

**Part I**

**Overview**

**China 2030:  
Building a Modern, Harmonious, and  
Creative High-Income Society**



# China 2030: Building a Modern, Harmonious, and Creative High-Income Society

## Introduction

From the early 1500s until the early 1800s, China's economy was the world's largest. By 1820, it was one-fifth again as big as Europe's and accounted for a third of world gross domestic product (GDP). But the next two centuries were tumultuous for China. The country experienced catastrophic decline between 1820 and 1950 and then, starting in 1978, meteoric rise (Maddison 2001). Today, China is once again among the largest economies of the world, having overtaken Japan in 2010. Its economy is now second only to that of the United States (third, if the European Union is counted as one economy), and it is the world's largest manufacturer and exporter. The East Asian miracle may have lost some of its luster after the financial crisis of 1997–98, but China's performance continues to impress. Even if China grows a third as slowly in the future compared with its past (6.6 percent a year on average compared with 9.9 percent over the past 30 years), it will become a high-income country sometime before 2030 and outstrip the United States in economic size (its per capita income, however, will still be a fraction of that in advanced countries). If China achieves this milestone, it will have avoided the “middle-income trap” by traversing the seemingly impossible chasm between low-income and high-income status within a generation and a half—a remarkable achievement for any country, let alone one the size of China.

But two questions arise. Can China's growth rate still be among the highest in the world even if it slows from its current pace?

And can it maintain this rapid growth with little disruption to the world, the environment, and the fabric of its own society? We answer “yes” to both, but only if China transitions from policies that served it so well in the past to ones that address the very different challenges of a very different future.

This overview, supported by five underpinning volumes, identifies these challenges of tomorrow, points to key choices ahead, and recommends not just “what” needs to be reformed, but “how” to undertake the reforms. The overview is divided into nine chapters. The first chapter examines the characteristics of China's development since 1978; considers future opportunities, challenges, and risks; and describes a vision of China in the year 2030. The second chapter maps a new strategy that will realize this vision, focusing on the key choices ahead for China to sustain rapid economic and social development and become a modern, harmonious, and creative high-income society before 2030. Chapters 3–8 elaborate on each of the six pillars of the new strategy: consolidating China's market foundations; enhancing innovation; promoting green development; ensuring equality of opportunity and social protection for all; strengthening public finances; and achieving mutually beneficial win-win relations between China and the rest of the world. The ninth and final chapter addresses implementation challenges, including the sequencing of proposed reforms and overcoming obstacles that are likely to emerge.

## Chapter 1 China's Path: 1978 to 2030

### Unique factors behind China's economic success

Over the past three decades, China's two historic transformations, from a rural, agricultural society to an urban, industrial one, and from a command economy to a market-based one, have combined to yield spectacular results. Not only did economic growth soar, but the poverty rate fell from more than 65 percent to less than 10 percent as some 500 million people were lifted out of poverty, and all the Millennium Development Goals have been reached or are within reach. Although growth rates differed across China, growth was rapid everywhere. Indeed, if mainland China's 31 provinces were regarded as independent economies,<sup>1</sup> they would be among the 32 fastest-growing economies in the world (figure 1). Such rapid growth has been accompanied by many other achievements: for example, 2 of the world's top 10 banks are now Chinese;<sup>2</sup> 61 Chinese companies are on the Global Fortune 500 list;<sup>3</sup> and China is home to the world's second-largest highway network, the world's 3 longest sea bridges, and 6 of the world's 10 largest container ports.<sup>4</sup> The country has also made large strides in health, education, science, and technology, and is quickly closing the gap on all these fronts with global leaders.

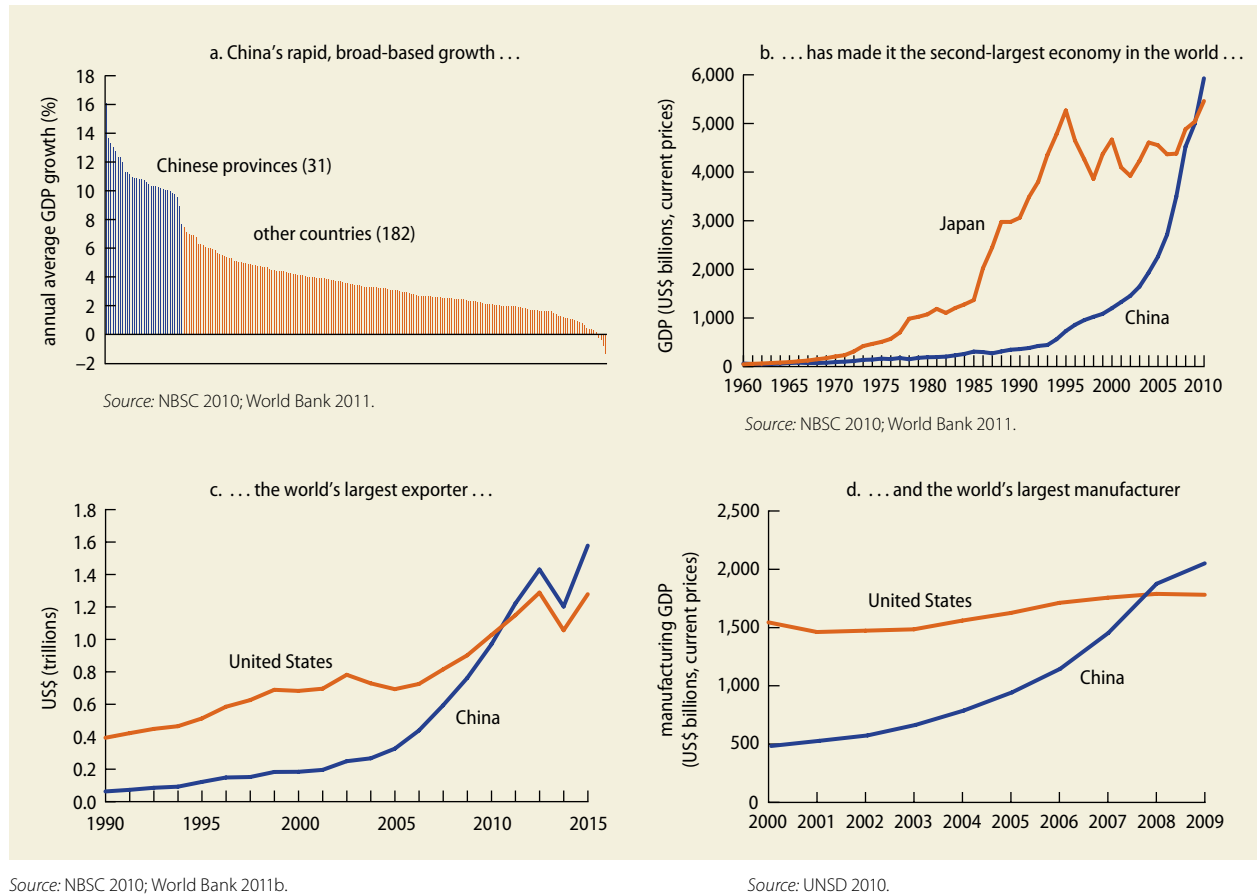
Many unique factors lie behind China's impressive growth record, including the initial conditions of the economy in 1978 that made it particularly ripe for change. The spark came in the form of agricultural reforms, including the household responsibility system that foreshadowed sustained reforms in this and other areas over the next 30 years. To summarize, key features of the reforms included:

***Pragmatic and effective market-oriented reforms.*** China's uniqueness among developing countries is not what it did to achieve success, but how it did it. China adapted a strategy known as "crossing the river by feeling stones," which encouraged local governments to undertake bold pilot experiments.

By introducing market-oriented reforms in a gradual, experimental way and by providing incentives for local governments, the country was able to discover workable transitional institutions at each stage of development. One key feature of these reforms was their "dual-track" nature—supporting state-owned firms in old priority sectors while liberalizing and encouraging the development of private enterprises (Lin 2012). The economy was allowed to "grow out of the plan" until the administered material planning system gradually withered. As a result of continuous and decentralized trial-by-error exploration, institutional arrangements evolved as new and different challenges needed resolution. Indeed, different localities often adopted their own unique institutions tailored to their specific situations.

***Balancing growth with social and macroeconomic stability.*** The difficult economic situation at the start of reforms in 1978 made economic growth an urgent priority. Early reform successes quickly transformed this priority into a national objective that was effectively used to mobilize all quarters of society—individuals and firms as well as local governments—to focus their collective efforts on economic development. The government employed a mix of fiscal, administrative, and employment policies to maintain social stability during a period of rapid economic and structural change. This was no mean achievement, given the need to employ an additional 9 million new entrants into the labor force each year while also absorbing workers affected by policy shifts (such as the 1998 reforms of state-owned enterprises, or SOEs), frictional unemployment, and occasional external economic shocks.

Rapid growth and structural change also presented macroeconomic challenges. The economy experienced occasional bouts of serious inflation, such as in the late 1980s and early 1990s. But macroeconomic stability was effectively restored through a combination of traditional monetary and fiscal policies, as well as administrative means

**FIGURE 1** China's impressive economic performance

when necessary. As a result, the authorities were broadly successful in keeping inflation low throughout the period and protecting the rural and urban poor from relative price increases in key necessities.

