Modernizing China
Investing in Soft Infrastructure

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Note to Readers

This is an excerpt from *Modernizing China: Investing in Soft Infrastructure*. Unlike investments in physical infrastructure, the benefits of policy frameworks and institutions are often less well understood and more difficult to implement. This volume provides valuable information about policies and institutions in China today and looks at key principles that can help China navigate the road ahead. The book covers tax policy and administration, social security, state-owned enterprise reform, medium-term expenditure frameworks, the role of local government finances, capital account liberalization, and renminbi internationalization, all vital issues for China’s transformation. As China moves toward a more price-based allocation of resources, strengthening monetary policy frameworks and financial sector regulation will be particularly important in channeling resources to the most productive sectors and minimizing the risks of financial sector stress.

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Advance praise for *Modernizing China*

"China has redoubled its reform efforts and advanced on a number of fronts, including in the fiscal area. For example, significant progress has been made in completing the value-added tax reform and local government imbalances are being addressed. This book is a comprehensive guide on critical reform issues and provides good insights into China’s fiscal policy frameworks."

– ZHU Guangyao

*Vice Minister, Ministry of Finance*

"China needs to complement its extraordinary build-up of hardware (infrastructure, factories, housing) with development of the ‘software’ of a market economy—legal system, financial sector, budget management, environmental protection, and social safety net. This book is essential reading to understand China’s challenges and policy frameworks that can help the country meet those challenges."

– David Dollar

*Senior Fellow, China Center, Brookings Institution*

"The Chinese economy, at another historical juncture in its development, faces a struggle between new and old. But this time, simply boosting investment would be insufficient to restore robust growth. Instead, the successful transformation of the economy lies in completing institutional reforms that began nearly four decades ago. This timely book provides guidance on how to accomplish this and can help China to achieve the highest possible, sustainable growth rates."

– Yiping Huang

*Professor, National School of Development, Peking University*
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CHAPTER 1

China’s Economic Success and Reforms: Investing in Soft Infrastructure

W. RAPHAEL LAM, MARKUS RODLAUER, AND ALFRED SCHIPKE

China matters as never before. It is now the second largest economy in the world—and the largest in purchasing power parity. Even at half its historical economic growth rate, it contributes nearly one-third to global growth. Additionally, its global export share amounts to about 15 percent, and more than 120 countries count China as their largest trading partner (Figures 1.1 and 1.2).

Since the late 1970s, successive waves of reforms have slashed poverty, raised the country to middle-income status, and spurred the building of enviable physical infrastructure. Now China is once again at a critical juncture in its economic history as it tries to transform a growth model that is generally seen as tired and in need of rejuvenation. The success of fresh reforms will be crucial not just for its own population, but will also have significant implications for the region and the world given China’s economic size, trade links, and increasing financial integration.

A unifying theme across reforms is the need to build a new set of policy frameworks for more effective markets. That is, transformation can no longer be achieved by increasing physical investment and allocating resources by government direction. This does not mean that markets should be unfettered; rather, they should be allowed to work efficiently and sustainably, in line with broad social and economic policy goals.

In a nutshell, China is aiming to build new soft infrastructure—that is, the institutional foundation that underpins and guides the functioning of markets—as the key organizing principle toward sustained economic and social progress. Such infrastructure includes, for example, an equitable and environment-friendly tax regime, price-based financial and monetary frameworks that help channel savings to the most productive users, and strong corporate governance that avoids waste and safeguards the legitimate interests of workers and consumers.

We would like to thank QI Zhe for providing excellent support.

1See Ministry of Commerce (2014).

2See Annex 1.1 for selected economic indicators.
Premier LI Keqiang emphasized this new focus when he highlighted that “overcoming imbalances in the economy is to overcome institutional challenges”, and “a greater emphasis will go beyond physical investment, centering on soft areas, including the provision of public services.”

Unlike investments in physical infrastructure, however, the benefits of policy frameworks and institutions are often less well understood by the public and hence more difficult for policymakers to implement. Yet, failure to modernize and
strengthen policy frameworks would undermine growth potential, trap the country at the middle-income level, and leave the economy and financial system more vulnerable to domestic or external shocks.

This book reviews policies and institutions in China today, the road ahead, and key principles that can help navigate it. To set the stage, this summary chapter briefly discusses the country’s development and its global footprint (section I), followed by a review of reform progress and shortcomings in section II. As in any other country, designing and implementing bold, far-reaching reforms faces opposition from the status quo, highlighted in section III. Section IV summarizes the insights of the following chapters of the book.

**CHINA’S DEVELOPMENT AND GLOBAL FOOTPRINT**

Economic reforms and opening-up policies commenced with the moderate and prosperous *Xiaokang* society launched by Deng Xiaoping in 1978, laying the foundations for stellar growth (CPC News 2014). Average annual growth of about 10 percent since then has transformed the country, allowing it to reach middle-income status and spurring the rapid construction of an impressive array of roads, airports, bridges, high-rise buildings, and other infrastructure. China’s high-speed rail system is now the largest in the world.

Significant structural transformation has accompanied economic development. During the first decades, the country transitioned from agriculture to manufacturing and moved up the value chain by diversifying into new sectors and improving the quality of goods produced. Similar to the experience of other countries, it started to de-industrialize at an income level of about $9,000 (in 1990 international prices), with the output share of the industrial sector peaking in 2011. More recently, the services sector has become an increasingly important economic pillar.

During this process, some 250–300 million migrants moved from rural agricultural areas to urban cities for more gainful employment and 600 million people escaped poverty. As living standards rose, it created a middle-class that now numbers some 150 million people, second in size only to the United States (World Bank and Development Research Center of the State Council 2014). Life expectancy and literacy jumped and the urban-rural income gap shrank, particularly in the decade after the turn of the century (see Annex 1.2).

Given China’s strong trade linkages and critical role in the global economy, estimates suggest that changes in its growth outlook would have very large knock-on effects. A one-percentage point growth shock in China, for example, would affect growth in other Asian countries by about 0.3 percentage points on average; even in the rest of the world the impact would be significant (Figure 1.3). Reflecting the close economic integration through global value chains, the strongest impact would be on countries such as Korea and Malaysia. As China is a

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3See Henn, Papageorgiou, Spatafora (2015) on China’s diversification and quality upgrading.
China’s Economic Success and Reforms: Investing in Soft Infrastructure

Major importer of commodities, changes in investment demand can account for up to half of changes in broad commodity prices, albeit with marked difference across countries and commodities (IMF 2016). Despite the country’s limited direct financial sector linkages to the rest of the world, volatility in equity and foreign exchange markets in 2015–16 have demonstrated that events in China are increasingly having an impact on equity prices in both emerging and advanced economies.

China’s successful transformation will thus reverberate at home and throughout the world, and warrant economic adjustments elsewhere. Commodity exporting nations are likely to see permanently lower demand, while countries specializing in the production of consumer goods will benefit from China’s growing middle class and its rising demand for consumer products. Other economies, especially in Southeast Asia, will benefit from changing supply-chains as China moves up the value chain.

