations. The CBM is also responsible for the supervision of banks. Nonbank financial institutions and microfinance institutions remain under the supervision of the Ministry of Finance. | Approved by the President in July 2013. |
| Banking reforms | These have allowed private banks to open foreign exchange counters and revise fixed interest rates on deposits and loans more frequently. Banking reforms have also | Started in October 2011. |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|---|--|--|
| | made branch opening by private banks easier, broadened the definition of collateral for lending to include agricultural export goods, somewhat liberalized deposit interest rates, extended loan durations, and introduced mobile banking. | |
| | With the end of the economic sanctions, banks could access SWIFT for international bank transfers and Myanmar banks establish relations with correspondent banks abroad. | Accelerated in 2013. |
| | A formal foreign exchange market is operating. Credit card use is allowed and is expanding. An ATM network is fast developing and an interbank payment network has been put in place. | November 2011 |
| | Simplification of the reserve requirement and recalibration of reserve requirements. This gives the CBM the leverage over monetary conditions by creating a demand for CBM current account balances. | December 2012 |
| | Permits granted to operate currency remittance services to private authorized banks for overseas workers. | November 2011 |
| | Permission granted to maintain foreign currency accounts to support the banks' line of international banking services. | April 2012 |
| Automation of clearance and payments system | Undertaken to develop a payments and clearing system in the financial sector. | The Japan International Cooperation Agency assists through the Modernizing Funds Payment and Securities Settlement Systems Project. Automation is due to be operational by 2015. |
| Financial Institutions Law (proposed) | This is expected to set out the licensing requirements for private banks, corporate governance arrangements, and the conditions for greater foreign investor participation in Myanmar banking. | Being drafted with the assistance of the World Bank to replace the Financial Institutions Law set up in 1990. |
| Granting insurance licenses | Twelve private insurance companies were initially granted licenses to operate six classes of insurance. | September 2012 |
| Unification of the exchange rate with the adoption of a managed floating exchange rate regime | The highly overvalued exchange rate was abolished and replaced by a largely market based system. This has resulted in higher revenues from state economic enterprises appearing in government accounts. | April 2012 |
| Foreign Exchange Management Law | This law removed all exchange rate restrictions and eliminated multicurrency practices. | August 2012 |
| Introduction of foreign exchange interbank market | A key element of financial liberalization, the foreign exchange interbank market will deepen financial activities, promote liquidity, and support the managed floating foreign exchange system. | August 2013 |
| Securities Exchange Law | Provides the framework for a stock market. The law established a Securities and Exchange Commission, the main regulatory body to supervise the securities market; lists the licenses needed for businesses dealing in securities (brokerages, underwriting, investment advisories, and company representatives); allows an over-the-counter market; lists actions considered in violation of the law (such as insider trading) and prescribes the associated penalties; and provides for the establishment of a securities depository and clearing agency. | July 2013. The Tokyo Stock Exchange and Daiwa Securities have been chosen to help Myanmar set up a stock exchange by 2015. |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|--|---|-------------------------------|
| Microfinance Law; Notification 277 and Instructions | This allows local and foreign investors to establish fully privately owned microfinance institutions, including microfinance providers operating “illegally” before the law was passed. | Enacted in November 2011. |
| Myanmar Microfinance Bank | A private bank that targets low-income borrowers and offers interest rates lower than commercial bank rates. | Established in July 2013. |
| Myanmar Microfinance Supervisory Enterprise | Authorized to issue licenses to new microfinance companies, – domestic or foreign. So far, it has issued 189 licenses, of which 100 are licensed to issue credit as well as accept deposits from the clients. | Established in November 2011. |
| Public issues of government treasury bonds | Issued in denominations of 10,000 kyats (MK), MK100,000, MK1 million, and MK10 million, bearing interest rates of 8.75% for 2-year, 9.0% for 3-year, and 9.5% for 5-year terms, respectively. The aim is to develop an efficient market infrastructure and a secondary market for government bonds. | January 2010 |
| Fiscal Management | | |
| Ministry of Finance responsible for fiscal policy. As one reform measure, a Treasury Department will be established under the Ministry of Finance in FY2014 to manage the fiscal policy effectively and efficiently. | There will be two main divisions under the Treasury Department—Debt Management and Cash Management to focus on the treasury function. | For implementation in FY2014. |
| Tax reforms | Efforts to reform tax policy and strengthen tax administration are under way. Reforms may likely involve reforming the tax on special consumption goods and expanding taxation of services. In the long run, the government intends to introduce a full value-added tax system. Other measures include the abolition of the profit tax and reduction of the sales tax to 5% for most items (down from 90% in some cases). The long-term vision for tax reform includes reform of tax administration, movement to a value-added tax, and, in conjunction with multilateral partners such as the International Monetary Fund, World Bank, and the Asian Development Bank, strengthened fiscal management. | Under way. |
| Law Amending the Income Tax Law | Amends the personal income tax rates and income bands. The top rate has increased to 25% from the old 20% and the exempt income band has increased to MK 2 million from MK500,000. The available exemptions for Myanmar residents who have children and/or a spouse have also been increased. | Enacted in March 2014. |

(continued on next page)