**Interregional competition.** China built on its strong local governments at various levels by allowing them to compete in attracting investment, developing infrastructure, and improving the local business environment. Decentralization policies, including fiscal reforms in 1994 (which significantly increased resource transfers from the central government), gave subnational governments the incentives and the resources to aggressively pursue local development objectives. Increased factor mobility meant that resources flowed to jurisdictions most supportive of growth. Finally, China's vast size and regional differences meant that local

governments could experiment with and champion specific reforms suited to their circumstances, while operating within the parameters established by central authorities. Officials were rewarded for delivering key reform goals: growth, foreign direct investment (FDI), employment, and social stability. The resulting competition between local governments and regions was fierce—and became a strong driver of growth—far beyond the expectations of the authorities.

**Domestic market integration.** A key element of the reforms was the dismantling of regional barriers to the movement of goods, labor, and capital and the establishment of a single national market. Major infrastructure investments connecting regions and the interior to the coast helped. A large and integrated domestic market allowed firms to achieve scale economies, and the large

variation in income levels and consumption patterns across the country gave their products a longer life cycle.

*Steady integration with the global economy.* With the establishment of special economic zones, Deng Xiaoping's remarks during his famous South China tour, and accession into the World Trade Organization (WTO) as milestones, China expanded and deepened its economic integration with the global economy. This policy reaped large dividends for China, bringing investments, advanced technologies, and managerial expertise; opening the international market for China's goods and services; and giving a boost to China's internal economic reforms. The proximity of Hong Kong SAR, China, and Taiwan, China, helped, as did a large Chinese diaspora dispersed across the globe.

### Trends and characteristics at home and abroad in the next two decades

China's reforms, still ongoing, have facilitated regional concentration of activities and captured agglomeration economies in coastal provinces, encouraged mobility of factors and goods across provinces and with the rest of the world, and established a high savings- and investment-led growth process disciplined by the competitive pressures of globalization. Most important, China has avoided economic setbacks: not only did economic growth average nearly 10 percent over more than three decades, it fell measurably below 8 percent only twice. During the recent global financial crisis, China's continued rapid growth was a significant stabilizing force that partly counterbalanced the impact on global economic activity of the downturn and subsequent tepid recovery in the advanced economies.

Will China be able to sustain this performance over the next two decades? Much depends on how the global environment evolves and on the structural forces that are already at work within China. But this much is certain: trends at home and abroad will be very different over the next 20 years

compared with the past 30, not only because China and other emerging markets have fundamentally reshaped the global economy—a trend that was accelerated by the recent global financial crisis—but also because new global challenges and opportunities are emerging that will significantly affect the future trajectory of the world's economies.

### Global megatrends

The last three decades saw a supportive global environment that undoubtedly assisted and accommodated China's rapid growth. Key elements included relatively open trade, rising flows of foreign direct investment, steady growth in the world's major markets, sharply declining transport costs, increased intraindustry trade, and the introduction and spread of information and communications technology. While extrapolating linearly from the past may be dangerous, some of these trends are indeed likely to persist.<sup>5</sup> There is widespread consensus, for example, that in addition to China, other developing countries, especially middle-income emerging markets, will continue to outperform the advanced economies as they have for the past decade. One reason is their continued potential for technological catch-up. The other is continued slow growth in advanced economies owing to deleveraging and the impact of high sovereign debt burdens. By 2030, developing countries are expected to contribute two-thirds of global growth (40 percent, excluding China) and half of global output (30 percent, excluding China), and will be the main destinations of world trade. The larger emerging markets—China more so than others—will act as additional growth poles in a multipolar world economy.

Perhaps the most important global megatrend is the rise of China itself. No other country is poised to have as much impact on the global economy over the next two decades. Even if China's growth rate slows as projected, it would still replace the United States as the world's largest economy by 2030, its share in world trade could be twice as high, it is likely to remain the world's biggest emitter of carbon dioxide, and, notwithstanding shrinkage in its trade surplus, it is expected

to remain the world's largest creditor. Some have argued that by 2030 China's influence in the global economy could approach that of the United Kingdom in 1870 or the United States in 1945 (Subramanian 2011).

Continued rapid growth in emerging markets will give rise to an unprecedented expansion of the global middle class (by one estimate, from less than 1.8 billion people in 2009 to about 5 billion in 2030, of whom nearly two-thirds will be in Asia).<sup>6</sup> That expansion will trigger an explosion in demand for housing and consumer durables, including automobiles. The pressure on global supplies of energy, natural resources, food, water, and the environment will ratchet up rapidly. Climate change effects could exacerbate food and water shortages in some areas. The price of raw materials will remain elevated and volatile. Higher prices for scarce natural resources highlight the need to introduce "green growth" strategies that could potentially become a new source of growth.

Notwithstanding the potential for rapid growth in emerging markets, there are also reasons to believe that growth in developing countries, including China, will slow. First, as populations age, the growth rate of the labor force will slow, and in some countries (such as China and the Russian Federation) will even decline, leading to higher dependency ratios and lower savings and investment. Second, although emerging market economies will retain a comparative advantage in manufacturing, rising unit labor costs will further increase their relative share of services; overall growth would thus slow because productivity growth in services is usually lower than in manufacturing.

While protectionism may occasionally rear its head, especially in advanced countries where the impact of the recent financial crisis has been particularly severe, the forces of globalization will remain irresistible, and further cross-border movements of goods, services, finance, people, and knowledge will endure and deepen. Production chains across borders will continue to flourish, and intraindustry and intraindustry trade will intensify.

As global trade continues to grow at a more rapid rate than GDP, the new frontier will be trade in services, now the

fastest-growing component of global trade. Thanks to new informational technologies, services previously considered nontradable (such as health and education) will be routinely provided across national borders just as manufactures are now. In addition, the world is continuing to see further global relocation of industries (and, increasingly, tasks within industries) in the incessant search for global competitiveness.

The number of free trade arrangements in the world has multiplied manifold over the past two decades; over the next two, trade integration will intensify and production networks will expand further. Intra-East Asian trade could rival that of intra-European trade (as a share of GDP). Emerging markets will develop an increasing stake in an open global trading system. The resolution of climate change, international financial stability, international migration, health pandemics, water management, and other global challenges will require new approaches to transnational and global governance arrangements.

The U.S. dollar will likely remain the world's major international reserve currency, especially given weaknesses in the Euro Area and Japan. But expansionary monetary policies in the advanced countries, including the United States, will cause instability in the international monetary system, and uncertainty in key exchange rates will add to costs of international monetary and trade transactions. China's growing weight in world trade, the size of its economy, and its role as the world's largest creditor will make the internationalization of China's renminbi inevitable, but its acceptance as a major global reserve currency will depend on the pace and success of financial sector reforms and the opening of its external capital account (see chapter 8).

Technological breakthroughs, unpredictable as they may be, are more likely in some areas, such as clean water, energy storage, and biotechnologies, than in others. A breakthrough in clean coal technologies would give China an obvious advantage, given its huge coal reserves. Renewable energy technologies could also become more economically viable. The recent pattern has been for such technological breakthroughs to occur in advanced countries, with their application

in commercial and mass production usually transferred to developing countries. This pattern is likely to continue; adoption, adaptation, and mastery of existing technologies will remain an important growth driver in developing countries. At the same time, however, as emerging markets develop their own technological capability, new and disruptive technologies will appear in the developing world and raise the chance of “leapfrogging” over advanced countries in a few areas.

### Major trends within China

Just as growth is expected to slow in some emerging markets over the coming two decades, many signs point to a growth slowdown in China as well. Indeed, we expect GDP growth to decline gradually from an average near 8.5 percent in 2011–15 to around 5 percent in 2026–30 (see table 1). One reason for the slowdown is that much of the growth contribution from shifting resources from agriculture to industry has already occurred. And going forward, the continued accumulation of capital, although sizable, will inevitably contribute less to growth as the capital-labor ratio rises (even though capital stock per worker, now an estimated 8.7 percent of the U.S. level, underscores the need for further capital accumulation). Moreover, China is poised to go through wrenching demographic change: the old age dependency ratio will double in the next two decades, reaching the current level in Norway and the Netherlands by 2030 (between 22 and 23 percent);<sup>7</sup> and the size of China’s labor force is projected to start shrinking as soon as 2015. Yet workers will become more productive as physical and human capital stock per worker continues to rise. Finally, total factor productivity (TFP) growth—a measure of improvements in economic efficiency and technological progress—has also declined, in part because the economy has exhausted gains from first-generation policy reforms and the absorption of imported technologies. As a result, the distance to the technological frontier has shrunk, and second-generation policy reforms are likely to have a smaller impact on growth.<sup>8</sup>

These factors, together with “rebalancing” policies to emphasize domestic growth sources, will contribute to a higher share of services and consumption in the economy and a lower share of exports, savings, and investment. The challenge will be to support these growth and structural transitions while avoiding sudden slowdowns and possible crises.