REFORMS: ADDRESSING ECONOMIC IMBALANCES⁵

As noted, the growth model is facing its limits, with growth slowing and vulnerabilities rising. Successful development in the past relied on high investment, relatively inexpensive labor, productivity-enhancing foreign direct investment, and strong global demand. Along the way, the government played an important role in the allocation of resources, both through state-owned enterprises and local governments, especially in infrastructure.

The moderation of China’s growth has been structural, in part reflecting natural convergence as income per capita reached middle-income levels. At the same

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⁵See IMF 2016 People’s Republic of China Article IV Staff Report for a discussion of China’s economic challenges and reform progress.

Figure 1.3. Rising Spillovers from Shocks in China

(Percent change in GDP after one year for a median country for one-percent negative GDP shock in China)

Sources: IMF staff estimates based on Cashin, Mohaddes, and Raissi (2016).
time, slower growth reflects waning dividends from previous productivity-boosting reforms, such as the state-owned enterprise reform at the end of the 1990s and the accession to the World Trade Organization in 2001.

Already prior to the global financial crisis, China recognized the limits of its growth model and the growing imbalances inherent in it. Former Premier WEN Jiabao in March 2007 called for reforms to address unsteady, unbalanced, uncoordinated, and unsustainable development.\(^6\) As the global financial crisis unfolded, reforms were largely put on hold, and the country embarked on massive economic stimulus amounting to 11 percent of GDP, mostly for infrastructure and social housing. This stabilized domestic demand and gave a welcome shot in the arm for the global economy. But it also led to a further build-up in imbalances and increased vulnerabilities (see Figure 1.4).

The new leadership that took office in 2013 renewed the impetus for reforms with the comprehensive “Third Plenum Reform Blueprint” and with the approval of the 13th Five-Year Plan in 2016. Both documents comprehensively identify the challenges and spell out broad reform areas to be accomplished by 2020. Focusing on quality growth, they aim at boosting consumption, expanding the service sector, protecting the environment, further opening up the economy, expanding public services, and reducing poverty.

Reform progress has been strong in many areas, and certainly stands out positively in an international context. Particularly strong advances have been made in improving monetary and fiscal frameworks and advancing urbanization (Annex 1.3). But progress has also been uneven and the unfinished agenda is long and complex. Among others, the important state-owned enterprise (SOE) reform

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\(^6\)Speech at the National People’s Congress (Xinhua News 2007) and Consulate General of the People’s Republic of China in San Francisco (2007).
and opening up the service sector are lagging. The challenge is to implement reforms decisively in a number of critical areas. Steadfast implementation with the right priorities and appropriate sequencing put China on a sustainable, inclusive, and environment-friendly growth path that converges toward high-income levels.

**Transformation and Rebalancing**

China’s economic challenges are unique in many dimensions, including scale, complexity, and impact on the global economy. What are the key areas that China needs to address? This is frequently dubbed re-balancing, that is, shifting the economy from:7

- investment to consumption;
- industry to services;
- state-led to more market and private sector-driven allocation of resources;
- excessive corporate debt to sustainable leverage;
- rising fiscal (especially local government) debts to stable debt-to-GDP ratios in the medium term;
- financial sector liberalization to better governance;
- increasing factor inputs to boosting productivity and innovation;
- unequal growth to a more inclusive economy;
- high-pollution to greener growth with sustainable energy use; and
- old-style, infrequent government announcements to frequent, market-friendly, transparent communication.

In particular:

- **Domestic demand.** China’s reliance on external demand prior to the global financial crisis was associated with large external imbalances reflected in current account surplus that reached 10 percent of GDP in 2007. Since then, it has declined to about 2 percent in 2016, reflecting the rebalancing from exports to domestic demand (Figure 1.5).

- **Consumption.** The growth model relied on a high investment (and savings) ratio, which reached 45 percent of GDP following the post-crisis stimulus. While the stimulus contributed to the shift to domestic demand, it fostered growing domestic imbalances of weaker investment efficiency, more credit, and lower growth. More recently, there has been some progress in reversing this trend, reflected in a growing share of private consumption due to rising disposable household income. Investment has moderated along with the national savings rate, but it remains high at 43 percent in 2016—even by

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7See IMF (2016), Zhang (2016), and Lipton (2016) for a discussion of the rebalancing.
the standards of other fast-growing economies such as Korea. Moving further toward consumption will be paramount for China’s rebalancing.

• **Services.** As mentioned, the economy has been transforming from agriculture to manufacturing, and more recently toward services. The latter now account for a rising share of GDP, growing faster than the industrial sector in real terms. The transition is mirrored in the labor market, where the service sector generates millions of jobs each year and now accounts for 40 percent of employment.

• **Productivity and innovation.** China’s growth model relied on increases in factor inputs (capital and surplus labor from rural areas). With diminishing returns on investment and a declining labor force, fostering increased productivity will be critical for sustained growth.8

• **Sustainable leverage.** Credit growth since the global financial crisis has significantly outpaced nominal GDP growth, with nonfinancial sector (corporate and household) credit increasing from about 90 percent of GDP in 2008 to 160 percent of GDP in 2015 (Figure 1.6). International experience suggests, that strong credit growth is often followed by sharp growth slowdowns and, in almost half of cases, financial sector stress (Figure 1.7). In China, while both households and the public sector have leveraged up, a key growth driver is corporate investment, especially in infrastructure and real estate. This in turn has fueled expansion in sectors that are now facing significant overcapacity (such as steel, coal, and cement). Rising leverage has gone hand-in-hand with weaker financial performance in the corporate sector—especially as it relates to state-owned enterprises (SOEs)—and deterioration of bank loan quality. This calls for comprehensive debt restructuring to address stock issues and a hardening of budget constraints to ensure that resources flow to viable projects.

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8See also World Bank and Development Research Center of the State Council (2013).
China’s strong credit growth has been, in part, related to the practice of setting annual growth targets prompting policymakers to resort to short-term unsustainable stimulus measures. Apart from setting growth targets at more sustainable levels or downplaying them compared to other indicators (such as household income or employment), it is warranted to consider eliminating them altogether and instead—similar to other major advanced and emerging market economies—moving toward projections. This would alleviate the pressure to rely on low-quality, credit-financed investment to support growth.

- **Sound local government finances.** With a deficit of about 3 percent of GDP in 2016, China’s general government deficit is relatively small; so is the general government debt of about 40 percent of GDP. But the picture changes when accounting for local government off-budget activities. Local
governments provide significant public services and undertake sizeable investment, but have structural resource misalignments since the revenue base is small (even after central government transfers) compared to spending obligations. Local governments have, therefore, a strong incentive to rely on nontraditional forms of resource mobilization including from the sale of assets (land) and the establishment of special financing vehicles to borrow from banks and capital markets. As a result, local government off-budget deficits amounted to 6–7 percent of GDP in recent years. A broader definition of government that includes general government and estimates for off-budget activities hence shows an “augmented” deficit of about 10 percent of GDP (Figure 1.8; the corresponding augmented debt level was 60 percent of GDP in 2016). Putting local governments on a sound fiscal footing by resolving intergovernmental imbalances—and eventually stabilizing China’s “augmented” debt over the medium term—is therefore paramount.