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|--|--|-------------------------------|
| | <p>Makes the income by individuals from profession, business, property and other incomes subject to tax in the same way as tax on salary. Previously, such types of income are subject to an income tax of 2% to 30%. Under the new law, all these types of income are added together with salary and subject to the income bands and tax rates. Moreover, under the old law a person wishing to purchase an immovable property was required to prove the source of funds to be used for the purchase. If the individual cannot prove the source of the funds, a 30% tax on “income from undisclosed sources” would be applied to the purchase price. Under this new law, the income that has escaped assessment will now be subject to a graduated 3-30 percent income tax for such first purchase. Subsequent purchases however, will be subject to 30%.</p> | |
| <p>Law Amending the Commercial Tax Law</p> | <p>Makes commercial tax applicable to all types of services, unless specifically exempted. This is the reverse of the previous rule that commercial tax does not apply to services unless specifically provided for. Thus, commercial tax will be applied to greater number of services.</p> <p>Under the new law, no commercial tax shall be assessed from businesses in the cooperative sector or private sector if their sale proceeds or revenue from services do not exceed MK 15 million within 1 financial year (for production and sale in the country of commercial taxable goods, provision of commercial taxable services, and trading). It also reduces the commercial tax rate for the import and sale within Myanmar of teak, hard woods, and hard wood conversions from 50% to 25% and for jade and other precious finished products, from 30% to 15%.</p> <p>To encourage competition with imported goods, only 2% commercial tax is levied on the proceeds from the sale of goods that are produced or sold by registered citizen entrepreneurs or a production business owned by citizen entrepreneurs or state-owned enterprises.</p> | <p>Enacted in March 2014.</p> |
| <p>Taxation Law (Tax of the Union Law 2014)</p> | <p>Incorporates the revised income and commercial tax rates and aims to increase the tax to gross domestic product ratio from between 3% and 4% to 4.5%. Under the law- first time property buyers will be subject to a 5% commercial tax for property valued up to MK50 million, 10% for up to MK150 million, 20% for up to MK200 million and 30% for property valued above MK300 million. It also reduces commercial tax on luxury timber finished products from 50% to 25% and on polished precious stones from 30% to 15%.</p> | <p>Enacted in March 2014.</p> |
| <p>Public Financial Management (PFM) Reform Strategy</p> | <p>The overall objective is to develop a standard of PFM that will meet regional standards initially and international and Organisation for Economic Co-operation and Development standards in the long run.</p> | <p>For finalization.</p> |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|--|--|---|
| Public Financial Management (PFM) Reform Strategy | <p>The strategy focuses on three phases of PFM reform. In the first 3–5 years, improving control and stability in expenditure and revenue management processes while building internal capacities. In the following 5–8 years, developing the capacity to produce, analyze, and interpret more detailed financial management data as a basis for holding all levels of management accountable for their collection and use of public finances and for ensuring good service delivery. In the final 8–10 years, developing more sophisticated budget and management systems to improve the quality of expenditures and achieve public policy objectives.</p> <p>For the first phase of reform, the strategy outlines both the system reforms and the institutional restructuring that will be required, and indicates the specific goals of these reforms. Areas of reform for the second and third phases are discussed in the strategy.</p> | |
| Disclosure of the Budget Law | The budget made public for the first time in FY2012. | Started in FY2012 |
| Large Taxpayer Office | The Large Taxpayer Office will introduce taxpayer self-assessment, issue unique taxpayer identification numbers, and be the model for establishing a Medium Taxpayer Office and for the reform of small taxpayer compliance methods. | It has been fully operational since mid-2014. |
| Parliamentary Public Accounts Committee and Planning and Finance Committee | Parliament has established two specialized committees for the oversight of public finances. The Public Accounts Committee has a bipartisan membership and vets the budget bills and the audit reports. The Planning and Finance Committee is responsible for reviewing the national development plan and for legislative matters relating to the financial sector. Since FY2012, these committees have reviewed and rationalized the executive's budget proposal and been instrumental in having the approved Budget Law published in the local press. | Established in 2011. |
| Financial Commission and Planning Commission | Established to coordinate and integrate state and region budgets with the union budget. The new planning and budgeting practices have resulted in a devolution of PFM policy functions from the President's Office to the Ministry of Finance and Revenue and the Ministry of National Planning and Economic Development. | Established in 2012. |
| Implementation of Extractive Industries Transparency Initiative (EITI) | The government has committed to implementing EITI, which will help to boost fiscal transparency. The initiative requires companies working in the oil, gas, and mineral sectors to declare payments to the government, which, for its part, must declare its revenue from extractive industries. | Myanmar was accepted as a candidate country to the EITI on 2 July 2014. It joins 44 countries that have signed up to meet the EITI standard, which requires extensive disclosure and measures to improve accountability in how oil, gas, and minerals are governed. |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|---|---|---|
| Reform of Union Business Organizations | <p>More than 700 Union Business Organizations have been privatized since the late 1990s and there are currently only 44 left. Of these, 40 are “budgetary units” and the rest “autonomous units.” All are in the process of being corporatized.</p> <p>Steps have been taken toward a more corporatized Union Business Organization sector. For example, in the past enterprises were allowed to finance their deficits through transfers from the union or the central bank. These organizations now operate under harder budget constraints, reducing the union’s fiscal risk and stimulating greater productivity.</p> | As of FY2012, budgetary units were responsible for financing 78% of their raw material and working capital costs; as of FY2013 they were responsible for financing 100% of these costs. |
| Public Debt Law | The proposed legislation will strengthen legal and regulatory framework for public debt management, particularly foreign debt operations. | Currently being drafted with the assistance of the Asian Development Bank. |
| Human Development: Health, Education, and Employment | | |
| Myanmar Health Vision 2030 (2000/01 to 2030/31) | A long-term health development plan covering nine main areas: health policy and law; health promotion; health service provision; development of human resources for health; promotion of traditional medicine; development of health research; role of cooperatives, joint ventures, private sector, and nongovernment organizations; partnership for health system development; and international collaboration. | Ongoing. |
| Myanmar National Health Plan (2011/12 to 2015/16) | A 5-year strategic health plan developed with the ultimate aim of ensuring the health of citizens, covering 12 specific goals. These include equal access to quality health services, improving the quality of health services, disseminating health information, training health care professionals and service providers, and strengthening regulation and supervision for food and water safety. | Ongoing. |
| Five-Year Strategic Plan for Health Information System in Myanmar (2011–2015) | Myanmar’s first strategic plan for a health information system. It aims to improve the availability, accessibility, and utilization of health care information for strengthening the country’s health system. | Prepared in 2010. |
| Employment and Skills Development Law | Seeks to promote employment by promoting job opportunities, reduce the unemployment rate, and develop skills. | Enacted in September 2013. Implementing rules and regulations are currently being drafted. |
| Social Security Law | A revision of the Social Security Act of 1954. It provides social and health care through cooperation among workers, employers, and the government. Under the law, workers have a right to “continued medical treatment, family assistance benefit, invalidity benefit, superannuation benefit, survivors benefit, the right to residency and ownership of housing after retirement in addition to the health care and pecuniary benefits for sickness, maternity, death and employment injury.” | Enacted in 2012 and took effect in April 2014. |
| National Plan for Myanmar Workforce Skill Development | Developed by the Ministry of Labour, Employment and Social Security to provide skill training relevant to advanced technology and for ensuring job opportunities. | 2013 |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|--|--|--|
| Minimum Wage Law | This seeks to fulfill the basic needs of workers and their families working in manufacturing, trading, and services, and to promote performance and competitiveness of the workforce. The rights of workers for a minimum wage are described in this law. It repeal the Minimum Wages Act of 1949 and the Agricultural Laborer Wages Act of 1948. | Enacted on 22 March 2013 and became effective on 4 June 2013. |
| Unemployment Insurance System | A social safety net requiring workers to contribute for 36 months prior to eligibility for benefits. As such, the first payments are likely to be made in late 2016 or early 2017. | To be set up. |
| Labour Organization Law | Enacted to “protect the rights of the workers, to have good relations among the workers or between the employer and the worker, and to enable to form and carry out the labour organizations systematically and independently.” It provides a revised framework for establishing trade unions and replaces a 1926 law. The new law has allowed trade unions (called “labour organizations”) to mushroom, with 955 operating as of March 2014. Many of these organizations are small, including the many that formed in the farm sector. The new law allows a trade union to be formed as long as it has a minimum of 30 member workers accounting for at least 10% of the workforce of a given factory, business, or activity. | Passed in October 2011 and came into force in early 2012. |
| Settlement of Labour Dispute Law | Together with the Labour Organization Law, this was designed to create a mechanism for labor representation and the peaceful resolution of disagreements in employer–employee relations. | 2012 |
| Ratification of Labor Conventions | Myanmar has ratified the following labor conventions: <ul style="list-style-type: none"> • Convention No. 29, Force Labor Convention, 1930 • Convention No. 87, Freedom of Association and Protection of the Right to Organize Convention, 1948 • Convention No. 182, Worst Forms of Child Labor Convention, 1999 | Myanmar sent the letter of ratification on Convention No. 182 to the International Labour Organization’s director general on 18 December 2013. |
| Tourism Development | | |
| Myanmar Tourism Master Plan | Establishes a strategic direction for tourism development in Myanmar. | 2013 |
| Myanmar Responsible Tourism Policy | The national vision for tourism with 9 aims and 58 action points to guide implementation of the policy states: “We intend to use tourism to make Myanmar a better place to live in – to provide more employment and greater business opportunities for all our people, to contribute to the conservation of our natural and cultural heritage and to share with us our rich cultural diversity. We warmly welcome those who appreciate and enjoy heritage, our way of life and who travel with respect.” | 2012 |
| Establishment of Myanmar Tourism Federation | An amalgamation of ten associations and one committee under the guidance of the Union Minister for the Hotels and Tourism and the Ministry of Hotels and Tourism. | Established April 2012. |
| Regional Economic Integration | | |
| The second Initiative for the Association of Southeast Asian Nations (ASEAN) Integration Work Plan (2009–2015) | Aims to improve on the Initiative for ASEAN Integration operations by, among other things, seeking more inputs from Cambodia, Lao People’s Democratic Republic, Viet Nam, and Myanmar on the design of projects and extending the coverage of the cooperation to areas such as energy, investment climate, tourism, poverty reduction, and improvements in the quality of life. | Ongoing. |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|---|--|---|
| Master Plan on ASEAN Connectivity | Aims to improve interconnectivity and facilitate production and distribution networks to improve regional competitiveness. | Adopted in October 2010. |
| Border trade posts | Along borders, new trade posts are to be set up to promote the economic opportunities of people in remote areas across the borders of two countries and promoting bilateral trade volume. | <p>Along the Myanmar–Thailand border, three new border trade posts: Htee Khee, which serves as the checkpoint for Dawei Special Economic Zone; Maw Daung and Mae Sae are in the process of being set up.</p> <p>Along the Myanmar – India border, trade posts at Palatwa and Myeik Wa planned to conform with the provision of Kaladen Multi-Modal Transit.</p> |
| Lifting of export/import licensing requirement | Covers export and import licensing requirements for about 30% of tariff lines under the Harmonized System Code 2012 Version 8-digit. | Effective February 2013. |
| Trade liberalization | Some import items including fuel oil and edible palm oil are allowed to be imported by the private sector, and motor vehicles are allowed to be imported by any citizen of Myanmar. Import ban lifted on some food and soft drink products. Some export items including edible oil, edible oil seeds, onion, and cotton and cotton products are allowed to be exported by the private sector. | <p>October 2009 (fuel oil)</p> <p>April 2011 (edible palm oil)</p> <p>May 2012 (motor vehicle for any citizen)</p> <p>December 2011 (food and soft drinks)</p> <p>August 2011 (edible oil export)</p> <p>March 2014 (cotton)</p> |
| Fee for surrendering export licenses abolished | | Effective March 2014. |
| Enhanced Integrated Framework Programme (EIF) | The Ministry of Commerce has initiated the procedures for accession of EIF for trade-related assistance to play a more active role in the global trading system. There are four main functions of the EIF process to be implemented: a pre-diagnostic trade integrated study, the study itself, Tier 1 Projects (institutional capacity building), and Tier 2 Projects (small-scale priority projects addressing supply-side constraints to trade). | Myanmar will be implementing the EIF processes and the pre-diagnostic trade integrated study will be implemented as a first step in 2014. |
| Industry Sector – Development of Small and Medium-Sized Enterprises (SMEs) | | |
| National Comprehensive Development Plan for Industry | Prepared by the Ministry of Industry, this plan is a segment of the National Comprehensive Development Plan. | |
| Industrial Development Committee | Formerly the Myanmar Industrial Development Committee, it was restructured as the Industrial Development Committee with the primary aim of developing and supervising industries. Under the committee, 18 industrial zones have been established in 9 states and regions. It also assists entrepreneurs in the acquisition of capital, raw materials, machinery and equipment, and modern technology; and facilitates the provision of infrastructure facilities such as water, electricity, communication systems, and buildings. | Established on 20 April 2011. |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|--|--|--|
| Myanmar Special Economic Zone Law | Provides the legal basis for the establishment and operation of special economic zones to provide momentum for production and employment, help spur foreign direct investments, and help facilitate technology transfer and infrastructure development. | Enacted in January 2014. |
| Central Committee for SME Development | This is a 27-member committee chaired by the President with two vice presidents, and includes 20 ministers. The committee is tasked to formulate and promulgate laws, regulations, and procedures for SME development; ensure that the government and private banks provide financial capital for this goal; establish a network with local and foreign organizations to meet technical requirements of SME establishment; encourage the market development of SMEs in rural and urban areas; help develop SME-supporting industries, encourage local and foreign investment; promote healthy development of market chains; and plan for nurturing human resources appropriate to SME development. | Established in January 2013. |
| Foreign Investment Law | Permits output to be sold on the domestic market and abroad, with 100% foreign ownership in unrestricted activities and 80% in restricted ones. The law grants a 5-year tax holiday to foreign investors and other incentives for favored industries. It also allows foreigners to lease land from the government or authorized parties for 50 years with extensions adding another 20 years in 10-year installments. | Enacted in November 2012. |
| Competition Policy | After enacting the policy, there will be a Competition Commission which will act as the enforcement authority to control and monitor fair competition, curb monopolies, and prevent mergers of companies, which limit competition. | The President's Office has allowed the proposed law to be submitted to the Cabinet. After Cabinet approval, the proposed law needs to be passed by Parliament. |
| SME Law | Drafted following discussions among the Ministry of Industry, national and international business organizations, and economic experts. | The draft has been submitted to Congress for approval. |
| SME Development Service Center | Tasked with collecting and recording data on SMEs; providing intermediary advice services on technology, financial management, and marketing to SMEs; distributing external market information; arranging business matching with entrepreneurs; and serving as a credit guarantee corporation. | Established in 2012. |
| Manufacturing Industry Law | The Ministry of Industry has initiated an inter-ministry discussion to set the framework for the proposed law. | Public consultations will be held. |
| Exports and Imports Law | Aimed at bringing policies and functions related to imports and exports in line with international trade norms, and at facilitating trade. The law repealed the Control of Imports and Exports (Temporary) Act of 1947. | Enacted in September 2012. |
| Private Industrial Enterprise Law | Categorizes private industrial enterprises into small, medium-sized, and large businesses. The definition covers small and medium-sized industries rather than SMEs. | Enacted in 2012. |
| Reduced export taxes | Reduced from 10% during 1988–2010 to 2% in 2011, levied in the form of income tax to be paid by exporters on their export income. Export licensing requirements lifted in February 2013. | |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|--|--|--|
| Lifting of export and import licensing requirement | 152 export items and 166 import items exempted from export and import licenses, altogether (1982) HS Lines. | As of a notification dated 28 February 2013. |
| Transfer of state-owned industries to private entrepreneurs | State-owned industries under the Ministry of Industry, particularly medium-scale factories for consumer products such as textiles and garment factories, paper and home utility factories, foodstuff factories, and cement and floor tiles factories, are being transferred to private entrepreneurs to rationalize the number of state-owned enterprises, as well as to encourage private manufacturing. | As of March 2014, 62 factories remained as state-owned industries out of an initial 144 under the Ministry of Industry. These factories have been transferred to private entrepreneurs—52 as public-private partnerships and 30 sold in full to private sector buyers. |
| Agriculture and Rural Development | | |
| Farm Land Law | <p>Together with the Vacant, Fallow and Virgin Lands Management Law, covers land management, farmers' rights and tenure, the role of the private sector in rural development, foreign investment, and procedures for land conflict resolution. Four laws were repealed or annulled to pave the passage of these laws: Foreign Investment Law (1988), Land Nationalization Act (1953), Disposal of Tenancies Law (1963), and Law Safeguarding Peasants Rights (1963). The new law is aimed at reducing the level of state control over land use and users' rights, including crop choice.</p> <p>The law provides for a Land Use Certificate and a registration system for the registration of all farmland by the end of 2013. It creates a land market with private land use property rights; this includes rights to sell, exchange, inherit, and lease land, as well as access credit from land. Compensation must be paid if the government acquires land.</p> | Enacted in March 2012. According to the Settlements and Land Records Department, more than 90% of registrations were completed by November 2013. |
| Vacant, Fallow and Virgin Lands Management Law | <p>Provides a mechanism for citizens, private sector investors, government entities, and nongovernment organizations to lease vacant, fallow, and virgin lands from the state for agriculture, mining, and other purposes. A central committee will oversee the granting of leases and monitor the use of these lands, which may not be mortgaged, sold, sub-leased, divided, or otherwise transferred without state approval.</p> <p>These lands may be leased for up to 30 years. The central committee can allocate up to 2,000 hectares (ha) at any one time, up to a cumulative maximum of 20,000 ha. The new law also provides a mechanism for farming families to apply for the use of vacant, fallow, and virgin lands up to a limit of 20 ha, depending on the demonstrated ability of the farming families to develop and manage such land.</p> | Enacted in March 2012. |
| University of Fisheries Science | | Approved by Parliament. |
| National Plan for Monitoring of Residues of Veterinary Medicine and Environmental Contaminants | This will pave the way for the export of aquaculture products to the European Union. | Currently being developed by the Department of Fisheries. |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|---|---|--|
| Infrastructure (Transport, energy, and information and communication technology) | | |
| Transport Projects | | |
| Yangon-Nay Pyi Taw-Mandalay road | Myanmar's main highway. | Completed in 2011. |
| Deepwater ports | A number of foreign investments are developing deepwater ports to support special economic zones. Thai investors have developed a deep-sea port and industrial complexes at Dawei. The Government of the People's Republic of China is constructing a deepwater port at Kyaukphyu in Rakhine State. India is constructing Sittway Port to connect Kolkata to Sittway. | |
| Nay Pyi Taw International Airport | Built when the government moved its capital to Nay Pyi Taw. Its development is in three phases. The first phase included a runway and a passenger terminal. The next two phases will include two additional runways, and extending passenger terminals to progressively increase the annual capacity to 10 million and then 20 million passengers. | First phase completed in 2011. |
| Trans-Asian Railway | Connects Asia to Europe through an 81,000-kilometer railway line that will pass through 28 countries. The plan identifies three cross-border railway connections in Myanmar: Kalay-Tamu (on the border with India), Lashio-Muse (People's Republic of China), and Dawei-Kanchanaburi (Thailand). | These links have yet to be constructed. |
| Singapore-Kunming Rail Link Project | To connect Singapore and Kunming, People's Republic of China. | <p>The 111-kilometer Thanbyuzayet-Three Pagoda Pass connection has yet to be constructed. This is one of the cross-border connections in Myanmar for the Trans-Asian Railway. At the 13th Special Working Group Meeting for the Singapore-Kunming Rail Link Project, held in Myanmar in 2011, representatives from both countries agreed to put off that alignment because some rail areas were flooded due to the construction of a dam in Thailand.</p> <p>A new alignment is under consideration. This might be in a mountainous area, which would mean high construction costs, low passenger and freight transport volumes, and longer running times.</p> |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|--|---|--|
| | | <p>Moreover, people might prefer travelling by road, so the new alignment may be economically not viable.</p> <p>At the 14th Special Working Group Meeting for Singapore-Kunming Rail Link Project, held in Vientiane in 2012, representative from Thailand proposed that a new line from Dawei to Kanchanaburi be constructed instead of Three Pagoda Pass–Namtok. The implementation stage for that railroad project will be considered when demand for freight and passenger transport increases between Dawei and Bangkok.</p> |
| Power | | |
| Proposed amendments to the Electricity Law | Include the identification of required institutions and their own distinct functions, preparation of a national electricity master plan, formulation of grid codes, and development of framework or model power purchase agreements for small and large power generation projects. | Ongoing. |
| National Energy Management Committee (NEMC) and Energy Development Committee (EDC) | The aim of both committees is to strengthen coordination and planning among energy sector institutions. Their focus is to improve resource planning and oversee investments for developing the electricity sector. | Established in January 2013. |
| | The NEMC is a ministerial-level committee and under the Vice President (2). It is responsible for formulating energy policy and plans in coordination with other energy-related ministries. The EDC, composed primarily of deputy ministers, is responsible for implementing the policies and plans of the NEMC. The NEMC Secretariat is composed of staff seconded from energy-related ministries, supervised by the Deputy Minister for Energy. | |
| Information and Communication Technology (ICT) | | |
| E-government portal | | Development is ongoing, as well as the bodies that will implement the e-government plans. |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|---|--|---|
| Telecommunications Law (2013) | Provides a basic framework for companies operating a telecommunications business. It provides for an independent regulator to be created and sets out the government's policy on private sector participation. The new law repealed the Myanmar Telegraphy Act 185 and the Wireless Telegraphy Act 1933. | Came into force in October 2013 (Law No. 31/2013). The Ministry of Communications and Information Technology released the Proposed Rules for the Telecommunications sectors on 4 November 2013. (http://www.legavox.fr/blog/vincent-birot/myanmar-legal-developments-2013-12971.htm#.UtYSof3R5G4) |
| Cyber Law | Identifies and delineates the policy, regulatory, and operation functions of stakeholders in this sector. | Being developed. |
| Restructuring of the internet service provider (ISP) system | The authorities restructured the ISP system whereby existing ISPs (such as Yatanarpon Teleport which mainly serves civilian users and a newly-established Nay Pyi Taw ISP for government ministries) are connected to the international internet via Myanma Posts and Telecommunications. | Commenced in 2010. |
| Follow-Up ICT Masterplan 2011–2015 | Main objectives include (i) enhancing the ability of citizens to use ICT; (ii) strengthening national competitiveness by promoting information technology; (iii) facilitating economic growth by promoting the ICT industry and establishing information infrastructure; and (iv) achieving good governance through ICT. Focus areas include (i) ICT infrastructure building; (ii) industry promotion including industry standards, and facilitating the liberalization of the ICT industry; and (iii) use of ICT in activities such as e-education, e-commerce, and e-government. | Prepared in 2011. |
| Developing, improving, and expanding broadband service and access | An international focus of development partners and agencies such as the United Nations, International Telecommunications Union (ITU), and the United Nations Educational, Scientific and Cultural Organization. | Myanmar has yet to adopt a national broadband plan. However, the ITU has selected Myanmar as one of the four countries in Asia and the Pacific (Nepal, Samoa, and Viet Nam as the other three) where ITU has developed pilot wireless broadband masterplans. |
| Law on Intellectual Property Rights | | The government has indicated that this is already being drafted. However, no definite target has been set in terms of its approval and implementation. |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|---|---|--|
| Tender and award of two telecommunications service licenses to the country's first foreign telecommunications operators | | In January 2013, Myanmar called for expressions of interest on tenders for two telecommunications service licenses from foreign investors. The licenses were awarded to Norway's Telenor ASA and Qatar Telecom QSC in June 2013. |
| Law Amending the Electronic Transactional Law | The law reduces the prison terms to 3 years minimum and 7 years maximum in Article 33 of the original Electronic Transactions Law, which allowed for sentences of between 7 and 15 years for using electronic communication to acquire or distribute information on state secrets, or carry out an act that is deemed detrimental to the state's security, rule of law, regional tranquility, ethnic unity, economy, or national culture. It also added provisions allowing for a fine. | Enacted in February 2014. |
| Governance | | |
| Human Rights Commission established | Launched a website and state media has published information specifying the complaints process and the documentation needed to file a complaint. | Formed on 5 September 2011. As of September 2013, a Human Rights Commission Bill is currently before Parliament. |
| Right to publicly demonstrate and right of association | | The right to publicly demonstrate (subject to notification) was introduced, and draft legislation on the right of association is under debate. |
| Abolition of the Press Scrutiny and Registration Division | Represents an easing of press censorship. Before the division's abolition, all newspaper articles were subject to review. From April 2013, private publications were able to undertake political reporting and independent newspapers began publication in April 2013. | Abolished in 2012. |
| Myanmar Development Resource Institute | This nongovernment (though state authorized) think tank established as a reform brain trust has a three-part program encompassing economics, law, and security and political affairs. | Established in 2011. |
| Social and Economic Advisory Council | To advise ministries on the enactment of reforms and implementation. | Established in June 2012. |
| Public Services Performance Appraisal Task Force | Set up to review the operations of ministries dealing with the public, cut red tape, streamline decision making, restructure organization where necessary, and change organizational cultures to improve the delivery of public services. | Created in February 2013. |
| Anti-Corruption Committee | The nine-member committee, headed by a vice president, aims to promote good governance and clean government. | Formed in January 2013. |