China’s external accounts are expected to show a decline in the trade surplus—export growth will slow as China’s global market share rises and markets in advanced countries grow more slowly, while import growth will be driven by continued expansion in domestic demand. At the same time, however, the external capital account will show a rising deficit as Chinese savings flow abroad in search of better returns and to counter protectionist pressures abroad. This trend will serve not only to keep in check further accumulation of external reserves but also to facilitate the transformation of Chinese enterprises into global players.

China’s current pattern of development has also placed considerable stress on the environment—land, air, and water—and has imposed increased pressure on the availability of natural resources. The challenge going forward will be to convert these pressures into new sources of growth by adopting a green growth model that taps into new global markets in green technologies while at the same time solving many of China’s own pressing environmental concerns. If successful, the energy and commodity intensity of production is expected to decline significantly by 2030 for three reasons: a smaller share of industry in GDP; a smaller share of resource- and pollution-intensive firms in the industrial sector; and better pricing of energy, commodities, and environmental services (see chapter 5).

Income inequality in China, which climbed continuously over the past two decades, is showing some tentative signs of beginning to flatten and possibly even decline. In the coming decades, three underlying structural factors could serve to confirm this inflexion point. First, acceleration of growth in the middle and western regions will continue,



**TABLE 1** China: Projected growth pattern assuming steady reforms and no major shock

Indicator	1995–2010	2011–2015	2016–20	2021–25	2026–30
GDP growth (percent per year)	9.9	8.6	7.0	5.9	5.0
Labor growth	0.9	0.3	–0.2	–0.2	–0.4
Labor productivity growth	8.9	8.3	7.1	6.2	5.5
Structure of economy (end of period, %)					
Investment/GDP ratio	46.4	42	38	36	34
Consumption/GDP ratio	48.6	56	60	63	66
Industry/GDP ratio	46.9	43.8	41.0	38.0	34.6
Services/GDP ratio	43.0	47.6	51.6	56.1	61.1
Share of employment in agriculture	38.1	30.0	23.7	18.2	12.5
Share of employment in services	34.1	42.0	47.6	52.9	59.0

Source: DRC.

so the income gap between the coast and the interior will narrow. Second, migrant wages will continue to rise rapidly, reducing the income gap with urban residents. The role of policy will be to support these structural forces by increasing the equality of opportunity (see chapter 6). Third, even though the urbanization rate is expected to continue its rise, rural-urban migration will gradually slow over the period as the structural shift from agriculture to manufacturing eases, and the rural-urban wage gap narrows (the urban-rural income ratio is expected to fall from 3.2 : 1 in 2010 to 2.4 : 1 in 2030).

At the same time, rising educational standards and brisk growth in tertiary education is rapidly increasing the numbers of skilled workers and helping China move up the value chain, and this process is likely to accelerate in coming decades. The growing skill base will facilitate a further shift in production from labor-intensive to skill-intensive activities and an increase in the pace of innovation. Indeed, just as in the 1980s and 1990s when hundreds of millions of unskilled Chinese workers joined the global labor force as part of China’s “opening up” strategy, so too will tens of millions of tertiary-educated Chinese workers join the global workforce to significantly expand the global supply of skill-intensive products. Indeed, the number of college graduates could swell by 200 million over the next two decades—more than the entire labor force of the United States.<sup>9</sup>

At the same time, China’s existing comparative advantage in low unit labor costs will shrink gradually. Rapidly rising real wages for unskilled workers in coastal provinces are encouraging firms to relocate to neighboring interior provinces where labor and land are more plentiful and relatively cheap. Thanks to continuous improvements in connective infrastructure between the interior and major cities and ports, the incremental transport costs from interior locations will be outweighed by the benefits of lower input costs.

The rise in wages associated with increased productivity will continue to spur rapid expansion in the ranks of the middle class, which, in turn, will increase consumption of consumer durables and raise the share of consumption in GDP. And, as international experience shows, a growing middle class will also act as a catalyst for improved governance, better delivery of public services, and the empowerment of civil society.

And finally, China’s urbanization—a driver of much of China’s increased global competitiveness—is poised to grow rapidly. Over the coming two decades, the increase in the urban population will be the equivalent of more than one Tokyo or Buenos Aires each year as the share of urban residents in the total population climbs from about one-half to near two-thirds in 2030.<sup>10</sup> This will act as another powerful driver of growth, although much will depend on how well

urban development policies are designed and implemented.

## Opportunities and risks going forward

These global and internal trends offer China many opportunities that could support rapid growth in the next two decades—and give rise to many risks that could threaten that growth. Any development strategy going forward would need to build on the opportunities and manage the risks.

First consider the *opportunities*. Continued rapid economic development and decreases in inequality will swell the ranks of the middle class and accelerate domestic demand for income-elastic products, such as consumer durables, leisure activities, and housing, as well as better health and education services. This, together with the rapid growth of other emerging markets where similar transformations are taking place (albeit at a slower pace) will afford new opportunities to Chinese enterprises, enable economies of scale in production and marketing, and provide fresh incentives to increase international competitiveness through innovation and technological development.

Increased specialization, intraindustry trade, and the two-way flow of investment will allow China to continue to exploit opportunities to narrow the gap between its capabilities and the technological frontier through adoption, adaptation, and mastery of existing technologies. The country's high savings rates will allow it to replenish its capital stock relatively quickly, and that will continue to facilitate rapid technological catch-up (figure 2). And with improvements in its own research and development capabilities, China itself could become a global source of product and process innovation as well as occasional technological breakthroughs.

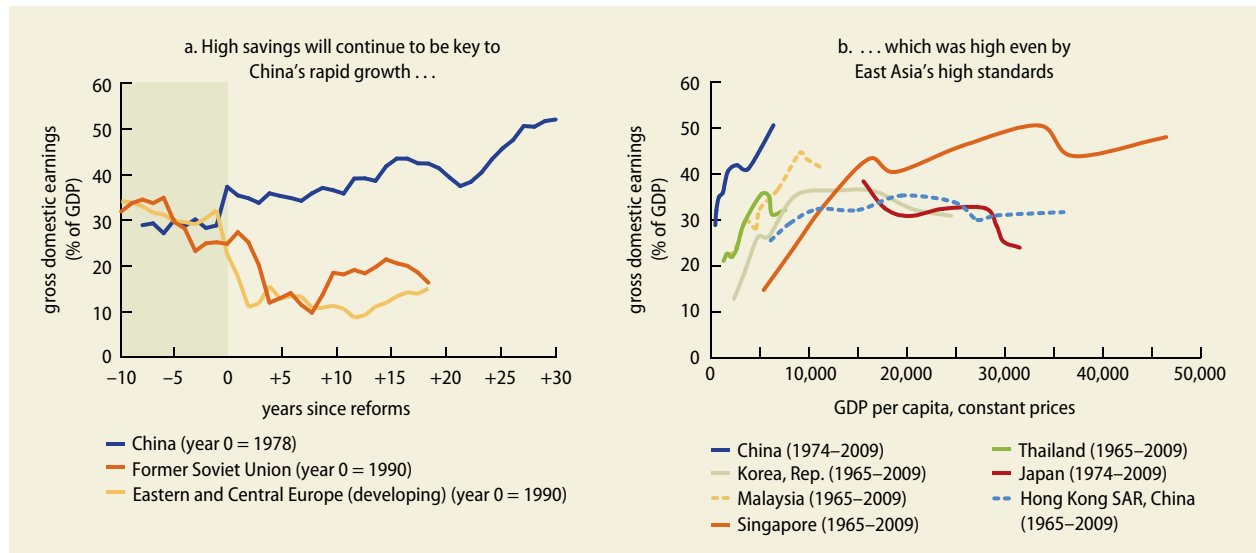
China's growing technological prowess will lead to rapid change in its industrial structure, which will create new areas of dynamic comparative advantage. Just as its construction industry has become a global leader in construction projects internationally, so too

will other industries become a competitive force in global markets in their own right. This transition would present an opportunity to improve quality, safety, and environmental standards that would provide a competitive edge abroad and improve consumer experience at home.

Growing recognition within China that the current pattern of production and growth is unsustainable is giving rise to new approaches toward realigning government priorities. A fresh emphasis on the quality—not just the pace—of growth provides a promising opportunity to encourage competition between local governments on the basis of a broad development index incorporating a mix of social and environmental measures that can be added to existing indicators of economic growth. Realignment of priorities would also be consistent with the expected increase in demand from the rising number of middle-class Chinese seeking improvements in their quality of life.

At the same time, global and domestic trends are also likely to give rise to many *risks* that could slow economic growth and disrupt China's progress to become a high-income, harmonious, and creative society. Managing the transition from a middle-income to a high-income society will itself prove challenging, and a global environment that will likely remain uncertain and volatile for the foreseeable future makes the task doubly daunting. The next five years will be particularly risky as the global economy enters a new and dangerous phase and works its way through the aftereffects of the global financial crisis and adjusts to the “new normal.”

There is broad consensus that China's growth is likely to slow, but when and at what pace is uncertain, and there is no saying whether this slowdown will be smooth or not. Any sudden slowdown could unmask inefficiencies and contingent liabilities in banks, enterprises, and different levels of government—heretofore hidden under the veil of rapid growth—and could precipitate a fiscal and financial crisis. The implications for social stability would be hard to predict in such a scenario.

**FIGURE 2 Savings in China compared to other countries**

Source: World Bank 2011b.