• Financial sector governance. Financial sector liberalization (such as interest rates and the elimination of loan-to-deposit ratios) has advanced significantly over the past few years. At the same time, a rapidly changing financial landscape, the mushrooming of new financial products—often cutting across regulatory agencies—and rising vulnerabilities imply that stronger financial sector regulation and better coordination and information sharing among regulatory agencies should top the reform agenda.

• Private sector. While the private sector has been growing as a share of the economy, the public sector continues to play an important role through state-owned enterprises, public investments—especially through local governments—and in general by directing resources, including through quantitative targets and moral suasion. Letting the market play a more decisive
role will entail opening up the economy to competition and creating a level playing field for both public and private companies.

- **Green growth.** Past economic success has come at a significant environmental cost. Air, water, and soil pollution account for the largest share, including costs associated with pollution-related health damage, global climate change impacts, and resource depletion. Estimates by the World Health Organization suggest that air pollution accounted for 1.4 million premature deaths in China in 2010. Rationalizing fuel subsidies, a less factor-intensive growth model and an environment-friendly tax system will help address environmental degradation. Progress has been made and China has demonstrated its commitment to environmental sustainability, including by signing the Paris Agreement to reduce carbon emissions.

- **Inclusive growth.** Remarkable growth has lifted millions out of poverty, but has also been associated with rising income inequality, with the Gini coefficient now among the most unequal in the world (Figure 1.9). Alongside ensuring inclusive growth, China (and the other the Group of Twenty [G20] countries) has identified mitigating inequity as an important area for reform. As international experience shows, inequality can in turn be a key driver for social and macroeconomic instability (Annex 1.3).

## Market Allocation of Resources

Further liberalizing and opening up sectors to competition is critical if the market is to play a more decisive role. This does not mean unfettered markets, but markets that work efficiently, sustainably, and in line with broad social and economic goals.

An efficient market will require enforcement of rules and regulations, in particular, to allow for the price discovery, which is critical for an efficient resource
allocation. Safeguards (such as social safety nets and resolution frameworks) can mitigate the adverse impact of greater market competition, including layoffs and bankruptcies. Despite the progress made on economic liberalization, China’s hard-budget constraints often still go unenforced and public agencies tend to intervene and avoid the exits of nonviable firms and financial institutions (Figure 1.10). Yet such exits are part of the discovery process and, hence, a dynamic and innovative economy. The still wide-spread perception that, ultimately, the government will step in to avoid losses undermines the effectiveness of market prices to play a decisive role.

**Improved Communication and Transparency**

Guiding markets and providing participants with clear policy direction reduces uncertainty and improves effectiveness. As the experience of advanced countries demonstrates, however, communicating effectively can be daunting and is sometimes more an art than science. Furthermore, China's unique economic institutional set-up creates additional challenges. Since most key economic decisions need approval by the State Council (equivalent to a government cabinet), the timing and outcome of policies of individual ministries and agencies—such as the People’s Bank of China (PBC) and financial sector regulators—tend to be less certain at the time of submission, which constrains timely communication.

As mentioned, the broad economic reform objectives are laid out in key documents, such as the Third Party Plenum and the five-year plans. In addition, in December each year, the government puts forward a Work Program (approved by the National Party Congress in the following year) about key policy priorities and annual economic targets. Respective ministries and public agencies prepare operational measures under the guidance and approval of the State Council. In formulating these policies, decision-making is a two-way process in which ministries
and local governments make proposals and political party members at corresponding levels provide input. In addition to the State Council, the Communist Party can also provide direct policy guidance with, for example, input from the Office of the Leading Group on Economic and Financial Affairs.

The decision-making process has the merit of building policy consensus, but at times can lead to mixed messages. Moreover, the dissemination of information is often indirect and opaque. For example, major policy changes are often signaled through speeches by officials at speaking events that are not clearly defined. In addition, media columnists, academics, and opinion leaders closely related to the government often serve to signal new policy changes. These leave significant room for multiple interpretations, which in turn can contribute to market volatility, at home and abroad.

Yet even within its unique set-up, China still has significant scope to improve communication and transparency about policy objectives, including frameworks, and therefore to boost credibility and effectiveness at home and abroad. The government has recognized the importance of this; for example, ministerial heads were tasked to hold press conference during the 2016 National Party Congress.

**POLITICAL ECONOMY OF REFORMS AND INSTITUTIONS**

Economic reforms in general, and strengthening policy frameworks in particular, are notoriously difficult in any country. Failing or delaying implementation often ends up with subdued growth, economic instability, policy setbacks, and, in the worst case, crises. At the same time, vested interest groups often resist change through their wide connections. To highlight the need to take on strong interest groups, President Xi Jinping in September 2016 emphasized: “China’s reforms have entered a crucial stage and the deep water area. Reforms will be resolutely carried out with forceful determination, daring to take on chronic problems and deep-seated vested interests and imbalances.”9

In the past, China has shown its determination to implement reforms. In some cases, the country overcame obstacles through reliance on external anchors, most notably the 2001 World Trade Organization accession, which was crucial to fostering competition and enterprise restructuring. Similar external anchors, such as trade agreements and investment treaties, could again foster competition and unlocking of new growth poles.

Reform design and implementation require consensus within and across government agencies, including at subnational levels. Some local governments have been reform champions, for example, in initiating pilots, but others have resisted by circumventing rules or outright flaunting them. It is therefore critical to create an incentive-compatible structure in line with national reform priorities.

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9President XI (2016).
Rapidly rising economic complexity and expansion of the financial system, deeper global integration, and the general push for reforms call for a constant upgrading of public institutions. The overall public sector is large, yet staffing is often thin at central ministries, regulators, and other agencies compared to public administrations in modern advanced economies, which are entrusted with the enormous task of upgrading policy frameworks, designing and implementing reforms, and monitoring and identifying new policies.

The IMF’s 2011 Financial Sector Assessment Program, for example, had already called for a strengthening of staffing at key regulatory agencies. Since then, the financial system has almost doubled and become highly interlinked, but headquarter staffing at financial sector regulatory agencies and the PBC are still small and broadly unchanged. The same is true at agencies such as the Ministry of Finance and the Tax Administration Authority (SAT). For example, while SAT employs some 750,000 civil servants nationwide, its head office only employs 750. This ratio is very small compared to the staffing ratio of other effective tax agencies worldwide. Bringing the central staffing on par with these foreign tax agencies, SAT’s headquarter staffing would account for closer to 3–10 percent of the SAT system (see Chapter 3).

STRENGTHENING POLICY FRAMEWORKS: SUMMARY

China’s transformation and rebalancing is challenging, yet a most consequential task, particularly given the country’s massive global footprint. As discussed above, a unifying theme is that the country needs to continue building a set of policy frameworks adaptable to the changing landscape, which will allow markets to function effectively. Stronger policy frameworks are crucial to effective macroeconomic management, addressing potential volatility and risks, and achieving sustainable growth.

Key priorities include halting high and rising corporate and public debts (in particular local government debt), imposing hard-budget constraints, strengthening the resilience of the financial sector, and allowing markets to allocate resources efficiently.