| Reforms, Laws, Strategy Documents, and Other Actions Taken | Description | Status |
|---|--|---|
| Anti-Corruption Law (2013) | Requires top officials to declare their assets. A special anti-corruption commission will be established to address corruption cases, with the law requiring that commission members also declare their assets. It replaced the 1948 Suppression of Corruption Act. (http://www.legavox.fr/blog/vincent-birot/myanmar-legal-developments-2013-12971.htm#.UtYSof3R5G4) | Approved in August 2013 (Law No. 23/2013) (http://www.legavox.fr/blog/vincent-birot/myanmar-legal-developments-2013-12971.htm#.UtYSof3R5G4) |
| Joined the World Bank's Multilateral Investment Guarantee Agency | Provides for political risk insurance, even in conflict zones. This step should help increase Myanmar's attractiveness as a destination for investment. | Became 180th member in December 2013. |
| Law on Peaceful Assembly and Peaceful Procession | Allows the right to hold peaceful demonstrations and marches, though organizers must obtain permission 5 days in advance from the commander of the relevant Township Police Force. | Enacted in July 2012. |
| Consumer Protection Law | Covers the rights and responsibilities of both consumers and manufacturers, and lists prohibitions for manufacturers. It sets out how a Committee for Consumer Protection will function, and describes a dispute resolution and sanctions regime. It is enacted to help consumers understand their rights, to tackle fraudulent claims on the use of goods and services, to create a consumer protection system with legal security, to provide clear and easily accessible information on consumer protection, to promote honest and responsible conduct of business, and to improve the quality of goods and services. | Enacted on 14 March 2014. |
| Environmental Sustainability and Climate Change | | |
| Environmental Conservation Law 2012 | Facilitates the implementation of the Myanmar National Environment Policy adopted in 1994. | Enacted in March 2012. |
| Expansion of the Ministry of Forestry into the Ministry of Environmental Conservation and Forestry (MOECAF) by combining the Ministry of Forests with the National Commission for Environmental Affairs | MOECAF now comprises six government agencies: Planning and Statistics Department, Forest Department, Environment Conservation Department, Myanmar Timber Enterprise, Dry Zone Greening Department, and the Land Survey Department. | Expanded in 2012. |
| Signatory to the Convention on International Trade of Endangered Species and Ratification of Convention on Biological Diversity | | Not yet enforced. |
| Myanmar Disaster Preparedness Agency | Creates systematic preparedness measures for disasters and will undertake relief and support activities in disaster situations. The Myanmar National Disaster Preparedness Central Committee chaired by Vice President (2) and the Myanmar National Disaster Preparedness Working Committee chaired by Union Minister of the Ministry of Social Welfare, Relief and Resettlement, were eventually formed in May 2014. | Constituted in April 2011. |
| Myanmar National Search and Rescue Committee | Coordinates on search and rescue with countries in Southeast Asia and the Pacific, and tasked with designing and implementing national search and rescue measures. | Constituted in April 2011. |

FY = fiscal year, SMEs = small and medium-sized enterprises.

APPENDIX 2: MODEL SUMMARY

This report uses a single-country computable general equilibrium (CGE) model, with a formal structure that has been applied to over 50 countries. The dataset to which the model is calibrated is based on a new social accounting matrix for Myanmar, estimated by the authors. The model takes 2010 as a base year and, because the emphasis of this study is on structural components of domestic economic growth, divides the economy into 32 sectors. The model also details five factors of production: capital, land, natural resources, and labor, both skilled and unskilled. The formal structure of the model allows for one so-called “representative household,” which, for the purposes of macroeconomic analysis, stands in for the many households. The model also incorporates integration with the global economy using a single trading partner (the “Rest of the World”), aggregating Myanmar’s trade in each of 32 commodities over all partner countries and regions. The remainder of this appendix gives details of the model, and definitions of its economic sectors are presented in Table A1.1 (Roland-Holst and Park 2014).

A. Overall Structure

The model has a small number of basic components, but has been calibrated with substantial detail from some of those components. The representative household supplies the factors of production, makes decisions regarding consumption of particular goods and savings, and trades with the rest of the world. In a standard assumption of microeconomic modeling, firms are assumed to be simple aggregators of factors of production, turning them into consumption or intermediate goods. That representation is precise to the extent that factor and goods markets are perfectly competitive. Each component of this basic structure is discussed in turn later. As is

customary, a CGE model only analyzes the relative prices of goods, and monetary phenomena are not specifically incorporated.

B. Production

All sectors are assumed to operate under constant returns to scale, so that doubling all inputs yields twice as much output. Three different generic types of production technology are built into the structure of the model, representing crops, livestock, and all other goods and services. These divisions reflect the critical importance of agriculture and land use in the Myanmar economy and the important differences in the role of land in producing different sorts of goods. Figures A2.1 through A2.3 present detailed production structures.

The key feature of the crop production structure is the substitution between intensive cropping versus extensive cropping; that is, between fertilizer and land (Figure A2.1). Livestock production captures the important role played by feed versus land; that is, between feedlot versus range-fed production (Figure A2.2). Production in the other sectors focuses on more traditional capital–labor substitution, with energy also included as a non-labor factor (Figure A2.3).

The model develops dynamically. In each period, the supply of capital, labor, and land generally comes from the stock available at the end of the previous period and any accumulation of savings. However, the supply of land is assumed to be sensitive to the contemporaneous price of land, given the substantial quantity of undeveloped land in the country, and land may be used for the production of different agricultural goods. Capital and labor, in the model, are allowed to be allocated to appropriate sectors.

Table A2.1: Sectors for the 2010 Myanmar Social Accounting Matrix

| No. | Label | Definition |
|-----|--------------|---|
| 1 | Rice | Paddy rice |
| 2 | OthCrops | Other crops |
| 3 | Livestock | Livestock |
| 4 | Forestry | Forest products |
| 5 | Fishery | Fishery and aquaculture |
| 6 | OilGasCoal | Oil, gas, and coal extraction |
| 7 | OthMin | Other mineral mining |
| 8 | ProcFood | Processed food |
| 9 | BevTobac | Beverages and tobacco |
| 10 | Textiles | Textiles |
| 11 | Apparel | Apparel and footwear |
| 12 | WoodProd | Wood products |
| 13 | PapPub | Paper products and publishing |
| 14 | RefPet | Refined petroleum products |
| 15 | Chemical | Chemical products |
| 16 | NonMetMin | Non-metal mineral products |
| 17 | MetalProd | Metal products |
| 18 | Machinery | Machinery |
| 19 | TranspEq | Transport equipment |
| 20 | Electronic | Electronics |
| 21 | OthMfg | Other manufacturing |
| 22 | Electricity | Electric power |
| 23 | GasDist | Distributed natural gas |
| 24 | Water | Water supply |
| 25 | Construction | Construction |
| 26 | TranspServ | Transportation services |
| 27 | Comm | Communication and information technology services |
| 28 | WhRetTrade | Wholesale and retail trade |
| 29 | FinInsRE | Finance, insurance, and real estate |
| 30 | PubAdmin | Public administration |
| 31 | HotResTour | Hotel, restaurant, and tourist services |
| 32 | OthPrvServ | Other private services |

The model makes innovative treatment of labor resources based on the Global Trade Analysis Project dataset, which separates skilled and unskilled labor. In the model, *human* capital can be combined with *physical* capital to form a bundle, with an assumption that human and physical capital complement each other.

With the current assumption of perfect competition, prices of different goods are a function of the inputs required to produce them, based on the best allocation of productive resources. These model prices allow for modeling of consumption and trade patterns.

C. Consumption, Government, and International Balances

The representative household chooses to consume different kinds of goods and to save. Saving is treated as a “good” and its amount is determined along with the demand for other goods.

The government is also included in the model: it collects income taxes, indirect taxes on intermediate and final consumption, taxes on production, tariffs, and export taxes or subsidies. Government expenditures are assumed to scale with real gross domestic product (GDP), but the government

deficit is given a path that is fixed by the modeler. The rate of income tax adjusts to match the modeled GDP and the fixed fiscal deficits; thus if GDP rises in the model, compared to the baseline, tax rates could fall while the surplus or deficit is maintained. The current account surplus or deficit is also fixed in the model. The counterpart of a current account imbalance is a net outflow or inflow of capital, subtracted from or added to domestic savings. The model equates gross investment to net saving—equal to the sum of saving by households, the net budget position of the government, and foreign capital inflows. Therefore, investment is driven by savings. With a given current account balance, the real exchange rate must move to adjust in the model.

D. Foreign Trade

While the role of the global economy is formally modeled using the rest of the world as a whole, trade in the model is based on bilateral trade flows. Imports originating in different regions are taken to be imperfect substitutes (Figure A2.4). In each region, total import demand for each good is allocated across trading partners according to their export prices. Myanmar households choose a balance between domestic and imported goods and then decide upon particular imports. The supply of exports is specified in a similar fashion. The analysis of trade variables takes into account export and import taxes/subsidies as well as trade and transport margins.

E. Productivity Growth

In the model, productivity in manufacturing and services is the sum of three components:

- a scaling factor used to hit a particular rate of GDP growth in the baseline simulation,
- a sector-specific fixed shifter that allows for sectoral productivity differentials,
- a component linked to sectoral openness as measured by the export-to-output ratio.

The component linking openness to productivity has been calibrated so that openness determines roughly 40% of productivity growth, with openness assumed to favor greater productivity because of technology transfers and other endogenous growth effects.

In agriculture, productivity growth is fixed in the baseline scenario at an annual rate of 2.5%, consistent with the average in most developing countries, but openness is also taken to play a role, as described above. In the baseline, GDP growth and agricultural productivity are given. Average productivity in the manufacturing and services sectors is calibrated to achieve the specified GDP growth target in the baseline.

In the policy simulations, economy-wide productivity and other exogenous productivity factors are held fixed, but the openness-related part of productivity is allowed to vary and responds to changes in sectoral export-to-output ratios.

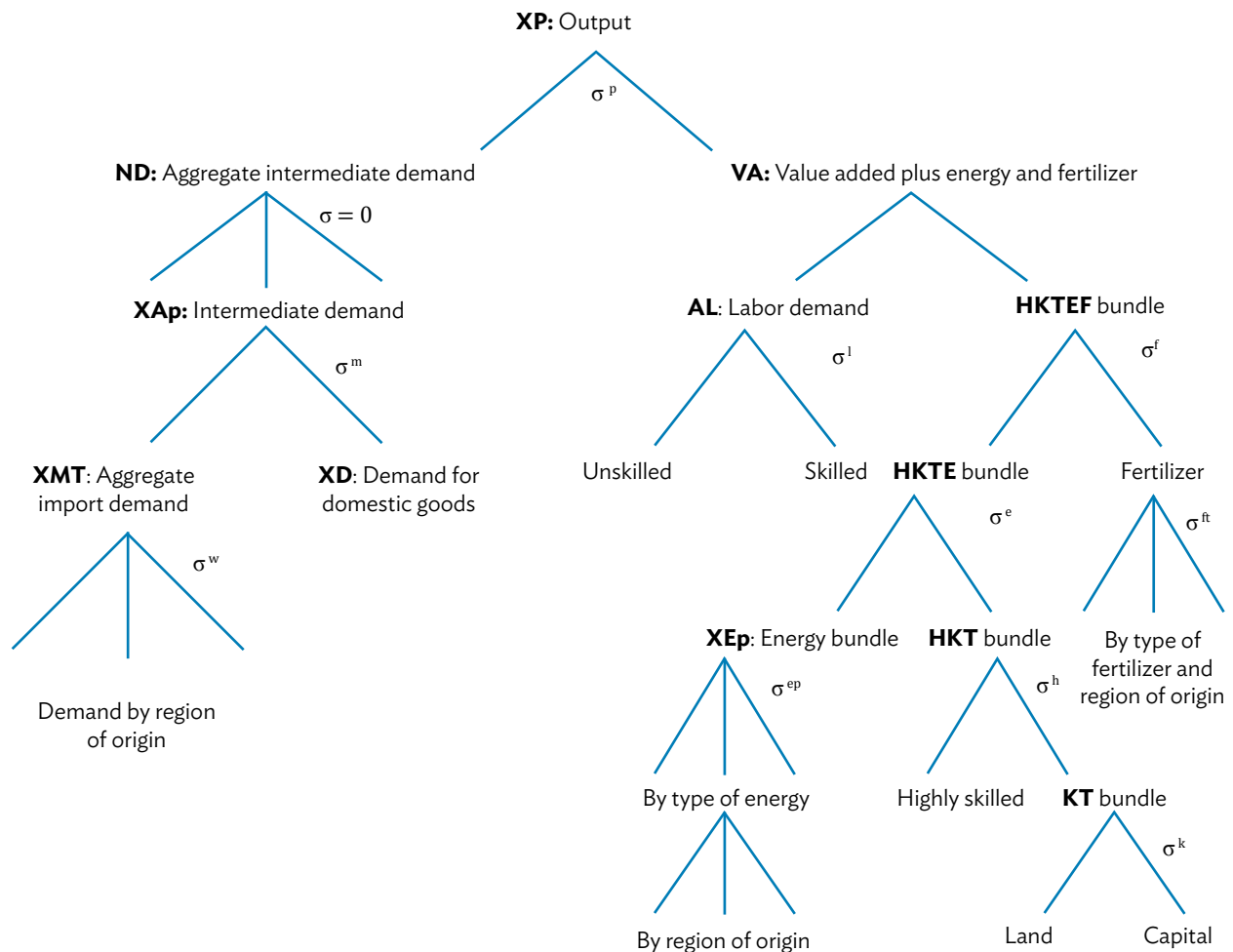
F. Data Sources and Challenges

The model and its estimated results suffer serious drawbacks caused by difficulties in accessing and collecting consistent and reliable data on the socioeconomic performance of Myanmar. Expansion of the scope of statistical surveillance by increasing the number of different surveys, without standardized procedural measures and appropriate continuity in data consolidation, indicates serious issues with Myanmar's data. Nevertheless, over the past decade, renewed efforts have been taken to broaden the collection of national statistics. Most notable is greater attention to industry and market censuses. The Industry Survey (in 2003, 2006, 2008, and now conducted annually), the Informal Sector Survey (in 2009), and the Wholesale Price Survey (in 2008) are among the new national surveys conducted by the Central Statistical Organization (CSO) and the Planning Department. Currently, the CSO publishes the following surveys:

- 1) *Statistical Year Book* (annually)
- 2) *Selected Monthly Economic Indicator* (monthly)