How government responds to a rapid slowdown will depend on its causes. One cause could be a macroeconomic shock, say, a sudden decline in real estate prices and a sharp contraction in construction and investment, or a rapid growth slowdown in the advanced economies leading to sharply lower global trade and growth. Such risks could be significant in the short term, and there is a likelihood that China could face just such challenges over the course of the next two decades. Fortunately, unlike many other countries, China's fiscal and debt position allows it the space to respond with countercyclical measures. But these short-term policy responses should also be supportive of long-term structural reforms (such as those recommended in this report).

Another cause of a growth slowdown—arguably one of greater concern—could be structural in nature, the so-called middle-income trap (box 1). If, instead of responding with policy reforms to address structural problems, the government applies macroeconomic measures to stimulate the economy, then inflation and instability could result, possibly undermining investor confidence and ultimately leading to slower growth and even stagnation. Over the past half century,

many countries have entered middle-income status, but very few have made the additional leap to become high-income economies. Rather, several faced sudden, sharp decelerations in growth and have been unsuccessful in addressing the root structural cause of the slowdown. China does not have to endure this fate. Successful implementation of the reform policies, contained in this report, aimed at finding new growth drivers—increased efficiency in input use, higher human capital investments, increased innovation, and a shift to high-value services—will help China avoid the middle-income trap and maintain an expected average growth rate of between 6 and 7 percent a year in the coming two decades, compared with an average of nearly 10 percent a year in the past three decades.

The risk of sharply lower growth rates is exacerbated by China's relatively high income and asset inequality, low consumption, and unequal access to quality public services (figure 3). Notwithstanding massive internal migration from farms to cities, barriers to labor mobility (the household registration, or *hukou*, system, the lack of portability of pension plans, weak labor market institutions, and inadequate job market information) have

## BOX 1 The middle-income trap

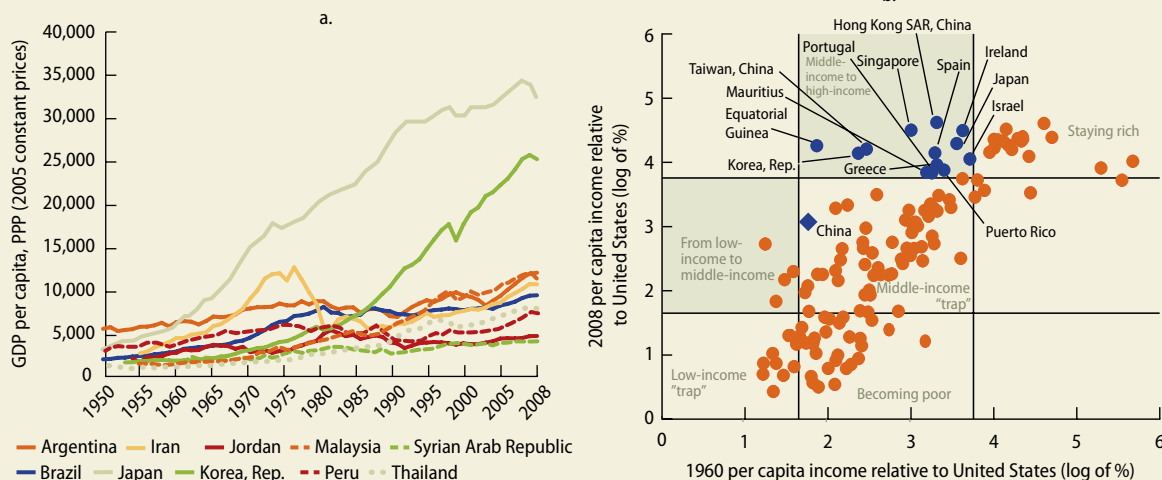
Growing up is hard to do. In the postwar era, many countries have developed rapidly into middle-income status, but far fewer have gone on to high-income status. Rather, they have become stuck in the so-called middle-income trap.<sup>a</sup> The factors and advantages that propelled high growth in these countries during their rapid development phases—low-cost labor and easy technology adoption—disappeared when they reached middle- and upper-middle-income levels, forcing them to find new sources of growth.

Low-income countries can compete in international markets by producing labor-intensive low-cost products using technologies developed abroad. Large productivity gains occur through a reallocation of labor and capital from low-productivity agriculture to high-productivity manufacturing. As countries reach middle-income levels, the underemployed rural labor force dwindles and wages rise, eroding competitiveness. Productivity growth from sectoral

reallocation and technology catch-up are eventually exhausted, while rising wages make labor-intensive exports less competitive internationally. If countries cannot increase productivity through innovation (rather than continuing to rely on foreign technology), they find themselves trapped.<sup>b</sup>

The concept of a middle-income trap has some empirical backing. Latin America and the Middle East provide compelling support for the trap hypothesis: in these two regions, most economies reached middle-income status as early as the 1960s and 1970s and have remained there ever since (see box 1 figure a). Of 101 middle-income economies in 1960, only 13 became high income by 2008 (see box 1 figure b)—Equatorial Guinea; Greece; Hong Kong SAR, China; Ireland; Israel; Japan; Mauritius; Portugal; Puerto Rico; Republic of Korea; Singapore; Spain; and Taiwan, China.

**Box 1 Figure Few countries escape the middle-income trap**



Source: Heston, Summers, and Aten 2011.

Source: Maddison database.

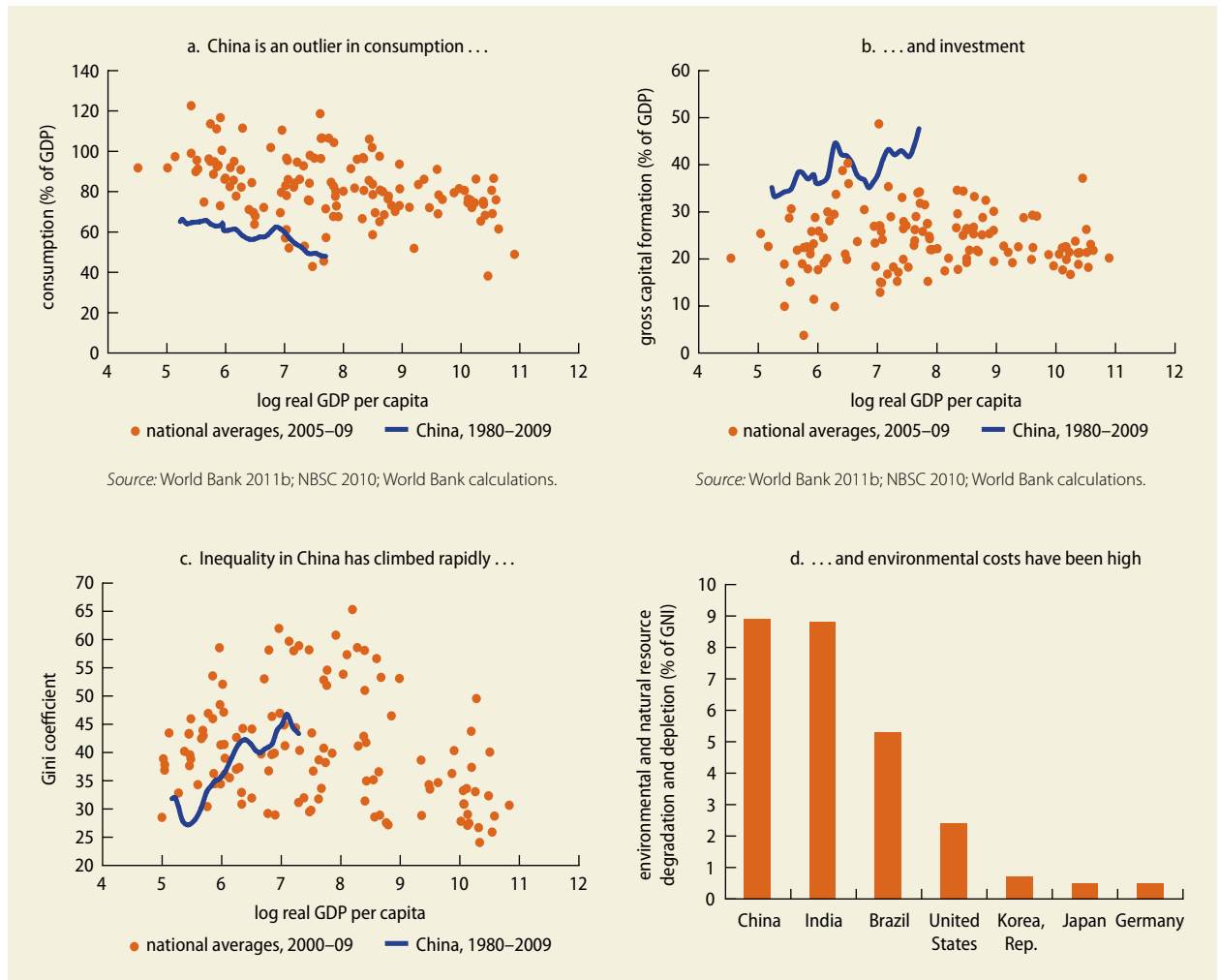
a. The term “middle-income trap” was first defined in Gill, Kharas, and others (2007). “Middle income economies” are defined in accordance with classifications by income group as given in: <http://data.worldbank.org/about/country-classifications>.

b. In today’s increasingly globalized world, escaping the middle-income trap may be even more difficult (Eeckhout and Jovanovic 2007).

trapped tens of millions of farm families in low-paying, low-productivity work. These barriers, combined with factor and resource price policies that favor enterprise profits and implicitly tax household incomes, have contributed to the declining share of wages and

rising share of capital in national income. Furthermore, the quality gap in public services available to rural and urban households has widened, and the “opportunity gap” between urban and rural areas has grown. Social tensions have ratcheted up in some

**FIGURE 3** China's economic challenges



Source: World Bank 2011b; NBSC 2010; World Bank calculations.