As this chapter noted from the outset, more investment in soft infrastructure is needed, that is, the institutional plumbing that will run through and guide the convergence toward high-income status and integration to global markets. This will maximize the benefits of the reforms while avoiding crises. Nonetheless, the need for stronger policy frameworks, institutions, financial sector regulation and supervision, and macroeconomic statistics are less well understood publicly and often seen as less urgent—unlike investments in physical infrastructure. As a result, significant education and willingness to use political capital are needed.

This book looks at the key economic soft infrastructure issues that will be a determining factor in the transformation and rebalancing, including tax policy

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10 PBC headquarters, for example, employs only about 750 people.
and administration, social security, SOE reform, medium-term expenditure frameworks, the role of local government finances, capital account liberalization, and renminbi internationalization. As China moves toward a more market-based allocation of resources, strengthening monetary policy frameworks and financial sector regulation will be particularly important in channeling credit and minimizing the risks of financial sector stress. In addition, statistical frameworks must be upgraded for macroeconomic policymaking.

**FISCAL POLICY FRAMEWORKS**

Modernizing the fiscal framework must accompany China’s rebalancing from credit-financed and investment to consumption-led growth. In particular, stronger fiscal policy frameworks and social safety nets, in turn, will allow the country to contain rising vulnerabilities, manage over the business cycle, deal with rising health care and pension costs, address structural intergovernmental imbalances, and support more inclusive and environment-friendly growth.

**Tax Policy**

For tax policy this implies deeper reforms to collect revenue more efficiently facilitate more equitable income distribution, foster an incentive structure that improves access to public services, and puts local governments on sound fiscal footing.

The overall tax burden, at 20 percent of GDP, is lower than in the advanced economies and is broadly in line with other Asian members of the Organization for Economic Cooperation and Development (OECD). More recently, the government completed extending value-added tax (VAT) to services, eliminating the cascading effects of turnover tax. The corporate income tax was reformed in 2008, providing more neutrality and revenue. Preparatory work is under way on the recurrent property tax, with efforts to strengthen housing registration and the legal foundation.

Among the remaining important challenges, the redistributive effects of taxes and transfers is still limited, while the revenue structure is heavily tilted toward indirect taxes and does not correct for environmental externalities. Moreover, local government revenue is not aligned with spending obligations.

Revenue reforms could partly address these issues. Reforms include gradually unifying current multiple VAT rates and the refund mechanism, bringing different sources of individual income to be taxed together, taking into account household income conditions and applying certain deductibles. The government also plans to reduce the already high level of social security contribution rates at an appropriate time and pace, provided sustainability is maintained. Greater use of environmental taxes will replace various fees levied for pollution, while a nationwide emission trading scheme will be introduced by 2017 (Parry and others 2016).
China’s VAT reform is commendable. With respect to income tax, a dual income tax—based on the two main categories of labor and capital—appears to be more suitable for China for the individual income tax than a global income tax system, while there is room to improve the effective progressivity and widen the tax base. A gradual shift from indirect to direct tax can strengthen the redistributive power of tax policies, where China falls short relative to other economies. Reducing the social security contribution rate can support rebalancing, accompanied by other parametric changes to ensure sustainability. Finally, the shift to an ad-valorem environmental tax to replace various fees and surcharges is welcome.

Some of the tax policy reforms cut across ministries and, hence, call for inter-ministerial collaboration and will require strong top-level leadership.

**Tax Administration**

What are the main tax administration challenges? Tax administration reform can support China’s economic reform agenda by mobilizing adequate revenue to pay for high priority public sector expenditure and helping to promote the business climate. To do so, SAT must address a range of external and internal issues facing the system as the economy moves toward a sustainable growth model that relies more on consumption and services.

On the external front, the growth slowdown in overcapacity sectors could lead to compliance issues emanating from distressed companies, while the new and growing service sector present special tax collection challenges. At the same time, more complex financial instruments raise difficult tax issues as the financial sector develops. Increasing cross-provincial transactions challenge the decentralized tax administration because of the lack of information sharing across provincial tax bureaus.

Further unique tax challenges arise out of the strategy of “going global”, as it has in other countries, with increased outward direct investment and the creation of multinational corporations. This includes companies’ tendency to shift income to low-tax jurisdictions, taking deductions in high tax jurisdictions, and exploiting tax treaties. In addition, SAT will need to implement a series of major tax policy reforms that are planned for the next few years, such as VAT, environment, property, and individual income taxes.

The tax system’s increasingly complex external environment will put pressure on SAT’s internal administrative capacity. Potential vulnerabilities include its organizational structure, staff skills, and information systems. SAT will need to strengthen its capacity in each of these areas while taking steps to reduce taxpayers’ compliance costs. To address these challenges, SAT has designed a five-year strategy for modernizing tax administration.

**Medium-Term Expenditure Frameworks**

China’s strides in reforming its budget planning instrument in the last 15 years has included increasing the coverage of the State Budget through the joint presentation and approval of its various components (general budget, extra budgetary...
funds, SOEs, and social security funds). In addition, the revised budget law of early 2015 was important to putting fiscal and budgetary management on sounder footing and imposing harder budget constraints on local governments, the so-called “opening the front door” while “closing the back door” strategy.

Currently, the broad direction of fiscal policy is laid out in the five-year plans, while the national budget sets annual fiscal targets. The current arrangement, however, implies that the five-year plans do not usually account for resource constraints, while the annual budget is largely incremental, less attuned to changing policy priorities, and focused on recurrent expenditure and transfers. Adopting a medium-term fiscal framework in general and a medium-term expenditure framework (MTEF) in particular will ensure further fiscal discipline and harden budget constraints, identify fiscal risks at an earlier stage, and facilitate countercyclical fiscal policies.

Globally, more than 130 countries have already adopted medium-term fiscal frameworks or are doing so, and international experience suggests that China should do so gradually. An MTEF should (1) set medium-term fiscal policy targets consistent with fiscal stability and sustainability, (2) adopt top-down medium macroeconomic and fiscal forecasting, (3) develop a bottom-up “baseline” expenditure forecasting methodology, and (4) develop a strategic decision-making process in budgeting to decide on the use of available fiscal space.

The MTEF needs to take into account specific institutional circumstances. And as a medium-term framework, the Ministry of Finance needs to strengthen its macro-modeling and fiscal forecasting capabilities. Also, since local governments do a large part of fiscal spending (especially on infrastructure), it is paramount that the MTEF cover the scope of government as broad as possible. As such, it must take into account that local governments have incentives to engage in off-budget expenditure, creative accounting, and public-private partnerships to avoid the MTEF constraints. Hence, the MTEF should define government (general government including local government financing vehicles) and whether or not there is a fiscal rule. China has five-year plans, but a fully developed MTEF for such a long time horizon might be challenging. International experience suggests three-year rolling plans are most feasible.

The success of the MTEF will require the highest political support, including the State Council and the National Party Congress, and cooperation among key ministries such as the Ministry of Finance, the National Development and Research Commission, and the relevant spending ministries. Fully implementing an MTEF will be a multiyear effort and appropriate sequencing will be paramount.