- 3) *Agriculture Statistics of Myanmar* (every 4 years)
- 4) *Livestock and Fishery Statistics of Myanmar* (every 4 years)
- 5) *Forestry Statistics of Myanmar* (every 4 years)
- 6) *Statistical Profile of Children and Women* (every 3 years)
- 7) *Household Income and Expenditure Survey* (every 5 years)
- 8) *National Mortality Survey* (every 10 years, 1999 and 2009)
- 9) *The Rural Development Survey* (every 2 years)
- 10) *Nationwide Manufacturing Survey* (conducted in 2003 and 2006)
- 11) *The Manufacturing Census for the Private Industrial Zones* (conducted in 2006, 2008, and 2009)
- 12) *Price Survey for Wholesale and Retail Price* (conducted in 2008)
- 13) *Informal Sector Survey* (conducted in 2009)

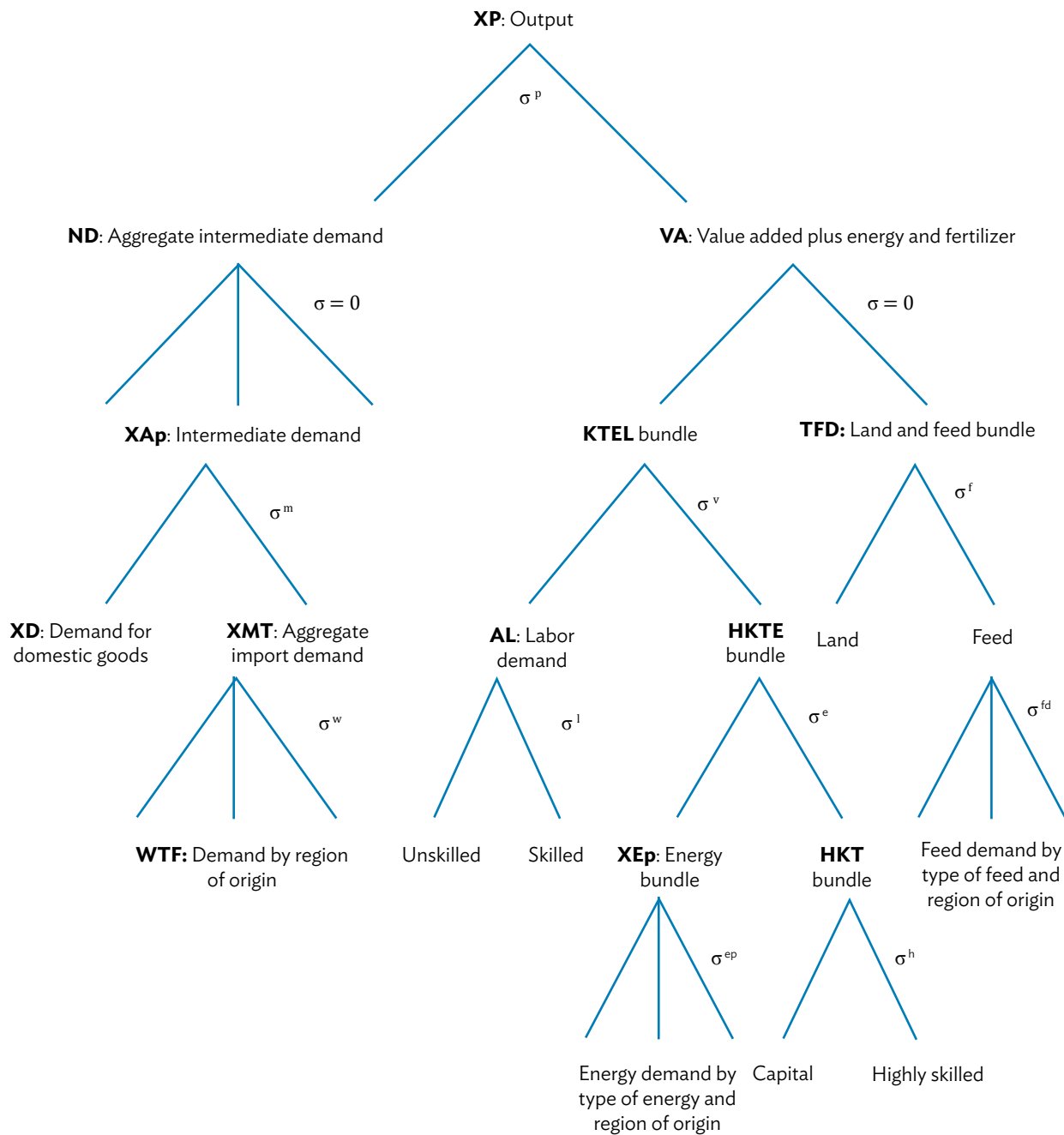
Figure A2.1: Production Function for Crops



AL = Aggregate Labor Demand, HKT = Demand for Skill-intensive (high tech) Capital, other Capital and Land, HKTE = Demand for Non-Labor Factors other than Fertilizer, HKTEF = Demand for Non-Labor Factors of Production, KT = Demand for Other Capital and Land, ND = Demand for intermediate goods/services by origin, VA = Value Added, XAp = Intermediate demand by destination, XD = Demand for domestic goods, XEp = Demand for Energy by sector, XMT = Demand for imports, XP = Sector real output.

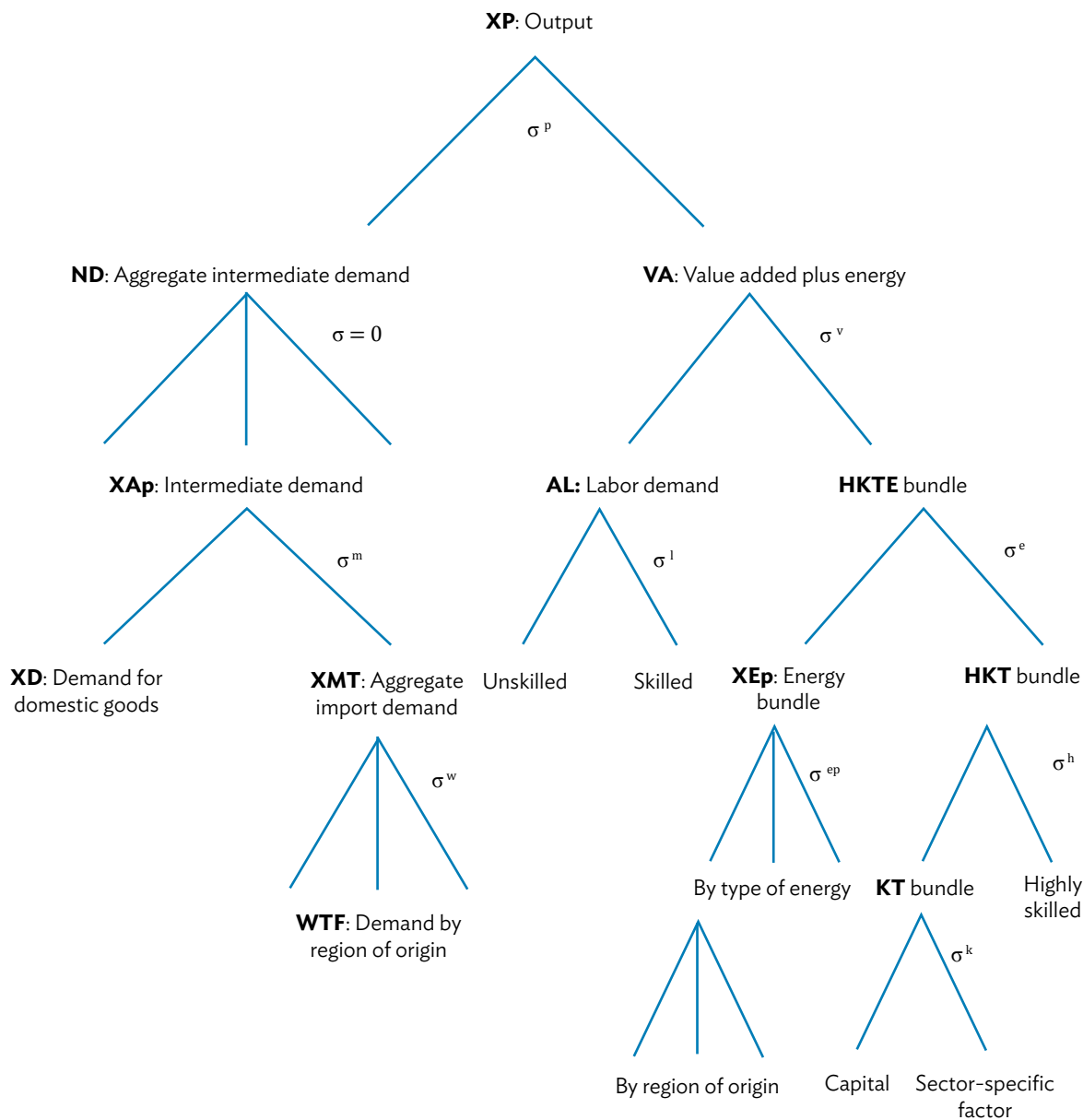
Source: Roland-Holst and Park (2014).

Figure A2.2: Production Function for Livestock



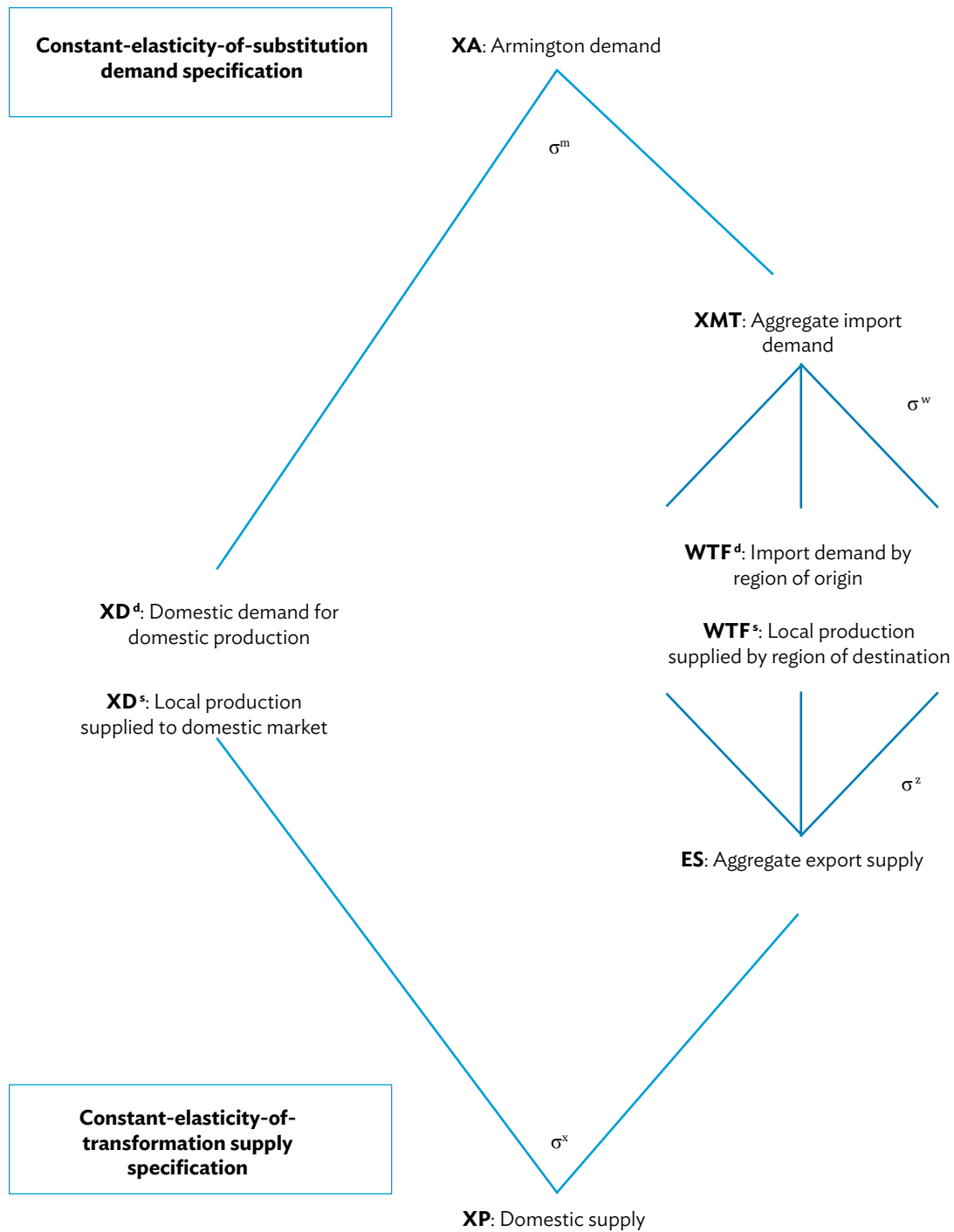
AL = Aggregate Labor Demand, HKT = Demand for Skill-intensive (high tech) Capital, other Capital and Land, HKTE = Demand for Non-Labor Factors other than Fertilizer, HKTEF = Demand for Non-Labor Factors of Production, KTEL = Demand for Capital, Labor, Energy, and Labor, ND = Demand for intermediate goods/services by origin, TFD = Demand for Land and Animal Feed, VA = Value Added, WTF = Trade in Final Goods, XAp = Intermediate demand by destination, XD = Demand for domestic goods, XEp = Demand for Energy by sector, XMT = Demand for imports, XP = Sector real output.
 Source: Roland-Holst and Park (2014).

Figure A2.3: Production Function for Non-Agriculture



AL = Aggregate Labor Demand, HKT = Demand for Skill-intensive (high tech) Capital, other Capital and Land, HKTE = Demand for Non-Labor Factors other than Fertilizer, KT = Demand for Other Capital and Land, ND = Demand for intermediate goods/services by origin, VA = Value Added, WTF = Trade in Final Goods, XAp = Intermediate demand by destination, XD = Demand for domestic goods, XEp = Demand for Energy by sector, XMT = Demand for imports, XP = Sector real output.
 Source: Roland-Holst and Park (2014).

Figure A2.4: Trade Aggregation



ES = Exports by Commodity, WTF = Trade in Final Goods, XA = Aggregate Demand by Commodity, XD = Demand for domestic goods, XMT = Demand for imports, XP = Sector real output.
 Source: Roland-Holst and Park (2014).