Source: World Bank 2011b; NBSC 2010; World Bank calculations.

Source: Milanovic 2005; World Bank calculations.

Source: World Bank 2010.

areas, resulting in a growing number of public protests. Unresolved, these tensions could pose a threat to growth and stability in coming decades.

Social risks are also expected to arise from another direction. If the experiences of other countries is any guide, the rising ranks of the middle class and higher education levels will inevitably increase the demand for better social governance and greater opportunities for participation in public policy debate and implementation. Unmet, these demands could raise social tensions; but if the government finds ways to improve consultation and tap the knowledge and social capital of

individuals and nongovernment agencies, these demands can be transformed into a positive force supportive of improved governance and public policy formulation.

Another risk relates to China's growth pattern, which has been particularly intensive in energy and natural resource use, contributing to a widening environmental deficit and exposing the economy to commodity price shocks. While the rise in energy intensity in individual industries has eased steadily, rapid growth, growing urbanization, and structural change within manufacturing have combined to make China the world's largest energy user, outstripping the United States

in 2010 (although, on a per capita basis, the United States still consumes five times more energy than China, and China has raced ahead in generating wind and solar energy). Similarly, rapid growth has led to substantial natural resource depletion and serious environmental pollution. Uncorrected, these trends could, in time, serve as a serious constraint on growth.

Many of the policies that generated China's high savings and investment levels also account for its external imbalance, as measured by its current and capital account surpluses in the balance of payments. The combination of these two surpluses has resulted in record foreign exchange reserves, most of which are invested in low-yield U.S. securities, while China pays a substantially higher interest or dividend rate for capital imports in the form of "hot money" and foreign direct investment. China's current account surpluses and reserve accumulation are a relatively recent phenomenon, one that occurred only after the Asian financial crisis. They reflect not only the country's growing role as the center of a rapidly expanding and deepening East Asian production network but also a policy objective to strengthen the

country's foreign exchange buffer against external shocks. Ironically, these reserves face the risk of large capital losses in the face of a weakened dollar. Efforts to export capital in the form of outward FDI, especially to secure raw material supplies, has met with suspicion in some receiving countries, and unless appropriate steps are taken to address these problems, such risks and friction could grow.

China's relations with the rest of the world are affected by its rapid export growth, which has not been matched with equivalent increases in import volumes, and by bilateral trade surpluses with its key trading partners, which have fueled protectionist pressures. Indeed, if China's current export growth persists, its projected global market share could rise to 20 percent by 2030, almost double the peak of Japan's global market share in the mid-1980s when it faced fierce protectionist sentiments from its trading partners. China's current trajectory, if continued, would cause unmanageable trade frictions well before 2030, however. The anemic growth of high-income countries as they continue to struggle with fiscal consolidation is expected only to magnify China's expansion of the global market share.

## Chapter 2 A New Development Strategy for 2030

China's successful development strategy over the past three decades has made it an upper-middle-income economy today. But the opportunities and challenges in the next two decades will be unlike those it encountered in the past and will demand a new development strategy. This strategy will need to build on China's opportunities, meet its challenges, manage its risks, and realize the country's long-term objectives. But what are those objectives—and what kind of strategy does China need to achieve them? This chapter begins with a discussion of China's vision of itself in 2030, identifies the core elements of a strategy that would help it realize that vision, and examines the characteristics that such a strategy should have.

### The 2030 vision: To build a modern, harmonious, and creative high-income society

In a recent landmark study, the Commission on Growth and Development (2008) identified five common features in countries that sustained rapid growth and development for extended periods: They exploited opportunities in the world economy by maintaining open trade and investment policies; they maintained macroeconomic stability; they enjoyed high savings and investment rates; they allowed markets to allocate resources; and they were led by committed and credible governments. China belongs to this select group and has demonstrated all five of these features. The architect of China's reforms was Deng Xiaoping, who played an important role in building consensus for a fundamental shift in the country's strategy. After more than 30 years of rapid growth, China has reached another turning point in its development path, one that calls for a second strategic, and no less fundamental, shift.

China's ultimate objective is to become a modern, harmonious, creative, and high-income society by 2030. Each element of the phrase “modern, harmonious, creative, and high income” has specific significance

in China that guides the analysis and recommendations in this report.

*A modern society* is industrialized and urbanized and enjoys a quality of life that is on par with the Western world. This society would have modern values, a modern economic and social structure, with access to contemporary, state-of-the-art product and process technologies, and would engage and contribute as an equal with other nations in the discourse of the modern world on all subjects.

*As a harmonious society*, China sees three interrelated goals. First, its own policies need to be inclusive and just, aimed at eliminating most social and economic boundaries and at building a society in which everyone has a common stake in the country's economic, social, legal, and political institutions. China would like to see a society where people show mutual respect, disputes are resolved justly and peacefully through accepted norms, laws, regulations, and practices—and the institutional structure is quick to adapt to society's changing needs and aspirations. Second, China sees itself living in balance with nature, in which its ecological footprint—the use of resources and creation of waste—are consistent with the biological capacity of its (and the world's) land, water, and air resources given existing technology. And third, China would like to see itself as an equal, constructive, and accepted partner in the community of nations, working peacefully and cooperatively toward common goals, and engaging constructively on global issues and in global institutions.

*As a creative society*, China sees itself building its future prosperity on innovation in which everyone's creative potential is tapped. Its success will lie in its ability to produce more value, not more products, enabling it to move up the value chain and compete globally in the same product space as advanced countries. Creativity will manifest itself not just in product and process technology, but also in cultural and artistic pursuits. If successful, China's experience could potentially be a beacon for other middle-income developing countries to follow.

As a *high-income society*, China's aspiration is to enjoy a per capita income on par with advanced economies; have a large middle class that acts as a force for stability, good governance, and economic progress; eliminate poverty as it is known today; and promote social harmony by increasing equality of opportunity and lowering inequality in all its economic and social dimensions.

If China achieves its goal of becoming a high-income society by 2030, it will be the world's largest economy using market prices (indeed, if GDP is measured by purchasing power parity, it could well outstrip the United States later this decade). China's incremental size in the coming two decades will be equivalent to 15 of today's Korea's. Even so, its annual per capita income will still be around \$16,000, more than three times today's level, close to today's Slovakia or Korea, and slightly more than a third of today's United States.

Another reality in 2030 that can be foretold with some accuracy will be China's demographic transition. Simply put, China will grow old before it grows rich. Its low fertility rate and consequent low population growth rate will mean a rising share of old people in the economy. The old-age dependency ratio—defined as the ratio of those aged 65 and over to those between the ages of 15 and 64—will double over the next 20 years (UN 2010; UN 2009). By 2030, China's dependency ratio will reach the level of Norway and the Netherlands today. Just as important, China's working-age population will decline after 2015. The urban share of the population is expected to rise from around 50 percent today to near two-thirds by 2030, an average growth of 13 million people each year (NBSC 2011; UN 2010).

Compared with today, China's economy in 2030 will be more complex, market driven, knowledge centered, and oriented toward services. Its trade and financial integration with the global economy will make it more interdependent with other economies and at the same time more vulnerable to external shocks. It will have deeper and more stable financial markets, which can lay the foundation for an open capital account and broad

acceptance of the renminbi as an international reserve currency. The government's economic priority will shift to maintaining macroeconomic stability, creating an investment and regulatory environment conducive for enterprise development, and financing public goods and services. China will be competing internationally in the same product space as the advanced economies; its university graduates will have tripled in number; and its environment will be significantly cleaner. Moreover, with a larger urban population and more efficient transportation and movement of labor between cities and the countryside, inequality between urban and rural areas will continue to decline.

### The case for a new strategy

Realizing China's vision for 2030 will demand a new development strategy. The development strategy it pursued over the past three decades was directed at meeting the challenges of a different era. Not only have the challenges changed, so have China's capabilities. No strategy lasts forever. Successful strategies must be flexible and adjust in accordance with changing conditions. Middle-income countries unable to make such adjustments have stumbled into the middle-income trap. China's top decision makers recognize this and have made transforming the economic development pattern the country's most important economic policy priority.

Changing the development model is urgent because, as an economy approaches the technology frontier and exhausts the potential for acquiring and applying technology from abroad, the role of the government needs to change fundamentally. Initiating this change early helps smooth the transition from importing new technologies to innovating and creating new technologies.