Social Security Reform

Population aging is a major challenge, with significant implications for employment, economic growth, and public finances. Health and social security outlays, in particular, will rise sharply. This phenomenon is not unique to China. But, in China, the population age 65 or older as a percent of the total population
(dependency ratio) is increasing significantly faster than in other parts of the world, and is projected to triple from about 13 percent in 2015 to 47 percent by 2050. This would imply an old-age dependency at about the level projected for advanced economies.

The current pension system has separate old age schemes for (1) government employees, (2) salaried workers in the enterprise sector (both private and state-owned), and (3) a pension scheme for the rest of non-salaried workers (including migrants). The schemes are “pay-as-you-go”, but also include (with the exception of the one for government employees) a partially funded component. Combined, these schemes provide almost universal coverage for the elderly and a relatively high coverage for the working-age population, although, for some groups, the level of benefits remains low and uneven.

However, the social security system faces challenges. These include the following:

1. Population dynamics, given that under current parameters the system faces significant imbalances. Absent reform, estimates suggest that pension expenditures will increase from about 3 percent of GDP in 2015 to 10 percent by 2050. The corollary of that is the sharp increase of the actuarial imbalance (discounted value of benefits minus contributions) to 120 percent of GDP by 2050, calling for urgent reform.

2. China rapidly expanded transition rules to provide basic pensions for the current elderly who had never contributed, leading to very high contribution rates (27 percent of wages) for the current labor force. At the same time, benefits under the urban and rural resident scheme are still very low (with annual average pensions of about RMB1,000 [about $170] in parts of the system) resulting in pressure to increase pension benefits. This would make the system more equitable, but would put further strain on public finances.

3. The system remains segmented and, since contributions, eligibility, and benefits differ across provinces and schemes, they impose significant restrictions on labor mobility, undermining urbanization-related productivity improvements.

4. The underfunded pension system could undermine rebalancing, but also threaten long-term fiscal sustainability.

As in other countries, there are no easy reform solutions. A menu of options will have to include parametric changes. Given the relatively low retirement age of 55 years for women and 60 years for men, extending retirement ages would significantly increase actuarial soundness. Since this would increase the labor force participation at older ages, it would also help growth. A change to pension indexation, that is, linking benefits to consumer prices instead of wages and prices, is another important reform. Yet little room exists to increase contribution rates. Instead, lower contribution rates can foster consumption and help rebalancing. To make this fiscally neutral, the legacy cost of providing pensions for the large segment that did not contribute should be put on general budget, to be financed through general taxes rather than a tax (pension contributions) on workers.
Local Government Finances

Besides providing basic public services such as education, health care, and social security benefits, local governments undertook sizeable investment that has contributed to rapid growth. They carried out much of the large-scale fiscal stimulus since the global financial crisis, and local officials were often assessed based on the growth performance in the region. As a result, along with infrastructure investment, local governments have also been involved in land development and contributed to the real-estate boom.

Yet local government finances have faced a structural misalignment. Their revenue base is small relative to spending obligations. This implies that local governments have to rely on transfers from the central government or resort to other financing. Until the revised budget law in 2015, local governments, with the exception of a few pilot programs, were formally prohibited from borrowing. Local government therefore had incentives to circumvent constraints by generating revenue from land sales and setting up financing vehicles to borrow from banks and capital markets to finance spending and achieve the growth target. This off-budget deficit is estimated to be large at about 6–7 percent of GDP in recent years, corresponding to the rapid buildup of debt of local government and their financing vehicles by 24 percentage points of GDP between 2008 and 2015.

Recognizing the growing vulnerabilities in local government finance, the authorities have taken important first steps. National audits on local government debt were conducted and a revised budget law was approved, effective from 2015. By formally allowing local governments to issue bonds, while prohibiting other forms of borrowing (open the front door while closing the back door), the budget law aimed to strengthen transparency and accountability of local government finances and addressed intergovernmental fiscal relationships. In that context, the government also rolled out a debt-swap program to facilitate the transition by converting existing financing vehicles debt to local government bonds, effectively reducing interest rates by 400 basis points and extending maturity.

While the budget law and related directives will help strengthen local government finances, key hurdles remain and its success will rest on decisive implementation. As China still maintains an ambitious growth target, incentives remain for local governments to borrow in ways prohibited in the budget law. The local government bond market also remains underdeveloped despite growing size, with limited liquidity and differentiation of risks.

Policy priorities therefore will be to further strengthen local government finances in the context of an MTEF. These include reining in possible circumvention, developing the bond market with greater liquidity and credit discipline, formulating a resolution framework for potential financial distress of local government, monitoring emerging risks and misuse of public-private partnership, and better aligning local government revenue and spending with a larger local revenue base and a larger share of social spending at the central level.
MONETARY AND FINANCIAL FRAMEWORKS

Continued transformation toward a market and globally integrated economy implies moving further from a quantitative and administrative to price-based allocation of resources. To maximize the benefits from increased liberalization and external opening, while minimizing vulnerabilities in financial or foreign exchange markets, a strengthening of monetary and exchange rate frameworks and financial regulation, together with a gradual, further opening of the capital account are needed.

Monetary Policy Framework

Greater exchange rate flexibility calls for, correspondingly, a modern monetary policy framework that focuses on domestic price stability. Although the legal framework does not provide the basis for such a target, Article 3 of the Law of the People’s Republic of China on the PBC stipulates that “The aim of monetary policies shall be to maintain the stability of the value of the currency and thereby promote economic growth”. Yet formally, the PBC targets multiple objectives such as inflation, balance of payments, growth, and financial stability. Regarding tools, the government has relied on a quantitative monetary target (M2)—approved by the State Council—and a combination of quantity and price-based instruments, as well as moral suasion (Harjes 2016).

As in other countries, however, the relationship is weakening between quantitative targets such as M2 and inflation and growth. Hence, the question arises whether China should move toward a flexible inflation target with a price-based monetary policy framework. Indeed, empirical analysis shows that the correlation between M2 growth and inflation (lagged) declined sharply, as did the correlation between M2 and nominal GDP growth. The volatility of short-term interest rates tripled, suggesting that the demand for money became less stable and the money supply was not flexible enough to absorb the shock. Hence, moving toward a price-based monetary policy framework with interest rate as the primary instrument is advisable.

This begs two questions. How effective is the transmission mechanism from interest rates to bond yields and lending rates? What could be done to improve it? Evidence suggests that various institutional features have constrained the monetary transmission mechanism. They range from high reserve requirements on bank deposits and loan quotas to soft budget constraints, and regulatory arbitrage through shadow banking activity. The average bond yield sensitivity to changes in short-term interest rates is ¾ of that in the United States. The transmission through the banking sector, however, has been significantly less efficient, amounting to about half percent of that in the United States. Removing institutional constraints could hence come a long way to further improving the transmission mechanism.

China has taken additional important steps to build a foundation to move toward a market-based monetary policy framework. This includes—as mentioned
above—formal interest rate liberalization, with removal of the deposit-rate ceiling and abolishment of the loan-to-deposit ratio for commercial banks, both in 2015. Operationally, the PBC also started to establish an effective interest rate corridor centered on the 7-day repo rate with limited volatility. Stabilizing the short-term interest rate, in turn, is crucial for the formulation of policy. Going forward, China should consider moving toward a flexible inflation target with the interest rate becoming the intermediate target (IMF 2016). Of course, this would imply that the current monetary M2 target needs to be phased out. More emphasis on communication and the operational independence of the central bank would support the transition to such a framework. Combined with greater exchange rate flexibility, with the aim to have an effective float in the next couple of years, this would allow monetary policy to respond more effectively to both domestic and external shocks.