APPENDIX 3: SUMMARY OF POLICY RECOMMENDATIONS

| Sector | Short Term | Medium to Long Term |
|--|---|---|
| Governance | | |
| | <ul style="list-style-type: none"> Appoint a senior government official to lead early adoption of the Extractive Industries Transparency Initiative, and to assist in the formation of a multi-stakeholder group and secretariat to prepare the application and the reporting procedures. Begin the revision and improvement of data collection for gross domestic product (GDP), revenue, and other statistical measures, while developing methods to make such data publicly available. Make information more accessible to the public, including the pre-budget statement, the executive's budget proposal, the enacted budget, and guide to the budget for citizens, as well as in-year reports, the mid-year review, and year-end and audit reports. | <ul style="list-style-type: none"> Restructure core government institutions and streamline main functions, with a focus on creating an environment where the private sector plays a key role; fostering improvement in the delivery of public goods and services; streamlining administrative procedures ensuring regulations and government operations are transparent and accountable; and improving the collection and public availability of data. Increase salaries in the civil service and diversify the candidate pool, as well as reduce the number of line ministries while shifting staffing to inter-ministerial coordinating secretariats. Foster greater private-sector involvement in the policy formation process, including participation of private industry, think tanks, and independent educational institutions. |
| Macroeconomic Stability | | |
| Development of the Central Bank of Myanmar (CBM) | <ul style="list-style-type: none"> Develop a monetary policy process based on reserve-money targeting and develop the operational capacity to execute the process. Steps toward this goal include regulations and policies to support the development of private interbank, bond and repo markets; conversion of the CBM auction facility into a lender of last resort able to impose penalty interest rates; and the redefinition of the reserve requirement to be consistent with monetary policy. Build capacity in the CBM's senior management and professional staff, focusing on the development of a core team capable of operating the CBM's foreign exchange policy, monetary policy, financial markets operations, and reserve management. This could comprise about 20–25 people, charged with transforming the CBM. | <ul style="list-style-type: none"> Develop macro-prudential tools to ensure financial stability, operating consistently with monetary policy to help manage the volatility of capital flows; and introduce international standards for financial regulation and supervision. Develop liquidity facilities to allow the CBM to act as the lender of last resort, accompanied by clear actions that define the tools available and the scope of operation, supported by regulations and laws. Enhance data quality and technical analysis to support forward-looking monetary policy decisions, and develop data warehousing for use in the CBM's operations. |

| Sector | Short Term | Medium to Long Term |
|-------------------|--|---|
| | <ul style="list-style-type: none"> • Create a set of governance principles and codes of conduct for the CBM board and staff to guide its operations, build credibility, and preserve the independence of the institution. • Pool all foreign exchange reserves at the CBM with centralized reserve management, backed by a modernized back office and accounting system. • Maintain liquid resources at the CBM to help effect same-day and intra-day settlement of payment obligations under a wide range of potential stress scenarios. • Put in place approval-based foreign exchange controls in the banking system to give the private sector greater access to foreign exchange. | |
| Fiscal management | <ul style="list-style-type: none"> • Unify the annual budget and move further toward hard budget constraints for state economic enterprises, along with their further corporatization, giving consideration to the privatization of other state economic enterprises. • Clarify the roles and responsibilities of the Ministry of Finance, Ministry of National Planning and Economic Development, the CBM, and the President's Office, and develop explicit mechanisms for high-level policy coordination so that fiscal policy is linked with broader macroeconomic policy. | <ul style="list-style-type: none"> • Continue with the restructuring of the Ministry of Finance and Ministry of National Planning and Economic Development (including establishment of the Treasury Department and the expansion of the responsibilities of the Budget Department within the Ministry of Finance). • Restructure the line ministries and lower levels of government so that the structures align with effective public financial management responsibilities. • Continue to increase the share of public expenditure going to the social sectors while focusing on measures to increase the effectiveness and efficiency of all public spending. • Increase the tax yield to a 10% tax-to-GDP ratio by 2018 by diversifying tax instruments and sectors covered. This could include reforming excise taxes, broadening the tax base, and introducing value-added tax and a property tax. • Simplify the tax system, starting with replacing the commercial tax with a general sales tax at a single rate, with at most one reduced rate for basic food items. • Develop systematic policy, legal, and administrative frameworks to assess whether the government should take on particular fiscal risks and how those risks can be mitigated and disclosed. |

| Sector | Short Term | Medium to Long Term |
|---|---|---|
| | | <ul style="list-style-type: none"> • Strengthen public debt management capacity by formalizing the objectives for managing debt in the context of overall macroeconomic policy and developing the institutional framework for meeting those objectives, and analyzing the costs and risks of debt strategies. • Evaluate strategies for investing and saving revenues from natural resources, including the use of instruments such as a stabilization fund or sovereign wealth funds. • Increase donor support and its effectiveness by preparing sector strategies for which donors can provide coordinated support, focusing external technical assistance on building national capacity, and attempting to arrange donor support on a grant or low-interest loan basis. • Develop clear goals for fiscal decentralization and a framework that defines key components of the system. • Take steps for fiscal decentralization: (i) define expenditure responsibilities in detail with government functions assigned to the lowest level of government that can efficiently undertake the function, (ii) assign to local governments stable sources of revenue that are easy to administer and clearly separable across jurisdictions, (iii) review the system of intergovernmental transfers, and (iv) develop a clear framework for local borrowing. • Link fiscal transfers to targets for improving development outcomes in recipient regions. |
| Financial sector reform and development | <ul style="list-style-type: none"> • Develop market institutions and infrastructure for the banking system: (i) finalize the legal framework, (ii) complete the automated clearance and payments systems, (iii) develop the money market system, (iv) create a credit information system, and (v) establish financial accounting standards. • Allow commercial banks to lend for terms longer than 1 year while enabling mortgage finance to get started. • Develop a functional agricultural credit system. • Permit and encourage the use of movable assets as collateral for lending. • Apply regulations equally to state and private banks. • Ease restrictions on new bank branches and establish licensing policies and procedures for the entry of foreign banks. • Encourage branchless banking. • Consolidate the number of private banks. • Restructure state banks and semi-government financial institutions. | <ul style="list-style-type: none"> • Phase in a new interest rate policy. In the early phase, interest rates may be determined administratively but set to keep real interest rates positive and be responsive to macroeconomic conditions. • Develop a risk management framework. • Develop a deposit insurance system. • Develop a comprehensive strategy for microfinance based on a thorough review of the microfinance sector and the institutional arrangements for licensing and supervision. • Liberalize foreign bank licenses in stages to be consistent with the strength of the regulatory framework and the efficiency and reach of domestic banks. |

| Sector | Short Term | Medium to Long Term |
|----------------------------------|---|--|
| Human Capital Development | | |
| Health | <ul style="list-style-type: none"> • Review and update the public health law of 1972 and the health policy of 1993 for the adequacy of regulations, including policy on the minimum standard of services at state and private health centers, and the adequacy of the policy framework to accommodate the Health Sector National Comprehensive Development Plan 2011/12 to 2030/31). • Review funding sources of foreign and nonpublic service providers (including civil society), and assess the feasibility of alternative financing to the public by looking at best practices in other countries as well as assessing the potential modalities of partnering public and non-public service providers, including for in-service training in private and public health facilities. • Complete health facility audits (both public and private) nationwide to measure conditions at health facilities, including equipment, medical supplies, human resources, buildings, and access to water and electricity; and map out using geographic information systems (GIS). GIS should be used for Health Management Information System data collection. • Assess the access of poor, remote, and other disadvantaged populations to primary health care, and identify social protections such as conditional cash transfer programs that can be applied to improve access. • Review the geographic distribution of health professionals and examine constraints and retention issues in remote areas, as well as design incentives to address such issues. | <ul style="list-style-type: none"> • Based on the review of funding sources of nonpublic providers and the assessment of potential private and non-state partners, increase public health spending to a minimum of 3% of GDP. Alternative financing mechanisms such as taxation of products such as tobacco or alcohol to support public health financing can be piloted. Based on the results, policies for alternative financing can be developed. • Prepare a national plan to expand the number of rural health facilities, and start construction of new rural health centers, aiming for 3,000 centers by 2030. • Test the public-private partnership approach in one state/region to assess feasibility. In the pilot phase, prepare a partnership agreement with public and non-state service providers. Common monitoring indicators and a system for evaluation should be established under the agreement. • Review and develop national and regional human resources policies. Conduct bottom-up human resource planning in the regions with overarching quality mechanisms covering the whole country. |

| Sector | Short Term | Medium to Long Term |
|-----------|--|---|
| Education | <ul style="list-style-type: none"> • Increase public spending on education, in particular for primary and secondary schools in the short term, toward improving access and quality throughout the country. This can be supported by target spending such as cash transfers and scholarships to higher education, whether for technical and vocational education and training (TVET) or for universities, and by building more secondary schools in rural areas or expanding transportation systems for rural students to reach schools outside their communities. • Plan the upgrading of curricula in primary and secondary education in a phased and structured manner. Ensure corresponding teaching training programs are developed and implemented in a timely fashion. • Establish a policy framework to involve the private sector in education. This could include deregulation of TVET and tertiary education to improve access to higher education in the face of limited government resources. Prioritize the development of TVET policies and strategies that not only enable skills training and education within the higher education subsector, but also support poverty alleviation and a social safety-net for vulnerable populations. Ensure that TVET and higher education curricula are relevant to the labor market and establish closer collaboration between industry and education institutions, including developing a framework for an apprenticeship policy. • Support good governance through ministry coordination, developing government personnel capacity and ICT infrastructure. This includes development of human resources and management information systems (MIS) and data platforms in ministries from which timely information can be extracted for planning and review purposes. • Develop supporting teacher training systems and policies that aim to continuously promote excellence and the use of relevant and up-to-date teaching methods and tools. | <ul style="list-style-type: none"> • Complete an assessment on the state of education infrastructure and develop supporting financing plans. • Develop e-education platforms for teachers and students, cost them, and secure financing. • Ensure MIS are in place to link education provision and industry needs and measure the employability of all graduates. • Publish regular education reports and seek inputs from industry. • Ensure that quality assurance is in place for all stages of education to enable the education system to adapt to the changing needs of the economy and enable all to strive for excellence. This includes quality assurance of teachers, curricula, and institutions. • Facilitate and support the implementation of public-private partnerships in TVET and tertiary education. |

| Sector | Short Term | Medium to Long Term |
|-----------------------------|---|--|
| Employment and labor market | <ul style="list-style-type: none"> • Promote labor intensive growth and ensure that employment is central to economic policy and strategy. Ensure that supporting industrial relations mechanisms promote constructive dialogue among tripartite partners and transparency in the development and implementation of laws and regulations. • Conduct a systematic review of the labor market and employment situation to identify priorities for allocating resources. This will include a review of labor laws to ensure they support economic growth strategies and do not deter investors or impinge on the rights of workers. • Develop a MIS and upgrade relevant facilities such as offices and training facilities to support labor management and labor-related activities. Ensure coordination for all matters, including migration, social security, and access to training. Establish predictable wage-setting mechanisms. • Ensure adequate resources are available for inspection duties and to resolve disputes. Ensure that labor inspections promote good industrial relations and workplace practices, rather than sanction and penalize. • Improve infrastructure including an MIS for tracking disputes, and develop the legislative environment for resolution—this may include arbitration procedures and labor courts. • Promote safe migration (in and out of country) and set up support systems, including training programs for those migrating out of Myanmar; and promote the return of migrants as the economy develops. • Expand social security coverage for workers and innovate mechanisms to extend coverage to vulnerable and migrant workers. The benefits of participating in social security schemes can be promoted to employers and workers through public information campaigns. | <ul style="list-style-type: none"> • Review development plans for the labor market, including the industrial relations environment; and track trends to establish long-term priorities. • Manage the social security fund and its investment to mitigate risks for an aging population. • Continue outreach and ensure quick and efficient processing of social security claims, including considerations for integration to the Association of Southeast Asian Nations, for Myanmar migrant workers and for foreign workers in Myanmar. • Expand the social security system as needed, whether linked to training and upgrade of skills, or improving infrastructure as data start to indicate workplace challenges. • Systemically feed data on industry needs to the educational system. |

| Sector | Short Term | Medium to Long Term |
|-------------------------------|---|--|
| Infrastructure | | |
| General infrastructure | <ul style="list-style-type: none"> • Devise a clear legal framework for public-private partnerships in infrastructure; and establish a regulatory framework and policies for private sector participation to accelerate the pace of infrastructure developments. • Develop an integrated approach to planning infrastructure development with explicit intra-government coordination. | <ul style="list-style-type: none"> • Regularly prepare and update sector master plans, including explanations of how plans relate to development objectives. • Improve the capacity of government to conduct high-quality economic assessments to allow key development projects to be prioritized. • Identify and address the infrastructure constraints bedeviling business development in core urban and industrial regions; and develop rural infrastructure, including rural roads and irrigation schemes, to facilitate market access and reduce post-harvest losses. |
| Transportation infrastructure | <ul style="list-style-type: none"> • Establish coordination between all transport-related ministries and agencies as well as with neighboring countries to ensure that road, rail, inland waterways, and air transport projects support and complement each other. • Identify and implement priority projects for each of the subsectors based on their potential to generate the highest economic returns, but still address connectivity issues, especially in border areas. • Develop transport network infrastructure to improve rural-urban and regional connectivity through rehabilitation and repair of lower-level road networks as well as those located at the borders. | <ul style="list-style-type: none"> • Continue the upgrading of rail, port, and air transport facilities to cater to traffic increases as well as to ensure the provision of safe transport services. • Promote inland water transport as a cost-effective way of transporting passengers and freight by upgrading various facilities such as landing, berthing, and cargo handling; and modernize navigational equipment for efficient and safe transport services. • Implement a multimodal transport plan by building roads that connect to ports, railway stations, and airports. |
| Electricity infrastructure | <ul style="list-style-type: none"> • Adopt a least-cost power expansion plan to augment the electricity supply in a manner that effectively utilizes available resources, especially in hydropower and natural gas. • Rehabilitate and upgrade coal- and gas-fired generation plants to provide a more reliable electricity supply. • Facilitate a transition to the use of more efficient generation technologies such as combined cycle gas power plants. | <ul style="list-style-type: none"> • Develop a program to upgrade the power supply infrastructure and reduce inefficiencies in the transmission and distribution systems. • Promote decentralized power generation to reduce energy losses and delivery cost. • Develop renewable power sources, in particular off-grid renewable sources to promote rural electrification. • Rationalize the electricity tariff structure to reduce the fiscal burden and make power generation investments financially sustainable. • Adopt a progressive, tier-based tariff system that charges a lower price up to a certain threshold and a higher price for consumption above that level. |

| Sector | Short Term | Medium to Long Term |
|---|--|---|
| Information and communication technology (ICT) infrastructure | <ul style="list-style-type: none"> • Develop and implement specific policies to allow for smooth operation of various ICT services, such as (i) spectrum management for wireless and broadband services, (ii) licensing, and (iii) deployment of the most efficient technologies available. • Establish an independent regulator, or regulators, for ICT industries. | <ul style="list-style-type: none"> • Plan and construct ICT infrastructure to expand services while allowing flexibility for future expansion. • Enhance market competition following entry of foreign operators in the sector, but ensure there is an effective regulatory system for competition among suppliers to maximize consumer benefits. • Boost accessibility of ICT services in rural areas through universal access/service policies including the establishment of financing mechanisms (such as special rural access concessions, tax incentives and the like) to expand access to ICT services. • Upgrade internet infrastructure. |
| Agriculture and Rural Development | | |
| | <ul style="list-style-type: none"> • Prioritize agricultural development as the main engine for inclusive and sustainable growth. • Increase public investments in agri-support services, including research, extension, marketing, credit, and organization of smallholders. Complement that with innovative public-private partnerships where possible. • Strengthen input markets and promote the proper use of quality seeds, fertilizers, and pesticides through targeted investments and regulation. • Extend and rehabilitate irrigation and drainage systems for rice and high-value crops. • Reform agricultural data collection and information sharing. • Attract foreign direct investment (FDI) in strategic segments (especially processing and input production) of prioritized supply chains. • Pilot warehouse receipt-financing schemes (starting with rice). • Further improve procedures for documenting and regulating land tenure, land use, and the protection of smallholders. | <ul style="list-style-type: none"> • Set strategies for agricultural development that address opportunities comprehensively across value and supply chains. • Create a market-oriented, farmer-centered research and extension system; and create an accurate market data collection and dissemination system. • Expand irrigation and improved water management systems. • Create conditions conducive to growth through the deepening of rural financial systems, improved rural infrastructure, and a transparent and predictable policy environment. • Address climate risks through infrastructure, new technologies, and innovative insurance products. • Reduce costs associated with exports through enhanced port and border trade facilities, and greater efficiency of regulation. These can exploit increasing connectivity and planned strategic "corridors" in the Greater Mekong Subregion and the Association of Southeast Asian Nations (ASEAN) to facilitate trade as well as development in border states. |