Developing countries tend to benefit from the latecomer's advantage by following a development path adopted by others. This path makes the role of government relatively straightforward—providing roads, railways, energy, and other infrastructure to complement private investment, allowing open trade and investment policies that encourage



technological catch-up, and implementing industrial policies when market and coordination failures inhibit the development of internationally competitive industries consistent with the country's comparative advantage. The development strategies of East Asia's successful economies—Japan; Korea; Hong Kong SAR, China; Singapore; and Taiwan, China—have all broadly reflected these features.

But when a developing country reaches the technology frontier, the correct development strategy ceases to be so straightforward. Direct government intervention may actually retard growth, not help it. Instead, the policy emphasis needs to shift even more toward private sector development, ensuring that markets are mature enough to allocate resources efficiently and that firms are strong and innovative enough to compete internationally in technologically advanced sectors.

The role of the private sector is critical because innovation at the technology frontier is quite different in nature from simply catching up technologically. The process becomes essentially one of trial and error, with the chances of success highly uncertain. Innovation is not something that can be achieved through government planning. Indeed, the more enterprises are involved in the trial-and-error process of innovation, the greater are the chances for technological breakthroughs, and the more likely that new discoveries will be translated into commercially viable products. As enterprises take a leading role, the government needs to adopt a more supportive and facilitating role.

One of the key supportive roles the government can play is enhancing the quality of human capital. China's rapid growth has been accompanied by a gradual decline in its agricultural surplus labor and a steady rise in real wages in manufacturing, a trend that appears to have accelerated recently. Without concomitant increases in labor productivity, real wage increases could lead to a steady decline in international competitiveness. Increasing the quality of human capital will not only increase labor productivity and maintain China's competitiveness; it will also allow Chinese manufacturing and services to move up the value chain. Improvement in

the quality of human capital will require better education, health care, and social security. And it will demand a marked increase in equal employment opportunities and self-employment, as well as greater lateral mobility of labor from rural to urban areas and across towns, cities, provinces, and occupations, and vertical mobility through the social, economic, and political hierarchies.

Another supportive role the government can play is encouraging greater participation in the development process. The expanding middle class is increasingly vocal in its demand to participate in the discussion of public policy. This demand points to a broader need to empower people to contribute to the country's development efforts, be creative, and improve standards of living through their own efforts. The government should respond proactively to these needs and grant rights to individuals, households, enterprises, communities, academia, and other nongovernmental organizations through clear rules that encourage broad participation. By doing so, the government can gradually transfer some of its previous functions to society at large, allow nongovernmental players to form networks in new and interesting ways, and create space for innovation and creativity. Moreover, empowering society, especially those who are disadvantaged, will help unleash new ideas and approaches toward increasing equality of opportunity, ensuring inclusive growth, and achieving a balance between a caring and a competitive society.

Last, while the government reduces its role in markets, resource allocation, production, and distribution, it should step up its role in financing public goods and services, protecting the environment, increasing equality of opportunity, and ensuring an environment conducive for private sector development. Playing such an indirect and supportive role is complicated but will have a wide impact, with greater leverage through the private sector and social organizations. While providing fewer "tangible" goods and services directly, the government will need to provide more intangible public goods and services, like systems, rules, and policies, that increase production efficiency, promote competition,

facilitate specialization, enhance the efficiency of resource allocation, and reduce risks and uncertainties. It requires designing and implementing incentive structures that lead to desired and sustainable outcomes.

One key area, for example, is the financing of basic public services such as pensions, medical care, education, and housing, where the government can invest more, drawing on resources it had previously devoted to infrastructure and manufacturing. Equally important, the government should be less concerned with whether the private or the public sector provides these public goods and services—but instead focus on ensuring they are delivered efficiently and to the requisite quality. Encouraging the private provision of public goods and services and forming public-private partnerships where appropriate will not only inject new skills and ideas into public service delivery but also empower the private sector and encourage greater participation in the development process. Another example is the environment, an area requiring strong action by the government. Not only will green development improve the quality of life in China, it will contribute to global efforts at mitigating climate change. As the second-largest economy with the largest population in the world, China is bound to shoulder increasing global responsibilities and play an important role in delivering global public goods. To do this, it will need to align its national interests to global concerns and build its capacity to participate actively in global affairs and to design global rules instead of merely accepting them.

In sum, it is imperative that China adjusts its development strategy as it embarks on its next phase of economic growth. At its core, this adjustment requires changing the role of government and its relations with the market, the private sector, and society at large. While the government needs to withdraw from direct involvement in production, distribution, and resource allocation, it will need to focus greater attention on designing and implementing the policy and regulatory framework that empowers others to participate in economic decision making so that the desired outcome of rapid, inclusive, and sustainable growth is achieved. To play

this role, the government will need to transform itself into a lean, clean, transparent, and highly efficient modern government that operates under the rule of law. In redefining its role, the government will need to accelerate reforms in the state-owned sector and combine it with further development of the private sector. It will also need to advance reforms in factor markets (capital, land, and labor) to help strengthen the foundations of a market economy and promote greater competition and innovation. At the same time, society's role will need to change significantly, with the middle class becoming a major force in promoting harmonious development through greater participation of the people in the development process.

### Key characteristics of the new strategy

Before describing a proposed development strategy, it is worth highlighting five characteristics that should lie at its core.

*The first is improvement in the quality of growth while continuing to increase incomes.* Not only does China aspire to become a high-income society that enjoys sustained growth, it would like to see growth measured in qualitative as well as quantitative terms. Rising incomes need to be accompanied by increased leisure, a better physical environment, expanding arts and cultural activities, and a greater sense of economic and social security. Correspondingly, the incentive structure that drives central and local government performance will also need to reflect this changed emphasis. China needs to develop a new metric to measure progress over the coming decades that balances growth and income objectives with broader welfare and sustainability goals.

*The second is to achieve balanced and sustainable growth, consistent with market forces.* There is broad recognition in China—as reflected in the 11th and 12th Five Year Plans—that the country's pattern of investment and growth has become largely unsustainable. Spurred by high savings, cheap finance, and export-oriented policies, China's impressive growth rate has been capital intensive, industry led, and export

dependent for several years. Compared with rapidly growing manufacturing, the development of services has lagged (though the statistics may exaggerate the degree of lag). The shares of wages and consumption in national income have fallen steadily; the shares of capital and investment have climbed. Rural-urban inequality has expanded since the 1990s. China is home to more than a million millionaires,<sup>11</sup> while more than 170 million live on less than \$2 a day.<sup>12</sup>

Returning to balanced and sustainable growth will require a rise in the shares spent on services and consumption as per capita income increases. This will be achieved, in part, by correcting factor price distortions that implicitly tax labor and subsidize capital. Correcting such distortions and allowing market-driven structural change will not only help achieve greater balance between manufacturing and services but also in the distribution of income between capital and labor and between rural and urban households.

*The third is to strengthen innovation and creativity.* While development of services will need to be a priority in the coming decades, manufacturing growth will continue to be an important growth driver. After all, notwithstanding recent rapid increases in real wages, China's low-cost labor, especially in interior, less-developed provinces, will remain an advantage for many years to come. But rather than focus purely on growth, policies will need to encourage manufacturers to move up the value chain and advance rapidly to the global technology frontier (and, in some areas, push that technology frontier forward). Services like research and development (R&D), finance, logistics, training, information services, and after-sale services will help. Achieving this will require further integration with the global economy and increased specialization, as well as participation in global R&D networks and marketing arrangements.

But it would be a mistake to believe that innovation will be restricted to manufacturing. If China is successful in nurturing a culture of open innovation, then the services sector could also be an important beneficiary, and there is no reason why China should not become an important exporter of high-end

services. Most services have become tradable internationally, and China can benefit from agglomeration economies and international specialization in services just as it has in manufacturing. For example, if China succeeds in becoming a leading innovator in the field of green development, then its expertise and knowledge on this subject will likely be sought worldwide. Similarly, if China's financial sector is strengthened to the point that the capital account can be liberalized and the renminbi become a key international reserve currency, then China could become a key exporter of financial services.

*The fourth is unleashing China's full human potential.* Equality of opportunity will not only help unleash China's full human potential, it will also support inclusive growth and improve income distribution. Increasing equality of opportunity should not be restricted only to public services, such as health or education; it should also include economic opportunities such as access to jobs, finance, or official permits to start a business. One way to increase equality of opportunity in the enterprise and financial sectors will be to allow more competition in factor markets (labor, land, and capital) as well as product markets. More competition, of course, can come from abroad through boosting exports and lowering import barriers, but it can also be encouraged by easing the entry and exit of firms in the domestic market, giving small and medium enterprises (SMEs) greater access to finance and market opportunities, opening up public procurement by making procedures transparent, and creating new opportunities for the private provision of public services by separating financing from delivery. Smarter and more effective regulation can do more than just help level the playing field between big enterprises and small ones. It can also help protect consumers, workers, and the environment; safeguard private and intellectual property rights; ensure greater financial sector stability; and provide a solid foundation for corporate governance to guide enterprises.