**Capital Account Liberalization**

China first envisaged full capital account opening in 1993, aiming to reach this by 2000. This path was interrupted by the Asian financial crisis in late 1990s. But the stated goal remains to achieve managed capital account convertibility, although without an official roadmap or target date.

Over the last decade, the authorities have significantly liberalized the capital account in a flexible manner, broadly consistent with the IMF’s institutional view on capital account liberalization, which states “countries with extensive and long-standing measures to limited capital flows are likely to benefit from further liberalization in an orderly manner.” It highlights that there is “no presumption

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that full liberalization is an appropriate goal for all countries at all times” (IMF 2012).

How open is China’s capital account and how effective are existing controls? Formally (de jure), the IMF’s Report on Exchange Arrangements and Exchange Restrictions suggests that with 52 out of 58 categories having some degree of control, the capital account remains relatively closed. This is mirrored by the fact that when compared to its level of income, and measured by the sum of external assets—including foreign reserves—and liabilities in percent of GDP, China—together with India—is among the least financially integrated countries. The effectiveness of capital controls is also reflected in spreads between on-and off-shore exchange rates and deviations from interest rate arbitrage. At the same time, there is evidence of greater de-facto opening and circumvention—as the spillover from the turbulence in the Chinese stock market and the pressure on the exchange rate following the change in exchange rate policy in 2015 demonstrated—and hence financial sector integration might be more advanced than previously thought.

Reflecting residents’ demand for portfolio rebalancing, the literature (Bayoumi and Ohnsorge 2013) suggests that capital flow liberalization will lead to an increase in both gross in- and outflows, with net outflows dominating in the short term but becoming more balanced over the longer term. A gradual and well-sequenced capital account liberalization will therefore be critical for China and the world. In particular, liberalization needs to be coordinated with supporting macroeconomic, financial, and structural policies to create a virtuous cycle for continued safe liberalization (Figure 1.11). Here the further strengthening of monetary policy frameworks, fiscal reforms (to avoid fiscal dominance), strengthening the financial sector (proper risk pricing), and increased exchange rate flexibility are of the utmost importance.

**Renminbi (RMB) Internationalization**

Growing global presence, policies and reforms implementation, and the increasing linkages have set the stage for a greater role of the RMB in the international monetary and financial system. The increasing use in transactions and wide trading of the RMB were recently recognized by the IMF’s Executive Board decision to include RMB in the IMF’s special drawing rights (SDR) basket of currencies. This decision, effective since October 1, 2016, constitutes a milestone in the integration of the economy into the global financial system and an acknowledgement of the progress made in reforming the domestic monetary and financial system.

How has RMB internationalization advanced? Trends across different indicators in the offshore use of the RMB confirm the increasing internationalization of the currency, in particular since 2009. This progress has been centered on the RMB’s use for trade settlement and direct investment purposes; its use as an international funding and reserve currency, while growing, remains at an early stage. New evidence using high frequency indicators from an electronic trading
platform suggest, nonetheless, that the RMB is widely traded in offshore markets and liquidity is comparable to that of other major currency pairs.

RMB inclusion in the SDR basket is not only a recognition of its increased global role, it also makes the SDR a more attractive reserve asset because of diversification and a representation of another major current. This should support raising the appeal of the SDR itself. Here China continues to play an important role by facilitating the issuance of an SDR bond by the World Bank in 2016 and taking important steps to facilitate the use of the SDR as a unit of account by publishing alongside the U.S. dollar international payment statistics.

While the internationalization of a currency is a market-driven process, policies and reform can facilitate the process. With this in mind, policy measures to promote RMB internationalization have covered three main areas: gradual opening of the capital account, steps to strengthen the domestic financial system, and offshore liquidity support through improvements to cross-border payments infrastructure and central bank swap lines. Policies have been gradual, aimed at developing markets, moving to market-determined prices and interest rates, and implementing sound policy frameworks. Prospects for continued RMB internationalization remain strong, in particular as policies and reforms continue to support the process.

**Financial Sector**

The financial system has grown rapidly and undergone significant changes over the past decades. Today, four of the five largest banks globally, by total assets, are Chinese, the equity market ranks second only to the United States, and the bond market, where rapid growth has been more recent, is already the third-largest in the world. In addition to its size, the structure of the financial system has changed significantly. While banks still account for the largest share of total financial system assets (about 80 percent), nonbank lending and financial products have mushroomed over the past decade. In addition, fully privately owned banks remain very small, even though the share of large state-owned banks has fallen to about 40 percent of the banking sector.

This rapid growth in nonbank financial activities has many causes. These include the credit-driven stimulus following the global financial crisis, return-seeking intensified by a high rate of savings and restrictions on capital outflows, and a financial system that is both innovative and responsive to changing needs. They also include efforts to circumvent bank regulation, such as interest rate and quantitative controls, some of which have more recently been liberalized. This has led to a complex and opaque system linking borrowers and lenders. Banking sector risks have risen as a whole as financing has increased, loans have migrated into complex investment products, and off-balance sheet exposures have risen.

Ensuring that financial sector frameworks are up-to-date in a fast growing economy, especially with a financial system that grows much faster than nominal GDP, is challenging by any standard. The example of the fast growth of Alibaba’s internet-based money market fund highlights the speed at which financial
innovations can take place: its establishment in mid-2013 saw a surge of more than 85 million customers within one year.

To ensure that China’s savings are channeled to the most productive sectors of the economy—and to minimize vulnerabilities that could lead to financial system stress down the road—it is critical that regulation and supervision keep pace with the rapid growth and innovation of the financial sector. Regulators are aware of the risks, and recent measures have aimed to improve banks’ risk management, limit the complexity of structured products and investment vehicles, and contain systemic risks.

STATE-OWNED ENTERPRISE FRAMEWORKS

Today, China is again at a crossroads that calls for ambitious SOE reform. Such reform can significantly improve resource allocation, contain excessive credit growth, facilitate other reforms, and unleash growth. Estimates suggest that reforms could increase GDP growth by 0.3–0.9 percentage points each year over a decade.

State-Owned Enterprise Reform

With over 150,000 in number, SOEs still play a critical role in the economy, despite their declining share of value added (falling from 40 percent to 16 percent) and urban employment over the past decades. SOEs still account for about half of total bank credit and 40 percent of total industrial assets. Also, they continue to benefit from implicit government support on factor inputs, including land and preferential access to credit, amounting to about 3 percent of GDP.

Easy access to financing has led to a significant build up in leverage in SOEs, even though their financial performance has deteriorated. Much of the rise in aggregate corporate leverage (the ratio of total liabilities to owners’ equity) since 2009 has taken place at SOEs. Their leverage ratios have risen to around 200 percent on average, mostly concentrated in overcapacity and heavy industries. At the same time, returns on SOE assets have deteriorated and their productivity is just about 30‒40 percent that of private enterprises (Hsieh and Song 2015). Moreover, the efficiency of Chinese SOEs appears to be lower than that in other developing economies, underscoring the urgency of SOE reforms.