| Sector | Short Term | Medium to Long Term |
|--|--|--|
| Responsible Tourism | | |
| | <ul style="list-style-type: none"> • Simplify visa arrangements to make them similar to those in other ASEAN countries, and upgrade airports and their facilities. • Determine the carrying capacity of the country and set reasonable targets for visitor numbers, reexamining growth scenarios based on the most current information. • Recruit a tourism economist(s) and accounting specialist(s) in the Ministry of Hotels and Tourism. • Immediately adopt the Draft Tourism Strategy/Destination Management Plan to develop and manage natural and cultural heritage sites as well as other destinations. | <ul style="list-style-type: none"> • Develop innovative products and experiences, map the visitor experience, and adopt international visitor management policies and standards. • Develop visualization systems for tourism data and publicize the strategic importance of tourism. • Create education and training initiatives to quickly raise the capacity of stakeholders in tourism, including working with national and international experts to identify key human-resources issues. • Develop focused and prioritized proposals that seek to match the country's tourism goals with carefully targeted requests for financial and technical assistance. • Upgrade the management and facilities of the airports. |
| SME Cluster-based Industrial Development | | |
| | <ul style="list-style-type: none"> • Minimize the transaction costs for the businesses, including reviews of regulations for business start-ups, construction permits, employing workers, registering property, accessing credit, protecting investors, paying taxes, trading across borders, enforcing contracts, and closing a business. Streamline these processes as much as possible to make them quick and inexpensive. • Develop a plan of action for improving the overall business environment, with specific goals and specific policies for addressing those goals. This can include clarifying land, legal, and contractual issues that impinge on the business environment. | <ul style="list-style-type: none"> • Attract foreign firms to urban industrial zones; coordinate and calibrate incentive, investment, trade, and land policies to attract FDI to key sectors. • Bring up to world-class standards the infrastructure and services for the special economic zones best positioned to attract anchor firms. • Streamline regulations affecting exports and imports and reduce taxes/levies to foster participation in global value chains. • Provide information on improved production methods, products, and markets, technical support services, and vocational training to help small and medium-sized enterprises adopt new technologies and enter new markets. |
| Policies to Ensure Sustainability of Growth | | |
| Social inclusion | <ul style="list-style-type: none"> • Establish a regional development strategy that addresses (i) improving regional connectivity, (ii) developing growth poles in lagging regions, (iii) implementing fiscal transfers for greater investment in human capital and better access to public services in poor regions, and (iv) reducing barriers to within-country migration. | <ul style="list-style-type: none"> • Convert general price subsidies into targeted transfers. |

| Sector | Short Term | Medium to Long Term |
|---------------------------------------|--|---|
| Regional integration and connectivity | <ul style="list-style-type: none"> • Continue liberalization of tariff and non-tariff barriers to trade and investment. • Accelerate implementation of the ASEAN Economic Community commitments and obligations to meet the 2015 deadline; priorities include customs modernization, implementation of the National Single Window, and ASEAN agreements on trade facilitation, improving logistics performance and lowering technical barriers in standards. • Develop local Small and Medium-Sized Enterprises to partner foreign investors in joint ventures, accelerating integration into regional production networks. • Establish and implement policies encouraging efficient FDI; these may include removing corruption, facilitating trade, and enhancing the business environment, while paying attention to potential effects of resource-related FDI on the sustainability of resource exploitation, and on environmental deterioration and pollution. • Strengthen maritime transport; enhance the connectivity of ports to corridors and the hinterland; and facilitate trade at maritime gateways. | <ul style="list-style-type: none"> • Learn and adopt “best practices” in trade policy regimes from ASEAN partners. • Extend economic cooperation with external partners through the ASEAN+1 agreements, the Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation, and the Regional Comprehensive Economic Partnership. • Explore the possibility of using the Aid for Trade program under the Doha Development Agenda. |
| Environmental sustainability | <ul style="list-style-type: none"> • Eliminate perverse incentives that encourage destruction of forests and other natural ecosystems, such as agribusiness concession allocation processes. • Ensure that production quotas for timber and capture fisheries are rooted in scientific estimates of maximum sustainable yields, and that they are enforced. • Finalize and approve environmental and social safeguard procedures for major investments. • Develop and implement environmental quality standards and regulations covering air, water and land emissions, discharges, and pollution. • Develop and implement appropriate environmental monitoring and regulatory compliance mechanisms. • Support improved community management of common property resources, drawing on customary tenure mechanisms to do so. | <ul style="list-style-type: none"> • Elevate environmental regulation to the status of a separate government ministry, with clear authority across sectors. • Improve capacity to regulate transboundary environmental pressures. • Recognize and prioritize the role of natural resources in providing environmental services and buffering the expected impacts of climate change. • Develop opportunities to capture value through the certification of sustainable production practices. • Utilize Myanmar’s greenfield advantage to keep in check the carbon footprint of development and new infrastructure. |

REFERENCES*

- Ahluwalia, M.S., N.G. Carter, and H.B. Chenery. 1979. Growth and Poverty in Developing Countries. *Journal of Development Economics*. 6 (3). 299–341.
- Ajero, M. and K. Patdu. 2013. Status and Trends of Urban Air Quality in Asia. Presented at the Fourth Governmental Meeting on Urban Air Quality in Asia. Bangkok. http://cleanairinitiative.org/portal/sites/default/files/presentations/AjeroPatdu_Status_and_Trends_AP2013.pdf
- Akaishi, F., M. Satake, M. Otaki, and N. Tominaga. 2006. Surface Water Quality and Information about the Environment Surrounding Inle Lake in Myanmar. *Limnology*. 7 (1). 57–62. <http://link.springer.com/article/10.1007%2Fs10201-006-0165-1>
- Alexander, N. 2012. *The Pros and Cons of Public-Private Partnerships (PPPs) as a Means to Achieve Food Security, Expanded Infrastructure Investment, and Green Growth*. Heinrich Boell Stiftung: Washington, DC.
- Amram, M. and T. Crawford. 2011. The Upside to Fiscal Challenges: Innovative Partnerships between the Public and Private Sector. *Journal of Applied Corporate Finance*. 23 (3). Morgan Stanley Publication.
- Asia Times Online. 2013. India--[People's Republic of] China Make a Myanmar Tryst. 5 August. http://www.atimes.com/atimes/Southeast_Asia/SEA-03-050813.html
- Asian Development Bank (ADB). Statistical Database System (SDBS). <https://sdfs.adb.org/sdfs/index.jsp>
- 2012a. *Myanmar in Transition: Opportunities and Challenges*. Manila.
- 2012b. *Myanmar: Energy Sector Assessment*. Manila.
- 2012c. *Interim Country Partnership Strategy: Myanmar 2012–2014*. Manila.
- 2012d. *Overview: Greater Mekong Subregion Economic Cooperation Program*. Manila.
- 2012e. *Trade and Trade Facilitation in the Greater Mekong Subregion*. Manila.
- 2013a. *Key Indicators for Asia and the Pacific 2013*. Manila.
- 2013b. *Key Indicators for Asia and the Pacific 2013 Update*. Manila.
- 2013c. *Urban Development Policy*. Consultant's report. Manila (TA 8244-MYA).
- 2013d. Report and Recommendation of the President to the Board of Directors: *Proposed Loan to the Republic of the Union of Myanmar for the Power Distribution Improvement Project*. Manila.
- ADB and United Nations Environment Programme (UNEP). No date. *Myanmar National Environmental Performance Assessment (EPA) Report 2007–2010*. Bangkok.
- Association of Southeast Asian Nations (ASEAN) Centre for Biodiversity. 2013. *ASEAN Clearing House Mechanism-Myanmar*. <http://chm.aseanbiodiversity.org/>
- ASEAN Civil Society Conference/ASEAN Peoples' Forum (ACSC/APF). 2014. *Statement of the ACSC/APF 2014: Advancing ASEAN Peoples' Solidarity toward Sustainable Peace, Development, Justice and Democratisation*. <http://aseanpeople.org/official-statement/>
- ASEAN Secretariat. 2009. *Fourth ASEAN State of the Environment Report 2009*. Jakarta: ASEAN Secretariat.
- 2010. *Master Plan on ASEAN Connectivity*. Jakarta: ASEAN Secretariat.
- 2012. *ASEAN Economic Community Scorecard: Charting Progress toward Regional Economic Integration Phase I (2008-2009) and Phase II (2010-2011)*. Jakarta: ASEAN Secretariat.
- Auty, R.M. 1998. Resource Abundance and Economic Development: Improving the Performance of Resource-rich Countries. *Research for Action 44*. World Institute for Development Economics Research (UNU/WIDER). Helsinki.

* ADB recognizes Burma by the name Myanmar.

- Aye, K. N. 2013. Country Presentation of Myanmar at the JICA Tokyo International Center Energy Policy Training Program. Tokyo. 23 June–13 July.
- Barbier, E.B., J.C. Burgess, and A. Grainger. 2010. The Forest Transition: Towards a More Comprehensive Theoretical Framework. *Land-use Policy*. 27. 98–107.
- Bernard, A. 2006. *Firms in International Trade*. National Bureau of Economic Research (NBER), Washington, DC. <http://www.nber.org/reporter/fallo6/bernard.html>
- Beyrer, C. and T.J. Lee. 2008. Responding to Infectious Diseases in Burma and Her Border Regions”. *Conflict and Health*. <http://www.conflictandhealth.com/>
- Brunnschweiler, C.N. and E.H. Bulte. 2008. The Resource Curse Revisited and Revised: A tale of Paradoxes and Red Herrings. *Journal of Environmental Economics and Management*. 55 (3). 248–264.
- Burma Environment Working Group (BEWG). 2011. *Burma's Environment: People, Problems, Policies*. Chiang Mai: BEWG.
- . 2012. *Update: The Environmental Conservation Law*. <http://bewg.org/en/pubs/finish/12/63>
- Central Bank of Myanmar. 2014. Information on banking system structure and finance sector provided to authors.
- Central Intelligence Agency (CIA). Chiefs of State and Cabinet Member of Foreign Governments: Burma. <https://www.cia.gov/library/publications/world-leaders-1/>
- Central Statistical Organization (CSO). Selected Monthly Economic Indicators. <https://www.csostat.gov.mm/sdetailso5.asp>.
- . 2012. *Statistical Yearbook 2011*. Nay Pyi Taw.
- . 2013. *Statistical Yearbook 2012*. Nay Pyi Taw.
- Chamberlain, D., H. Bester, H. Smit, C. Loots, S. Mburu, A. Dermish, L. Gidvani, and D. Saunders. 2012. *Making Access Possible: Myanmar Country Diagnostic Report* (Draft version 1.0). The Centre for Financial Regulation and Inclusion. Cape Town, South Africa.
- Chia, S.Y. and M. Plummer. 2013. *Challenges and Opportunities for Regional Economic Integration*. Forthcoming ADB Economics Working Paper Series.
- Čihák, M. and A. Demirgüç-Kunt. 2013. Rethinking the State's Role in Finance. *Policy Research Working Paper 6400*. The World Bank Development Research Group. April.
- Clapp, P. and S. DiMaggio. 2013. Sustaining Myanmar's Transition: Ten Critical Challenges. *Asia Blog*. Asia Society, 24 June. <http://asiasociety.org/blog/asia/sustaining-myanmars-transition-ten-critical-challenges>
- Comprehensive Education Sector Review (CESR), ADB, Australian Aid, United Nations Educational, Scientific and Cultural Organization (UNESCO). 2013. *Myanmar Comprehensive Education Sector Review Phase 1: Rapid Assessment: Technical Annex on the Higher Education Subsector*. <http://www.adb.org/projects/documents/cesr-p1-rapid-assessment-annex-higher-education-subsector-tacr>
- CESR, ADB, GIZ, UNESCO. 2013. *Myanmar Comprehensive Education Sector Review Phase 1: Rapid Assessment: Technical Annex on TVET Subsector Analysis – Policy, Legislation, Management, and Service Delivery*. <http://www.adb.org/projects/documents/cesr-p1-rapid-assessment-annex-tvet-analysis-policy-legislation-management-service-delivery-tacr>
- CESR, ADB, Australian Aid. 2013a. *Myanmar Comprehensive Education Sector Review Phase 1: Rapid Assessment: Technical Annex on the Secondary Education Subsector*. <http://www.adb.org/projects/documents/cesr-p1-rapid-assessment-annex-secondary-education-tacr>
- . 2013b. *Myanmar Comprehensive Education Sector Review Phase 1: Rapid Assessment: Technical Annex on Labor Market Analysis: The Demand for Higher Education and TVET Graduates*. Yangon. <http://www.adb.org/projects/documents/cesr-p1-rapid-assessment-annex-labor-market-analysis-demand-higher-education-tvet-graduates-tacr>
- Coulter, J. and A. Shepherd. 1995. Inventory Credit: An Approach to Developing Agricultural Markets. *FAO Agricultural Services Bulletin*. No. 119. Food and Agriculture Organization of the United Nations, Rome.