Equality of opportunity also means higher public participation in public policy formulation, implementation, and oversight. As economies grow in size and complexity, the

task of economic management becomes more complicated, and governments usually find that they alone do not, indeed should not, have all the answers. Governments, therefore, tend to tap the knowledge and social capital of individuals and nongovernment agencies, including universities, communities, and think tanks. One of the hallmarks of advanced economies is their public discussion of public policies. Indeed, such discussions are already beginning in China, but there is a long way to go. Public consultations and policy debate ensure that all points of view are considered before government reforms are introduced. These discussions not only shrink the distance between the government and the citizens and communities it serves, but they also encourages stakeholders' ownership of new policies, help render reform proposals intelligible to citizens and firms, and enhance the chances of success.

*The fifth (and last) values the role of the market, rule of law, social values, and high moral standards.* As the government transitions away from direct intervention in enterprise and market activities and toward creating a policy and regulatory environment supportive of free and fair competition, it must also safeguard the rule of law. In a similar vein, as the Chinese economy grows in complexity, not only must rules and regulations evolve to reflect changing reality and emerging priorities, but they should be fairly and effectively enforced. If the enforcement of standards varies from sector to sector, region to region, entity to entity, and sometimes even person to person, then it will not only discourage innovation and lead to inefficient economic outcomes, it will also contribute to feelings of injustice. Where contract disputes arise, whether between private parties or between private entities and the State, the disputants should have access not only to legal recourse but also to a transparent and effective judicial system that imparts justice without fear or favor.

Similarly, social values and high moral standards will be important. There is widespread concern in China over many recent instances of "moral failures" that were reported widely in the media. As China becomes a high-income society, its social

values and moral standards should be reexamined and reinforced. From a social perspective, not only will this contribute to improving the quality of life, it will also provide a greater sense of community and enhance social cohesion. From an economic perspective, it will reduce transaction costs and improve the quality of economic governance. Promoting social values and high moral standards is not only the job of government; it is also the duty of social organizations and, indeed, every citizen. Moral awareness, not legal compulsion, should be the hallmark of a high-income, harmonious society.

### Six key directions of the new strategy

Over the next two decades, China will face many challenges in its quest to become a modern, harmonious, and creative high-income society. These include transitioning government from being an active participant in the economy to developing the legal, regulatory, and institutional framework supportive of a competitive market environment; implementing a "smart" urbanization strategy; encouraging innovation and industrial upgrading; reducing income inequality and ensuring equal opportunity for all; modifying its approach toward handling economic relations with other countries; and playing a more constructive role in a rapidly changing system of global governance. In reality, the list of challenges is much longer. While some consensus has emerged with respect to a few of those issues, controversies remain and an intense debate is ongoing over key aspects. This report evaluates the major challenges China needs to tackle in the next two decades and identifies six new strategic directions that will form the core components of the new strategy.

*The first new strategic direction is the role of the state and the private sector.* The recent global financial crisis in the advanced economies and, in stark contrast, China's continued rapid growth despite the global slowdown, have led some in China to conclude that China's state dominance in key industrial and service sectors

should continue (especially in the financial sector).<sup>13</sup> Others, however, counter that China's vision of itself in 2030 as an innovative, high-income society will require markets and the private sector to play a bigger role in resource allocation decisions. They consider the dominance of the state in the economy as potentially inhibiting China's efforts to move up the value chain. This report makes two points: first, that government should encourage increased competition in the economy, including by increasing the ease of entry and exit of firms as soon as possible; and second, that public resources should be used to finance a wider range of public goods and services to support an increasingly complex and sophisticated economy. Reforms of state enterprises and banks would help align their corporate governance arrangements with the requirements of a modern market economy and permit competition with the private sector on a level playing field. This would create the appropriate incentives and conditions for increased vigor and creativity in the economy in support of China's successful transformation into a high-income society.

*The second new strategic direction is encouraging systemwide innovation and adopting an "open" innovation system with links to global R&D networks.* Although China's R&D investment as a share of GDP is high by international standards for a country at its per capita income level, much needs to be done to ensure that this investment yields commercially viable innovations that will help Chinese firms move up the value chain and compete effectively in the same product space as advanced economies. Ensuring free and fair competition for all enterprises would be the single most important policy to encourage innovation, which is likely to be driven by large private firms. Without competition, the effects of other policies aimed at encouraging innovation will unlikely have much effect. At the same time, technology development worldwide has become a collaborative exercise in which countries benefit from specialization, just as they do in manufacturing or services. China would therefore benefit from participation in global R&D networks just as it benefited from participation in global production networks.

A "closed" technology strategy may yield short-term gains but will be ultimately self-defeating, while an open innovation strategy promises more sustained long-term rewards.

*The third new strategic direction is that China should "grow green."* Instead of considering environmental protection and climate change mitigation as burdens that hurt competitiveness and slow growth, this report stresses that green development could potentially become a significant new growth opportunity. Much will depend on how effectively government policies make firms internalize negative externalities and motivate firms to innovate and seek technological breakthroughs. China does not want to replicate the experience of advanced countries that became rich first and cleaned up later. Instead, China intends to grow green by following a pattern of economic growth that boosts environmental protection and technological progress, a strategy that could become an example to other developing countries and perhaps even advanced economies.

*The fourth new strategic direction is to promote equality of opportunity and social protection for all.* China's high inequality in incomes and assets can, in part, be attributed to unequal access to quality public services, particularly those that help accumulate human capital and increase public participation in the development process. Policies should promote the equality of opportunity to help all members of society, especially the disadvantaged, who have the same rights as everyone else to access social and economic services as well as employment opportunities. Promoting equality of opportunity will largely entail increasing the quality of public services available to rural residents, migrants in urban areas, and those in poor, interior provinces. While increasing the efficiency of public service delivery can save public resources that can then be used to increase the quality of public services, there will still be a need to increase the allocation of public resources toward this objective. Given China's sound fiscal situation, the temptation will be to design a public service and welfare system that is comparable to advanced economies. But China needs to ensure that spending on public services is increased

prudently and in line with available fiscal space. China does not intend to fall victim to the “high-income trap” whereby publicly financed social entitlements become fiscally unsustainable.

*The fifth new strategic direction is to build a sustainable fiscal system that will meet expected public finance challenges over the next two decades.* Over the coming two decades, China’s fiscal system will face three major challenges. The first will be to make the fiscal system resilient to macroeconomic shocks and a protracted growth slowdown; the second will be to accommodate new public expenditure demands linked to the adoption of the new development strategy; and the third will be to make the fiscal system transparent and responsive to policy adjustments. Given the likelihood of a protracted growth slowdown at some point in the next two decades, it is important that China’s fiscal system is able to adjust public expenditures in line with an expected rapid deceleration in revenue growth. It is also important for China to maintain adequate fiscal space to deal with macroeconomic shocks, some of which may originate abroad, given the continued uncertainties in the global economy.

Moreover, the budget will need to accommodate expected increases in public expenditures linked to expansions in public service delivery and the proposed green development program, while at the same time ensuring that fiscal sustainability is not impaired. Finally, compared with other countries, China’s fiscal system remains opaque, inter-governmental fiscal relations have not been fully reformed and codified, and fiscal risks and large contingent liabilities remain significant. Tackling these challenges will require a fiscal system that is flexible, transparent, prudently managed, and responsive to emerging priorities. The efforts to strengthen and reform the fiscal system will also need to be aligned with the broader objective of reorienting the role of government vis-à-vis the private sector and with the longer-term needs of a changing economy.

*The sixth new strategic direction is to develop mutually beneficial relations for the rest of the world.* Notwithstanding tepid growth in advanced countries likely for the foreseeable future, China must continue its integration with global markets even as it reorients the economy toward domestic sources of growth. While further integration may bring its own risks, the benefits of openness will be central to increasing efficiency, stimulating innovation, and promoting international competitiveness. Opening up served China well in the past, especially after its entry to the World Trade Organization (WTO), and further integration will serve it well in the future, particularly for the development of the services sector. China also needs to engage with global governance institutions proactively as an international stakeholder to help shape the global policy environment in a manner that is mutually beneficial for China and the world.

The six new strategic directions provide an internally coherent policy framework and form the key pillars of the proposed development strategy for the next two decades. Some may argue that they may not include some important policy areas, but the pillars can be applied to explain virtually every significant development issue facing China. Box 2, which describes China’s urbanization challenge, provides a good example.

China’s senior leaders have recognized for some time the urgent need to adjust the country’s development strategy and transform the growth pattern. To some extent, China is already beginning to do this. A new policy direction for the next five years has been elaborated in China’s 12th Five Year Plan and other policy documents and includes macroeconomic, social, and environmental targets as well as pilot applications of the “happiness” index to evaluate local government performance. The plan is the first step in a longer-term shift in China’s development strategy and is consistent with the reform program described in this report.

Chapters 3–8 discuss the six new strategic directions in greater detail.

## BOX 2 Smart urbanization

Meeting China's urban challenge presents an interesting example of how the policy priorities highlighted in this report—economic policies, innovation, green development, social policies, fiscal strengthening, and global integration—need to interact with one another to bring about desired change.