SOE reforms feature prominently in the overall reform strategy, but objectives are competing, important details are still lacking, and implementation—as recognized by the government—has proven difficult. The 13th Five Year Plan—before the 2013 Third Party Reform Blueprint—put SOEs reform high on the agenda. In addition, State Council directives about SOE reforms addressing overcapacity issues and “zombie” nonviable firms (most of which are SOEs) committed to cutting aggregate SOE losses by 2017 and expediting the exit of near 350 subsidiaries of central and near 7,000 local nonviable “zombie” SOEs. While reforms envisage “diverse forms of ownership and private participation in SOEs” and see the state as a capital investor rather than operator, they also emphasize the need
to “making SOEs bigger and stronger to meet national strategies”. Also, the leadership role of the communist party will be strengthened as key decisions will require party-member approval.

Experience in other countries suggests that China should (1) triage SOEs into the fundamentally sound; liquidate the nonviable ones; and establish a restructuring plan for viable but insolvent SOEs; (2) harden budget constraints by gradually resolving implicit guarantees through greater tolerance of defaults; (3) reduce barriers to entry and break up administrative monopolies; and (4) create a level playing field.

While these reforms are difficult to implement, the government has in the past been able to implement far-reaching reforms. For example, to deal with increasing inefficiencies, rising debt levels, and risks to financial sector stability, the 1998/99 reform led to a sharp decline in the number of SOEs, a temporary wave of layoffs (more than 30 million people), and debt resolution. Also, China has space to provide on-budget fiscal support to minimize economic hardship during the transition. The establishment of a RMB100 billion restructuring fund for the coal and steel industries in 2016 are an important step into this direction.

MACROECONOMIC STATISTICS FOR POLICYMAKING

While the economy is rebalancing, rapid structural changes pose significant challenges for the provision of comprehensive, timely, and reliable statistics, and require constant upgrading and investment in the statistical framework. Policymakers need reliable statistics to calibrate macroeconomic policies. Domestic investors and households also need them to make sound savings and investment decisions; and given an increasing global footprint and risk of spillovers, the same is true for international investors and policymakers.

Upgrading Macroeconomic Statistics

China has continuously upgraded its statistics and improved publicly available data, including the subscription to the IMF’s Special Data Dissemination Standard in 2015. Particularly noteworthy is the progress in monetary and financial sector statistics, while in other areas (such as the real sector and government finance statistics) a redoubling of efforts is needed. For example, the National Accounts still lack a detailed breakdown on the expenditure side and the industrial sectors. Having the granular breakdown will help understand the structural changes and the evolving relationship between conventional economic gauges and GDP growth. Another important area for improvement is the deflation methodology, where price indexes are missing or are incomplete and frequently do not match the related activity or expenditure category. More high-frequency labor market data and indicators covering the rapidly growing new

12The IMF’s data standards are designed to promote the dissemination of timely and comprehensive statistics.
economy such as services can better calibrate short-term macroeconomic policies. Regarding government finance statistics, better tracking of the very large off-budget activities of local governments is needed (for example, local government financing vehicles). In the external sector consistency among various trade data series should be improved.

Faced with an ever more complex economy and continued rapid change some macroeconomic statistics have become less relevant while others, especially in the rapidly growing service sector, need to be expanded and added. The fact that China relies less and less on state-owned enterprises and instead fosters the development of entrepreneurialisms and small-and-medium enterprises, it will be increasingly difficult to have direct access to source data. This calls, among other things, for the application of other techniques, such as sample surveys and data reporting. The G20 Data Gaps Initiative provides some guidance. Hence, the focus should be on reviewing the scope of data compiled, upgrading underlying methodologies, and improving dissemination further.

China has again reached a crossroads in its economic development. Ensuring a continued bright future requires steadfast implementation of the comprehensive reform agenda, and as the following chapters detail, greater investment in soft infrastructure.

REFERENCES


China’s Economic Success and Reforms: Investing in Soft Infrastructure


ANNEX 1.1. SELECTED ECONOMIC INDICATORS

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<td><strong>National Accounts</strong></td>
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<td>Real GDP</td>
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<td>8.1</td>
<td>6.9</td>
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<tr>
<td>Consumption</td>
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<td>9.1</td>
<td>8.8</td>
<td>8.3</td>
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<td>Investment</td>
<td>12.8</td>
<td>15.4</td>
<td>8.1</td>
<td>6.1</td>
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<td>Net exports (contribution)</td>
<td>0.8</td>
<td>-0.9</td>
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<tr>
<td>Gross national saving (percent of GDP)</td>
<td>43.6</td>
<td>51.7</td>
<td>49.4</td>
<td>47.9</td>
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<td><strong>Labor market</strong></td>
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<td>Unemployment rate (annual average) 1/</td>
<td>3.9</td>
<td>4.2</td>
<td>4.1</td>
<td>4.1</td>
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<td><strong>Prices</strong></td>
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<tr>
<td>Consumer prices (average)</td>
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<td>2.8</td>
<td>3.2</td>
<td>1.4</td>
</tr>
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<td>GDP Deflator</td>
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<td>3.7</td>
<td>0.4</td>
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<td><strong>Financial</strong></td>
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<td>7-day repo rate (percent)</td>
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<td>2.4</td>
<td>5.4</td>
<td>2.5</td>
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<td>10 year government bond rate (percent)</td>
<td>3.6</td>
<td>3.4</td>
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<td>2.9</td>
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<td>Real effective exchange rate (average)</td>
<td>-0.1</td>
<td>4.0</td>
<td>4.4</td>
<td>10.1</td>
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<td><strong>General Government (percent of GDP)</strong></td>
<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Net lending/borrowing 2/</td>
<td>-1.8</td>
<td>-0.4</td>
<td>-0.6</td>
<td>-2.7</td>
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<tr>
<td>Revenue</td>
<td>15.9</td>
<td>23.6</td>
<td>27.6</td>
<td>28.6</td>
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<tr>
<td>Expenditure</td>
<td>17.7</td>
<td>24.0</td>
<td>28.2</td>
<td>31.3</td>
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<td>Debt 3/</td>
<td>25.8</td>
<td>30.9</td>
<td>36.0</td>
<td>42.9</td>
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<td><strong>Balance of Payments (percent of GDP)</strong></td>
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<tr>
<td>Current account balance</td>
<td>4.4</td>
<td>5.9</td>
<td>2.1</td>
<td>3.0</td>
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<tr>
<td>Net international investment position</td>
<td>22.0</td>
<td>29.8</td>
<td>20.0</td>
<td>14.3</td>
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<tr>
<td>Gross official reserves (bn US$)</td>
<td>1018</td>
<td>2445</td>
<td>3606</td>
<td>3406</td>
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<td><strong>Memorandum items</strong></td>
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<tr>
<td>Nominal GDP (bn RMB) 4/</td>
<td>16466</td>
<td>36018</td>
<td>56812</td>
<td>69630</td>
</tr>
<tr>
<td>Augmented debt (percent of GDP)</td>
<td>40.4</td>
<td>43.3</td>
<td>48.9</td>
<td>55.8</td>
</tr>
<tr>
<td>Augmented fiscal balance (percent of GDP)</td>
<td>-6.0</td>
<td>-8.3</td>
<td>-9.0</td>
<td>-9.5</td>
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</table>

Sources: CEIC, IMF, Information Notice System; and IMF staff estimates and projections.