- Dapice, D. and N.X. Thanh. 2013. *Creating a Future: Using Natural Resources for New Federalism and Unity*. Ash Center for Democratic Governance and Innovation. Harvard Kennedy School. <http://www.ash.harvard.edu/Home/Programs/Institute-for-Asia/Publications/Occasional-Papers>
- Dawei Development Company Limited. No date. *Dawei Development Plan*. <http://www.daweidevelopment.com/index.php/en/dawei-project/project-development-plan>
- Deininger, K. and L. Squire. 1998. New Ways of Looking at Old Issues: Inequality and Growth. *Journal of Development Economics*, 57, 259–287.
- Deloitte and Oxford Economics. 2013. *Tourism: Jobs and Growth. The Economic Contribution of the Tourism Economy*.
- de la Torre, A., J.C. Gozzi, and S.L. Schmukler. 2007. Innovative Experiences in Access to Finance: Market Friendly Roles for the Visible Hand? *Policy Research Working Paper* 4326. Washington, DC: World Bank, Latin America and the Caribbean Region Financial and Private Sector Development Unit and Development Research Group Macroeconomic and Growth Team.
- Denning, G., K. Baroang, and T.M. Sandar. 2013. Rice Productivity Improvement in Myanmar. Background paper No. 2, prepared for USAID/Burma. http://fsg.afre.msu.edu/Myanmar/myanmar_background_paper_2_rice_productivity.pdf
- Directorate of Investment and Company Administration. 2014a. Foreign Investment of Permitted Enterprises as of (30/6/2014) (By Sector). <http://dica.x-aas.net/dica/en/content/foreign-investment-permitted-enterprises-3062014-sector>
- _____. 2014b. *Myanmar Investment Guide*. <http://dica.x-aas.net/dica/en/myanmar-investment-guide>
- Directorate of Water Resources and Improvement of River Systems. 2013. *Water Quality Test Report*. Research and Planning Department.
- Dixit, A. 2008. Economic Governance. Intertic Lecture University of Milan, Bicocca Department of Economics Conference on Endogenous Market Structures and Industrial Policy. 5 June. Aula Magna. <http://www.intertic.org/Conference/Dixit.pdf>
- Dollar, D., T. Kleineberg, and A. Kraay. 2013. Growth Still Is Good for the Poor. *Policy Research Working Paper* 6568. World Bank, Washington, DC.
- Economic Research Institute for ASEAN and East Asia (ERIA). 2013. *Toward CADP 3: Regional Connectivity, the Comprehensive Asia Development Plan (CADP) and Myanmar Comprehensive Development Vision (MCDV)*. ERIA, Jakarta.
- Economy Watch. <http://www.economywatch.com/>
- Environment Protection Agency (EPA). 2011. *National Ambient Air Quality Standards (NAAQS)*. United States. <http://www.epa.gov/air/criteria.html>
- Ethnologue: Languages of the World. 2014. Myanmar. <http://www.ethnologue.com/country/MM>.
- Farole, T. 2011. *Special Economic Zones in Africa: Comparing Performance and Learning from Global Experiences*. Washington, DC: World Bank.
- Fewtrell, L., R. Kaufmann, D. Kay, W. Enanoria, L. Haller, and J.M. Colford. 2005. Water, Sanitation, and Hygiene Interventions to Reduce Diarrhoea in Less Developed Countries: A systematic Review and Meta-Analysis. *Lancet Infectious Diseases*, 5 (1), 42–52.
- FIAS. 2008. *Special Economic Zones: Performance, Lessons Learned, and Implications for Zone Development*. Washington, DC: World Bank.
- Fields, G.S. 1980. *Poverty, Inequality, and Development*. Cambridge, UK: Cambridge University Press.
- Findlay, R., J.P. Verbiest, and C.Y. Park. 2014. *Myanmar's Long-Term Growth Vision and Strategies*. Forthcoming ADB Economics Working Paper Series.
- Fong-Sam, Y. 2011. The Mineral Industry of Burma. *U.S. Geological Survey Minerals Yearbook* 2010.
- Food and Agriculture Organization of the United Nations (FAO). 2010a. *Global Forest Resources Assessment 2010: Country Report-Myanmar*. Rome: FAO.
- _____. 2010b. Characterisation of Small Farmers in Asia and the Pacific. Paper presented during the Asia and Pacific Commission on Agricultural Statistics' 23rd Session, 26–30 April. Siem Reap, Cambodia.

- Food and Agriculture Organization FAOSTAT (FAO-FAOSTAT). 2013. <http://faostat.fao.org/>
- Fujita, K. 2013. Agricultural Finance in Myanmar: Problem and Suggestions for Development. Presentation shared by the Livelihoods and Food Security Trust Fund (LIFT) with ADB mission in April 2014.
- Greater Mekong Subregion Core Environment Program. Key Indicators for Lao PDR. <http://www.gms-eoc.org/gms-statistics/lao-pdr>.
- Gutierrez, E., H.P. Rudolph, H. Theodore, and E.B. Benoit. 2011. Development Banks: Role and Mechanisms to Increase their Efficiency. *Policy Research Working Paper* 5729. The World Bank Latin America and the Caribbean Region. Finance and Private Sector Development. July.
- Haggblade, S., D. Boughton, G. Denning, R. Kloeppinger-Todd, K.M. Cho, S. Wilson, L.C.Y. Wong, Z. Oo, T.M. Than, N.E.M.A. Wai, N.W. Win, and T.M. Sandar. 2013. *A Strategic Agricultural Sector and Food Security Diagnostic for Myanmar*. Working Paper draft for USAID/Burma, Michigan State University, and MDRI/CESD, 14 March. http://fsg.afre.msu.edu/Myanmar/myanmar_agricultural_sector_and_food_security_diagnostic_report.pdf.
- Hannah, L., M. Ikegami, D.G. Hole, C. Seo, and S.H.M. Butchart. 2013. *Global Climate Change Adaptation Priorities for Biodiversity and Food Security*. PLOS ONE 8(8): e72590. doi:10.1371/journal.pone.0072590.
- Helleloid, D. 2013. Nowhere to Hang a Shingle in Yangon. *Bloomberg Businessweek*. Education Resource Center. <http://resourcecenter.businessweek.com/reviews/nowhere-to-hang-a-shingle-in-yangon>
- Hovhannisyán, N. and W. Keller. 2011. International Business Travel: An Engine of Innovation. *NBER Working Paper* 17100. University of Colorado at Boulder.
- Hsu, A., J. Emerson, M. Levy, A. de Sherbinin, L. Johnson, O. Malik, J. Schwartz, and M. Jaiteh. 2014. *The 2014 Environmental Performance Index*. New Haven, CT: Yale Center for Environmental Law & Policy.
- Htun, K.W., N.N. Lwin, T.H. Naing, and K. Tun. 2011. ASEAN-India Connectivity: A Myanmar Perspective. In Kimura, F. and S. Umezaki (eds.) *ASEAN-India Connectivity: The Comprehensive Asia Development Plan, Phase II*. ERIA Research Project Report 2010-7, Jakarta: ERIA, pp.151-203.
- India News. Myanmar to Build Thermal Power Plant for SEZ. <http://www.sify.com/news/myanmar-to-build-thermal-power-plant-for-sez-news-international-njqk4dhfeggsi.html>
- International Bank for Reconstruction and Development (IBRD)/World Bank. 2014. *Connecting to Compete 2014, Trade Logistics in the Global Economy: The Logistics Performance Index and its Indicators*. Washington, D.C: IBRD, World Bank.
- International Food Policy and Research Institute (IFPRI). Agricultural Science and Technology Indicators (ASTI) Data Tool. <http://www.ifpri.org/dataset/agricultural-science-and-technology-indicators-asti-data-tool>
- International Institute for Sustainable Development. Public-Private Partnerships (PPP) and Private Finance Initiatives (PFI). Partnership for Procurement and Green Growth. <http://www.iisd.org/pgg/ppp.aspx>
- International Monetary Fund. 2012. *Myanmar: Article IV Consultation*. IMF Country Report No. 12/104. May. <http://www.imf.org/external/pubs/ft/scr/2012/cr12104.pdf>
- 2013. *Myanmar: 2013 Article IV Consultation and First Review under the Staff-Monitored Program*. IMF Country Report No. 13/250. August. <http://www.imf.org/external/pubs/ft/scr/2013/cr13250.pdf>
- 2014. *Myanmar: Second Review under the Staff-Monitored Program—Staff Report and Press Release*. IMF Country Report No. 14/91. March. <http://www.imf.org/external/pubs/ft/scr/2014/cr1491.pdf>
- International Organization for Migration and Asian Research Center for Migration. 2013. *Assessing Potential: Changes in the Migration Patterns of Myanmar Migrants and their Impacts on Thailand*. Bangkok: International Organization for Migration.

- . 2014. Migration, Livelihoods and the Impact on Myanmar: Analysis of Assessment Findings. A presentation developed for Myanmar audience. 24 February. Yangon.
- International Union for Conservation of Nature (IUCN). 2014. The IUCN Red List of Threatened Species. Summary Statistics. <http://www.iucnredlist.org/about/summary-statistics>
- Jamieson, W. and S. Schipani. 2014. *Tourism Development Potential and Challenges in Myanmar*. Forthcoming ADB Economics Working Paper Series.
- Japan External Trade Organization (JETRO). 2013. *The 23rd Survey of Investment Related Costs in Asia and Oceania (FY 2012 Survey)*. Overseas Research Department, JETRO.
- Japan International Cooperation Agency. 2014. *The Survey Program for the National Transport Development Plan in the Republic of the Union of Myanmar: Interim Report 2*.
- Kaufmann, D., A. Kraay, and M. Mastruzzi. 2010. The Worldwide Governance Indicators: Methodology and Analytical Issues. *World Bank Policy Research Working Paper 5430*. Washington, DC: World Bank.
- Klimek, P., R. Hanel, and S. Thurner. 2009. Parkinson's Law Quantified: Three Essays on Bureaucratic Inefficiency. *Journal of Statistical Mechanics*. P03008.
- Kreft, S. and D. Eckstein. 2013. *Global Climate Risk Index 2014: Who Suffers Most from Extreme Weather Events and Weather-Related Loss Events in 2012 and 1993 to 2012*. Bonn: Germanwatch e.V. <http://germanwatch.org/en/download/8551.pdf>
- Lange, L. 2011. *Exploring the Leakage Effect in Tourism in Developing Countries: Issues and Implications*. Diploma Thesis. International University of Applied Sciences, Bad Honnef. Bonn, Germany. <http://www.giz.de/fachexpertise/downloads/giz2013-en-tourism-exploring-the-leakage-effect.pdf>
- Livelihoods and Food Security Trust Fund (LIFT). 2012. *Baseline Survey Results*. Yangon: LIFT.
- de Luna-Martínez, J. de and C. L. Vicente. 2012. Global Survey of Development Banks. *World Bank Policy Research Working Paper 5969*. February 2012.
- Madani, D.H. and N. Mas-Guix. 2011. The Impact of Export Tax Incentives on Export Performance: Evidence from the Automotive Sector in South Africa. *Policy Research Working Paper 5585*. Washington, DC: World Bank.
- Massachusetts Institute of Technology. Observatory of Economic Complexity. <http://atlas.media.mit.edu/>
- McKinsey Global Institute. 2013. *Myanmar's Moment: Unique Opportunities, Major Challenges*. New York: McKinsey & Company.
- Min, A. and T. Kudo. 2012. New Government's Initiatives for Industrial Development in Myanmar. In Lim, H. and Y. Yamada (eds.) *Economic Reforms in Myanmar: Pathways and Prospects*. BRC Research Report No. 10. Bangkok: Bangkok Research Center, IDE-JETRO. Bangkok. pp.38-84.
- Ministry of Agriculture and Irrigation. 2010. Myanmar Country Report on Climate Change and Impacts on Agriculture and Food Security. A country presentation on climate change.
- . 2012. Myanmar Agriculture at a Glance 2012.
- . 2013. Considerations on Formulating Policy for Sustainable and Inclusive Agriculture Sector Development in Myanmar. Summary brief review. National Economic and Social Advisory Council Chairman U Tin Htut Ooto ADB. 29 April 2014.
- Ministry of Commerce, Department of the Commercial and Consumer Affairs. Data on export of agricultural products.
- Ministry of Construction. Public Works Department. Data on road density and paved roads.
- Ministry of Education, Department of Higher Education. Education System in Myanmar: Self-Evaluation and Future Plans. <http://www.myanmar-education.edu.mm/dhel-2/education-system-in-myanmar/education-structure/>
- Ministry of Energy. 2014. Data on oil and gas reserves provided to authors.
- Ministry of Electric Power. Data on transmission and distribution losses and electrification rates provided to authors.

- Ministry of Environmental Conservation and Forestry (MOECA). Remote Sensing Forest Cover Estimates for 2015 FAO Forest Resources Assessment. Data provided by the Forest Department to authors in April 2014 in Nay Pyi Taw.
- 2010. Myanmar's first national communication under the United Nations Framework Convention on Climate-Draft report.
- Ministry of Health. 2002. *Sentinel prevalence study of tobacco use in Myanmar 2001*. Yangon: Ministry of Health.
- 2010. *Myanmar Health Statistics 2010*. Nay Pyi Taw. <http://www.moh.gov.mm/file/Myanmar%20Health%20Statistics%202010.pdf>
- 2012. Global AIDS Response Progress Report: Myanmar. http://www.unaids.org/en/dataanalysis/knowyourresponse/countryprogressreports/2012countries/ce_MM_Narrative_Report.pdf
- 2013. *Health in Myanmar: Health Statistics*. <http://www.moh.gov.mm/file/HEALTH%20STATISTICS.pdf>
- Ministry of Health and World Health Organization. 2007. *National Health Accounts 2002–2005*. Nay Pyi Taw.
- 2010. *National Health Accounts 2008–2009*. Nay Pyi Taw, Myanmar.
- 2012. *Health System Assessment for Universal Health Coverage: Health Workforce Strategic Plan 2012–2017*.
- Ministry of Hotels and Tourism. 2013. *Myanmar Tourism Master Plan 2013–2020*. Nay Pyi Taw. Ministry of Hotels and Tourism.
- 2014. Myanmar Tourism Statistics. <http://www.myanmartourism.org/images/tourism-statistics/myanmar-tourism-statistics-2013.pdf>
- Ministry of Labour, Employment and Social Security. 2014. Materials provided during Final Consultations with the Government on 11 March 2014.
- Ministry of Land, Infrastructure, Transport and Tourism, Japan. An Overview of Spatial Policy in Asian and European Countries. http://www.mlit.go.jp/kokudokeikaku/international/spw/general/myanmar/index_e.html
- Ministry of Mines. 2012. Database Building in Ministry of Mines. Presentation by Saw Lwin, Department of Department of Geological Survey and Mineral Exploration. [http://www.ccop.or.th/eppm/projects/36/docs/Myanmar_CCOPmetadata_presentation%20\(13-03-2012\).pdf](http://www.ccop.or.th/eppm/projects/36/docs/Myanmar_CCOPmetadata_presentation%20(13-03-2012).pdf)
- Ministry of National Planning and Economic Development (MNPED). 2013. *Framework for Economic and Social Reforms: Policy Priorities for 2012–2015 towards the Long-Term Goals of the National Comprehensive Development Plan*. Nay Pyi Taw.
- 2014. Selected Monthly Economic Indicators.
- MNPED, Swedish International Development Cooperation Agency (Sida), United Nations Children's Fund (UNICEF), and United Nations Development Program (UNDP). 2011. *Integrated Household Living Conditions Survey in Myanmar (2009–2010): MDG Data Report*. Yangon: MNPED, Sida, UNICEF and UNDP.
- 2011. *Integrated Household Living Conditions Survey (IHLCS) Poverty Profile, 2011*. Yangon: MNPED, Sida, UNICEF and UNDP.
- MNPED and UNICEF. 2012. *Situation Analysis of Children in Myanmar*. Nay Pyi Taw: MNPED and UNICEF.
- Myanmar Development Resource Institute, Center for Economic and Social Development. 2013. *Myanmar: Fiscal Management*. Forthcoming ADB Economics Working Paper Series.
- Myanmar Railways. Data on passenger traffic on railways provided to authors.
- Nam, K.Y., R.M. Cham, and P.R.M. Halili. 2014. *Infrastructure Development in Myanmar*. Forthcoming ADB Economics Working Paper Series.
- National Commission for Environmental Affairs (NCEA) and UNEP Regional Resource Center for Asia and the Pacific. 2008. *National Environmental Performance Assessment (EPA) Report: Myanmar*. GMS Environment Operations Center, Bangkok.
- Nehru, V. 2014. *Developing Myanmar's Financial Sector to Support Rapid, Inclusive, and Sustainable Economic Growth*. Forthcoming ADB Economics Working Paper Series.