1/ Surveyed unemployment rate.
2/ After adjusting local government debt swap, staff estimate that TSF stood at 203 percent of GDP in 2015.
3/ Adjustments are made to the authorities’ fiscal budgetary balances to reflect consolidated general government balance, including government-managed funds, state-administered SOE funds, adjustment to the stabilization fund, (identified by MoF and NPC in Sep 2015).
## Annex 1.2. Selected Social Indicators

<table>
<thead>
<tr>
<th>Indicators</th>
<th>1949-1979</th>
<th>1980-2002</th>
<th>2002-2012</th>
<th>2012-2014</th>
<th>2015</th>
<th>United States</th>
<th>Japan</th>
<th>India</th>
<th>High income group</th>
<th>Middle income group</th>
<th>East Asia</th>
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<tr>
<td>GDP per capita (in PPP, current US$)</td>
<td>-</td>
<td>2,106</td>
<td>6,924</td>
<td>12,206</td>
<td>14,180</td>
<td>56,430</td>
<td>38,870</td>
<td>6,020</td>
<td>44,991</td>
<td>10,594</td>
<td>15,702</td>
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<tr>
<td><strong>Population</strong></td>
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<tr>
<td>Life expectancy at birth (in years)</td>
<td>56</td>
<td>69</td>
<td>74</td>
<td>76</td>
<td>76</td>
<td>79</td>
<td>84</td>
<td>68</td>
<td>81</td>
<td>71</td>
<td>75</td>
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<tr>
<td>Population growth (in percent)</td>
<td>2.0</td>
<td>1.5</td>
<td>0.6</td>
<td>0.5</td>
<td>0.5</td>
<td>0.8</td>
<td>-0.1</td>
<td>1.2</td>
<td>0.6</td>
<td>1.1</td>
<td>0.7</td>
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<tr>
<td>Dependency ratio (in percent of working age population)</td>
<td>79</td>
<td>53</td>
<td>37</td>
<td>35</td>
<td>36</td>
<td>50</td>
<td>63</td>
<td>53</td>
<td>52</td>
<td>50</td>
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<tr>
<td><strong>Education</strong></td>
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<tr>
<td>University and college student (per 10th population)</td>
<td>6</td>
<td>37</td>
<td>183</td>
<td>241</td>
<td>252</td>
<td>420</td>
<td>480</td>
<td>-</td>
<td>400</td>
<td>-</td>
<td>-</td>
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<tr>
<td>Pupil-teacher ratio in secondary education</td>
<td>21</td>
<td>17</td>
<td>16</td>
<td>15</td>
<td>15</td>
<td>15</td>
<td>16</td>
<td>31</td>
<td>12</td>
<td>18</td>
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<td>Literacy rate (in percent)</td>
<td>72</td>
<td>93</td>
<td>95</td>
<td>96</td>
<td>98</td>
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<td>99</td>
<td>83</td>
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<td><strong>Environment</strong></td>
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<tr>
<td>Freshwater resources per capita (in cubic meters)</td>
<td>3,550</td>
<td>2,456</td>
<td>2,138</td>
<td>2,072</td>
<td>2,062</td>
<td>8,838</td>
<td>3,382</td>
<td>1,116</td>
<td>8732</td>
<td>5471</td>
<td>4525</td>
</tr>
<tr>
<td>Pollutants PM2.5 air (average annual exposure in micrograms per cubic meters)</td>
<td>-</td>
<td>44</td>
<td>54</td>
<td>54</td>
<td>54</td>
<td>11</td>
<td>16</td>
<td>47</td>
<td>16</td>
<td>36</td>
<td>40</td>
</tr>
<tr>
<td><strong>Infrastructure</strong></td>
<td></td>
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<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Railway infrastructure (in kilometers)</td>
<td>-</td>
<td>54,183</td>
<td>63,193</td>
<td>66,528</td>
<td>66,989</td>
<td>228,218</td>
<td>19,470</td>
<td>65,808</td>
<td>535,060</td>
<td>475,549</td>
<td>127,034</td>
</tr>
<tr>
<td>Internet users (per 100 people)</td>
<td>-</td>
<td>3</td>
<td>20</td>
<td>46</td>
<td>49</td>
<td>87</td>
<td>91</td>
<td>18</td>
<td>83</td>
<td>35</td>
<td>47</td>
</tr>
<tr>
<td>Growth in fixed asset investment (in percent)</td>
<td>-</td>
<td>20</td>
<td>24</td>
<td>15</td>
<td>10</td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td><strong>Inequality</strong></td>
<td></td>
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<td></td>
<td></td>
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<td></td>
</tr>
<tr>
<td>Gini coefficient</td>
<td>0.34</td>
<td>0.48</td>
<td>0.47</td>
<td>0.46</td>
<td>0.41</td>
<td>0.32</td>
<td>0.34</td>
<td>-</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Sources: World Development Indicators, World Bank; CEIC.

1/ Data in 2015 is GNI per capita adjusted with PPP in current USD.
ANNEX 1.3. SELECTED ECONOMIC REFORMS 2015–16

Reform progress has been wide-ranging. Key reforms have been to improve the monetary and fiscal frameworks and to promote urbanization.

Financial sector reforms

- Deposit insurance introduced (May 2015)
- Interest rates fully liberalized (October 2015)
- PBC launched the Macro Prudential Assessment mechanism (December 2015)
- Pilot programs initiated on securitization and debt-equity conversions to help address rising nonperforming loans (February 2016, April 2016)

Structural reforms

- Capacity reduction targets (about 10–15 percent over the next 3–5 years) announced for coal and steel sectors (February 2016)
- A restructuring fund of RMB100 billion was established for social safety nets for layoffs in overcapacity sectors (February 2016)
- Published guidelines on SOE reforms, including the separation of some social functions from SOEs; ten pilot programs were implemented (September 2015, February 2016, August 2016)
- Announced guidelines to enhance the pricing mechanism and reduce the number of prices set by central government (December 2015)
- Relaxed the one-child policy (December 2015)
- Property rights for rural land clarified, including use as collateral for securing agricultural loans (March 2016)
- Social housing program extended.
- About 30 provinces announced guidelines on hukou (household registration) reforms (April 2016); a new household residency system is being rolled out by end-2016

Fiscal reforms

- Implementation of the new budget law (January 2015)
- Business tax fully converted to VAT for remaining services (May 2016)
- Twelve provinces have lowered the employer contributions toward social security payments (April 2016)
- New fiscal accounting framework effective from Jan 2016
• Revised the price adjustment mechanism for oil products (January 2016)
• Tax cuts implemented for small and high tech firms (September and November 2015)
• Reform the Personal Income Tax to further promote equity and redistribution (to be implemented in 2016)
• New environmental tax law (expected in 2016); carbon emission trading scheme (will be introduced in 2017)