- Nijathaworn, B., C. Suwatchai, S. Chotika-arpa, and S. Sakkankosone. 2013. *Monetary Policy and Foreign Exchange Management: The reform of the Central Banking Functions*. Forthcoming ADB Economics Working Paper Series.
- Nixon, H., C. Joeline, K.P.C. Saw, T.A. Lynn, and M. Arnold. 2013. State and Region Governments in Myanmar. Asia Foundation and Myanmar Development Resource Institute. <http://asiafoundation.org/publications/pdf/1249>
- Noland, M. and C. Hendrix. 2013. *Myanmar: Cross-cutting Governance Challenges*. Forthcoming ADB Economics Working Paper Series.
- Oberndorf, R.B. 2012. Legal Review of Recently Enacted Farmland Law and Vacant, Fallow and Virgin Lands Management Law: Improving the Legal and Policy Frameworks Relating to Land Management in Myanmar. Food Security Working Group. November 2012. http://www.forest-trends.org/documents/files/doc_3274.pdf
- Organization for Economic Cooperation and Development (OECD). No date. Facilitating Access to Finance. Discussion Paper on Credit Guarantee Schemes. <http://www.oecd.org/investment/psd/45324327.pdf>
- . 2012. Financing SMEs and Entrepreneurs 2013: An OECD Scoreboard. Ch. 2 extract from Recent Trends in SME Entrepreneurship and Finance, released May 2013. http://www.oecd.org/cfe/smes/Scoreboard_2013_extract_chapter2.pdf
- . 2013a. *Multidimensional Review of Myanmar: Volume 1. Initial Assessment*. Paris: OECD Publishing.
- . 2013b. Interconnected Economies: Benefiting From Global Value Chains. <http://www.oecd.org/sti/ind/global-value-chains.htm>
- OECD Development Centre. 2014. Gender, Institutions and Development Database <http://www.oecd.org/dev/genderinstitutionsanddevelopmentdatabase.htm>
- OECD/World Health Organization. 2012. *Health at a Glance: Asia/Pacific 2012*. <http://dx.doi.org/10.1787/9789264183902-en>.
- OECD-World Trade Organization (WTO). 2011. *Third Global Review of Aid for Trade: Showing Results*. Paris.
- . 2013. *Aid for Trade at a Glance 2013: Connecting to Value Chains*. DOI:10.1787/aid_glance-2013-en.
- Open Government Partnership. 2013. <http://www.opengovpartnership.org/about>
- Peel, M. 2013. Myanmar Property Prices Surge as Country Opens up to Investment. *Financial Times*. 23 October.
- Perman, R., J. McGilvray, and Y. Ma. 1999. *Natural Resource and Environmental Economics*. Longman Pearson Education
- Petri, P. A., and M.G. Plummer. 2013. ASEAN Centrality and the ASEAN-US Economic Relationship. Advance copy of Policy Series 69. Honolulu: East-West Center.
- Poch, K. and S. Tuy. 2012. *Cambodia's Electricity Sector in the Context of Regional Electricity Market Integration*. In Wu, Y., X. Shi, and F. Kumura (eds.) *Energy Market Integration in East Asia: Theories, Electricity Sector and Subsidies*. Economic Research Institute for ASEAN and East Asia Research Project Report 2011-17. Jakarta. pp.141-172.
- President Office. Government of Myanmar. 2013. Nay Pyi Taw Accord for Effective Development Cooperation. <http://www.president-office.gov.mm/en/?q=briefing-room/announcements/2013/01/29/id-1493>
- PricewaterhouseCoopers Myanmar. 2014. Myanmar Business Guide. http://www.pwc.com/sg/en/assets/document/myanmar_business_guide.pdf
- Purnomo, H., P. Guizol, and D.R. Mhutaman. 2009. Governing the Teak Furniture Business: a Global Value-Chain System Dynamic Modeling Approach. *Environmental Modelling & Software* 24 (12): pp. 1391-1401.
- Raitzer, D., K.Y. Nam, and J. Samson. 2014. *Achieving Environmental Sustainability in Myanmar*. Forthcoming ADB Economics Working Paper Series.
- Ramree Island and Business Travel News. 2011. Video: Kyaukpyu Economic and Technological Zone. <http://www.ramree.com/2011/05/22/video-ramree-economic-technological-zone/>
- . 2011. Kyaukpyu to Kunming Pipeline Construction Officially Commenced. <http://www.ramree.com/2011/08/18/kyaukpyu-to-kunming-pipeline-construction-officially-commenced/>

- 2013. 24-hour Electricity for Kyaukpyu. <http://www.ramree.com/2013/09/18/24-hour-electricity-kyaukpyu/>
- 2013. Massive Power Plant Proposed for Kyaukpyu. <http://www.ramree.com/2013/10/29/massive-power-plant-proposed-for-kyaukpyu/>
- 2014. Summit Informed Construction on Kyaukpyu-Ruili Corridor to Start Shortly. <http://www.ramree.com/2014/03/13/summit-informed-construction-kyaukpyu-ruili-corridor-start-shortly/>
- Ravallion, M. 1994. Growth and Poverty: Evidence for Developing Countries in the 1980s. *Economics Letters*. 48. 411-417.
- Reilly, B. 2002. Electoral Systems for Divided Societies. *Journal of Democracy*, 13 (2). pp. 156-170.
- Revenue Watch Institute. 2014. *The 2013 Resource Governance Index*. http://www.resourcegovernance.org/sites/default/files/rgi_2013_Eng.pdf
- Roemer, M. and M.K. Gugerty. 1997. Does Economic Growth Reduce Poverty? CAER II Discussion Paper No. 4. Cambridge, MA: Harvard Institute for International Development. Cambridge.
- Roland-Holst, D. and C.Y. Park. 2014. *Myanmar - Long Term Scenarios for Sustained Macroeconomic Growth*. Forthcoming ADB Economics Working Paper Series.
- Schoar, A. 2009. The Divide between Subsistence and Transformational Entrepreneurship. In Lerner, J. and S. Stern (eds.) *Innovation Policy and the Economy, Volume 10*. University of Chicago Press. <http://www.nber.org/chapters/c11765.pdf>
- Shendry, R., Z. Kaplan, and P. Mousley. 2011. *Toward Better Infrastructure: Conditions, Constraints and Opportunities in Financing Public-Private Partnerships in Select African Countries*. Washington, D.C. World Bank.
- Song, S. 2013. Myanmar Announces Electricity Prices Increase, Fears Illegal Cost-Cutting Measures in Response. *International Business Times*. 5 November.
- Takahashi, T. 2013. Myanmar Pins Growth Ambitions on New Economic Zones. *Nikkei Asian Review*. 21 November.
- Tanaka, S., E. San Andres, P. Vandenberg, S. D'Amico, and C.A. Spohr. 2014. *Human Development: Health, Education, and Employment*. Forthcoming ADB Economics Working Paper Series.
- TechnoServe. 1998. *Financing Rural Growth: Farm Inventory Credit in Ghana*. <http://www.technoserve.org>
- The New Light of Myanmar. 2011. *President U Thein Sein delivers inaugural address to Pyidaungsu Hluttaw*. Nay Pyi Taw. 31 March. <http://www.burmalibrary.org/docs14/NLM2013-01-20-red-op.pdf>
- Thuzar, M. 2013. Myanmar in the ASEAN Economic Community: Preparing for the Future in Das, S.B. (ed.) *ASEAN Economic Community Scorecard: Performance and Perception*. Singapore: Institute of Southeast Asian Studies.
- Transparency International. Corruption Perceptions Index. <http://www.transparency.org/cpi2013/results>
- UNdata. <http://data.un.org/>
- United Nations. 2013. *World Population Prospects: The 2012 Revision*. United Nations Department of Economic and Social Affairs, Population Division. CD-ROM Edition.
- United Nations Comtrade Database. <http://comtrade.un.org/>
- United Nations Conference on Trade and Development. 2013. *Global Value Chains: Investment and Trade for Development: Chapter IV*. http://unctad.org/en/PublicationChapters/wir2013ch4_en.pdf
- United Nations Economic and Social Commission for Asia and the Pacific (ESCAP). 2011. *Statistical Yearbook for Asia and the Pacific 2011*. Thailand.
- 2013. *Economic and Social Survey of Asia and the Pacific 2013: Forward-Looking Macroeconomic Policies for Inclusive and Sustainable Development*. Bangkok.
- United Nations Environment Programme (UNEP). *Negative Economic Impacts of Tourism*. <http://www.unep.org/resourceefficiency/Business/SectoralActivities/Tourism/FactsandFiguresaboutTourism/ImpactsOfTourism/EconomicImpactsofTourism/NegativeEconomicImpactsofTourism/tabid/78784/Default.aspx>

- UNEP, MOECFA, and Ministry of Transport. 2012. *Myanmar's National Action Plan (NAPA) for Climate Change*. https://unfccc.int/essential_background/library/items/3599.php?such=j&symbol=MMR/NAPA/1%20E#beg
- United States Department of Agriculture (USDA), Foreign Agricultural Service (FAS), Production Supply and Distribution (PSD) online. <http://apps.fas.usda.gov/psdonline/psdhome.aspx>.
- Union Government of Myanmar. Myanmar Union Budget Law (2011–2012). Nay Pyi Taw.
- Myanmar Supplementary Union Budget Law (2012–2013). Nay Pyi Taw.
- Van der Ploeg, F. Venables, and A.J. Venables. 2013. *Natural Resource Wealth: The Challenge of Managing a Windfall*. *OxCarre Research Paper* 75. Oxford: University of Oxford.
- Van Rijckeghem, C. and B. Weder. 2001. Bureaucratic Corruption and the Rate of Temptation: Do Wages in the Civil Service Affect Corruption, and by How Much? *Journal of Development Economics* 65 (2). pp. 307–331.
- Viet, N.Q. 2011. *Agricultural Mechanization in Viet Nam*. Presentation at the Roundtable on Sustainable Agricultural Mechanization workshop sponsored by the Viet Nam Institute of Agricultural Engineering and Post-Harvest Technology, Bangkok. 8–9 December.
- Wildlife Conservation Society. 2013. *Myanmar Biodiversity Conservation Investment Vision*. Yangon.
- Win, M. and K. Naing. 2012. Job Creation and Skill Development by Border Area Development between Myanmar and Thailand. Presentation to ILO/JICA Workshop on Skills Development in the Thailand Myanmar Border Areas. Yangon. 29 November.
- Wong, L. 2014. *Myanmar: Agriculture and Rural Development*. Forthcoming ADB Economics Working Paper Series.
- Wong, L. and E. M. A. Wai. 2013. Rapid Value Chain Assessment: Structure and Dynamics of the Rice Value Chain in Myanmar. *Background Paper* No. 6. http://fsg.afre.msu.edu/Myanmar/myanmar_background_paper_6_rice_value_chain.pdf
- Woods. K. 2013. Timber Trade Flows and Actors in Myanmar: The Political Economy of Myanmar's Timber Trade. Forest Trends and UKAid. http://www.forest-trends.org/publication_details.php?publicationID=4133
- Woods, K. and K. Canby. 2011. Baseline Study 4, Myanmar: Overview of Forest Law Enforcement, Governance and Trade. Forest Trends for the Forest Law Enforcement, Governance and Trade Asia Regional Programme. http://www.forest-trends.org/documents/files/doc_3159.pdf
- World Bank. World Development Indicators. <http://data.worldbank.org/data-catalog/world-developmentindicators>
- 2008. *Special Economic Zones: Performance, Lessons Learned, and Implications for Zone Development*. Foreign Investment Advisory Service, World Bank, Washington, DC.
- 2012a. Senior Public Service: High Performing Managers of Government. <http://www1.worldbank.org/publicsector/civilservice/epublishdocs/SPS%20note%201216.pdf>
- 2012b. *East Asia and Pacific Economic Update, December 2012 Volume 2*. Washington, DC: World Bank.
- 2013a. *Myanmar Economic Monitor*. Washington, D.C. October. http://www.worldbank.org/content/dam/Worldbank/document/EAP/Myanmar/Myanmar_Economic_Monitor_October_2013.pdf
- 2013b. *Doing Business Survey 2014: Understanding Regulations for Small and Medium-Size Enterprises*. Washington, DC: World Bank.
- 2014a. "Myanmar: capitalizing on rice export opportunities". *Economic and Sector Work Report* No. 85804. Bangkok: World Bank.
- 2014b. *Myanmar: Decentralizing Funding to Schools Project*. http://www-wds.worldbank.org/external/default/WDSContentServer/WDSP/IB/2014/04/07/000442464_20140407113344/Rendered/PDF/IPP6960RE-VISEDoBox385175BooPUBLICo.pdf

- World Bank Group Climate Change Knowledge Portal. Data produced by the Climatic Research Unit of University of East Anglia. Average monthly temperature and rainfall for Myanmar from 1900–2009. http://sdwebx.worldbank.org/climateportal/index.cfm?page=country_historical_climate&ThisRegion=Asia&ThisCCCode=MMR#
- World Economic Forum. 2012. *Global Trade Enabling Report 2012: Reducing Supply Chain Barriers*. http://www3.weforum.org/docs/GETR/2012/GlobalEnablingTrade_Report.pdf
- . 2013. *The Global Competitiveness Report 2013–2014*. Geneva: World Economic Forum.
- World Economic Forum, Asian Development Bank, and Accenture. 2013. *New Energy Architecture: Myanmar*. http://www3.weforum.org/docs/WEF_EN_NewEnergyArchitecture_Myanmar_2013.pdf
- World Health Organization (WHO). 2008. WHO Country Cooperation Strategy 2008–2011. Myanmar. http://www.who.int/countryfocus/cooperation_strategy/ccs_mmr_2008_2011_en.pdf
- . 2011. Noncommunicable Disease Risk Factor Survey Myanmar 2009. New Delhi. http://www.who.int/chp/steps/2009_STEPS_Survey_Myanmar.pdf?ua=1
- . 2012. Health System Assessment for Universal Health Coverage: Myanmar.
- Yusuf, S. and T. Kudo. 2013. *SME Cluster Based Development in Myanmar*. Forthcoming ADB Economics Working Paper Series.
- Zhuang, J., Tanaka, S., and E. San Andres. 2014. *Inclusive and Regionally Balanced Growth*. Forthcoming ADB Economics Working Paper Series.

Myanmar: Unlocking the Potential

Country Diagnostic Study

After 3 years of historic reforms, Myanmar has entered a pivotal stage in its socioeconomic development. Natural, cultural, and demographic advantages are positioning the country for long-term success, but many challenges and potential pitfalls lie ahead. This publication examines how to leverage the opportunities and offers solutions to the challenges. For Myanmar to achieve its economic transition, considerable investments will have to be made in infrastructure and developing human capital, and progress made on building institutional capacity, a regulatory environment for the private sector to flourish, and a modern finance sector. In all reform efforts, the government should embrace good governance, and strive for inclusive, environmentally sustainable, and regionally connected growth. Ensuring that the benefits of growth are shared broadly and regionally balanced stands out in a crowded development agenda.

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