Over the long term, the health and vitality of China's rapidly growing urban areas will not only be central to continued rapid growth but will also hold the key to greater equality and less resource intensive growth. In 1978, less than a fifth of China's population resided in cities; by 2009, urban residents made up close to half the population; and by 2030, the share is expected to swell to near two-thirds. That means about 13 million more urbanites each year, or the equivalent of the total population of Tokyo or Buenos Aires. Rapid as this may seem, China's urbanization level by 2030 will be broadly in line with other countries with a similar per capita income. Interestingly, China's 20 fastest-growing cities are located inland with per capita incomes that are rapidly catching up with coastal cities. These cities can access the main metropolitan centers thanks to low-cost transport links and communications facilities, while at the same time derive advantages from the ease of face-to-face communication and social capital accumulation facilitated by spatial compactness.

Most urban growth in the future will result from the expansion of existing cities through migration from rural areas. As recent research shows, cities are strong engines of growth. They permit economies of scale and scope in production and distribution and facilitate technology spillovers. Thanks to higher population densities in cities, private and public investments are more cost-effective and yield higher returns. And by bringing a critical mass of talent together in compact space, cities often become crucibles for innovation.

But for urbanization to be supportive of rapid and efficient growth, it should be "smart" as well as rapid. Smart urbanization involves delivering

adequate levels of public services—especially health, education, transport, water, and energy—in ways and at prices that encourage efficient use. Finally, cities that invest in effective risk reduction and disaster response capabilities often find these will be among the best public investments they make.

Perhaps the most important recommendation for smart urbanization is the critical need to improve the fiscal strength of municipalities (along with other local governments) and reduce the large disparities in resource availability between cities. Strengthening the resource base of cities will require improved arrangements for tax sharing and transfer payments with the central government as well as new tax instruments, such as land and property taxes, that permit an elastic tax base. There are two reasons why this is a priority. The first obvious one is that city governments need adequate resources to meet the needs of recurrent expenditure and investment, taking into account the future growth of population and economic activities. Second, in the absence of such tax instruments, local governments will continue to use land sales as a key source of revenues. Besides increasing the pressure on arable land, this practice also tends to continuously expand city size, contributes to urban sprawl, reduces population densities, and raises costs of transport and infrastructure.

The second complementary policy would be to restrain the geographic expansion of cities and increase the population density of cities. Several Chinese cities are already quite densely populated by international standards, but for those that aren't, further increases in density will lower the cost of public and infrastructural services, improve energy and transport efficiency, and reduce the loss of arable land. There remain large tracts in the core of major cities that are underused owing to ownership still vested in state enterprises or local interest groups that prevent efficient urban development. Increased population density can be consistent with growth in value added only if urban land and property markets

*(Box continues next page)*

**BOX 2** (continued)

function smoothly. Of course, increased density has its limits, but expanding city areas should be undertaken carefully and only when other alternatives to combat congestion are exhausted. Adequate density needs to be accompanied by increased intra- and intercity connectivity. Intracity connectivity, critical to reducing the carbon footprint of cities and boosting city efficiency, requires providing viable options to private automobiles. Increasing connectivity between cities reduces economic distances, encourages growth of satellite cities, advances specialization, supports greater scale economies, and increases international competitiveness.

The third is the importance of strengthening urban land use planning. Planning is important to ensure an appropriate balance between green areas, residential areas, factories, businesses, shopping areas, and recreational facilities such as parks and playing fields. Urban areas that mix residential, recreational, shopping, and business facilities tend to develop more vibrant communities, have a smaller ecological footprint, enjoy lower crime rates, and generally improve the quality of life. At the same time, planning has its limits and planners cannot anticipate the future perfectly. City designs therefore need to evolve continuously to respond to the needs of citizens as lifestyles change. This requires constant public and private investments, reinforcing the need for sound fiscal systems. It also demands a new role for government and emphasizes the importance of good governance.

The fourth is effective and good urban governance, which goes beyond efficiency, integrity, and transparency, although these are very important. It includes responsiveness to citizen needs, and the ability to use the energy and capabilities of private enterprises and civil society organizations. One way is to invite citizen participation in land use planning and zoning, which not only harnesses public creativity but also reminds officials to look beyond the interests of individual sectors. Another way is through designing citizen report cards and other similar methods of surveying that regularly assess public satisfaction with the level and quality of public services and seek

suggestions on how they can be improved. A third way is to support the participation of social and voluntary organizations in delivering services (including health and education). Experimentation is already ongoing along these lines in many cities but needs to be encouraged and expanded, and substantial changes need to be made in government practice and attitude. The government can then focus on being a regulator and coordinator. Identifying the services that can be provided in this way should be the outcome of discussions and decisions at the local level, with guidance from the central government.

The fifth recommendation is to advance the government's efforts to make cities knowledge centers and incubators for innovation. The government has already identified 20 pilot cities for those efforts. But what more can it do? One approach is to ensure that as many cities as possible provide the essentials for becoming knowledge centers—sound infrastructure, modern transport and telecommunication facilities, local universities and research centers, and a critical mass of skilled labor. Those that do not make the leap to becoming knowledge centers will still be better positioned to attract manufacturing or service industries. Those fortunate enough to attract world-class firms or world leading technology R&D centers beyond a particular threshold could receive local and central government support in the form of additional ancillary services, including research institutes, universities, and related and sponsored links to other research organizations. Some urban centers have already made this leap and are becoming recognized knowledge and innovation centers—optoelectronics for Wuhan, aviation for Chengdu, financial and engineering services for Shanghai, logistics and business services for Shenzhen, IT and software for Beijing—and should be supported in becoming centers of excellence. In others, such as Chongqing, efforts are ongoing. In identifying what to support, governments need to remind themselves that innovation does not always mean high tech. Experience has shown that firms in mature industries can also be transformed through innovation and become globally competitive.



## Chapter 3 Structural Reforms for a Market-Based Economy with Sound Foundations

Since 1978, China has made full use of its late-comer advantages in a globalized economy, experiencing rapid structural change, becoming the world's largest manufacturer and exporter, and rapidly moving toward the technology frontier in many industries. The introduction of the market mechanism and openness to trade provided strong incentives for efficient resource allocation and boosted productivity growth.

But the forces supporting China's continued rapid progress are gradually fading. The productivity benefits from structural change are expected to decline. As China approaches the technology frontier, total factor productivity growth from technology adoption, adaptation, and dissemination will also almost certainly decline. At the same time, the government's continued dominance in key sectors of the economy, while earlier an advantage, is in the future likely to act as a constraint on productivity improvements, innovation, and creativity. And the close links between the government, big banks, and state enterprises have created vested interests that inhibit reforms and contribute to continued ad hoc state interventions in the economy.

At the same time, China's transition to a market economy is incomplete in many areas. A mix of market and nonmarket measures shapes incentives for producers and consumers, and there remains a lack of clarity in distinguishing the individual roles of government, state enterprises, and the private sector. It is imperative, therefore, that China resolve these issues, accelerate structural reforms, and develop a market-based system with sound foundations in which the state focuses on providing key public goods and services—while a vigorous private sector plays the more important role of driving growth. This challenge is bigger than it may appear because many other constraints to growth, including an anemic global economy and a shrinking and aging labor force, also need to be overcome.

### Private sector development and state enterprise reforms

Going forward, a vibrant corporate sector will be critical for sustaining relatively fast growth. China's rapid growth, particularly since 2003, benefited from SOE restructuring and expansion of the private sector. Many small and medium-sized SOEs became privately owned. In line with these developments, the new policy direction has been to diversify the ownership of state enterprises. Indeed, many large state enterprises have been "corporatized" and some of the biggest (including those directly monitored by the central government) are now not only listed on stock exchanges but have also improved their governance structure, managerial professionalism, and profitability. But while the profitability of state enterprises has improved, it has still remained well below nonstate firms (including pure private firms).

### Key issues

Relative to the private sector, state-owned enterprises (SOEs) consume a large proportion of capital, raw materials and intermediate inputs to produce relatively small shares of gross output and value added. A large share of state enterprise profits comes from a few state enterprises where profitability is often related to limits on competition and access to cheaper capital, land, and natural resources.<sup>14</sup> Meanwhile, the financial performance of some state enterprises has been weak, in part because they have been responsible for delivering public services or have been constrained by regulated prices. In fact, more than one in every four state enterprises makes a loss. Besides being less profitable, state enterprises, overall, are also less dynamic than private firms. A recent study shows that between 1978 and 2007 total factor productivity growth (a measure of efficiency improvements) in the state sector was a third that of the private sector,<sup>15</sup> which

has proved to be the more powerful engine of growth and innovation.

More so than in other economies, state enterprises in China enjoy close connections with government, thanks to their special status. State enterprise management and government officials usually support each other—management often accepts informal guidance from government officials and, in return, state enterprises are more likely to enjoy preferential access to bank finance and other important inputs, privileged access to business opportunities, and even protection against competition (Li and others 2008). This discourages new private sector entrants and reduces competition and innovation. Some state enterprises operate outside their mandated area (many invest in real estate and the shadow banking system), because they can keep their earnings and invest them with limited external control or oversight. A new issue needing attention is the recent rapid expansion of some state enterprises owned by subnational governments; their growth will likely further crowd out private sector activity, dampen competition, and conflict with efforts to build sound foundations for a market-based economy.

The cost of reforming and restructuring state enterprises will not be trivial. Reforms in the late 1990s, in which many small state enterprises were closed, incurred a cost exceeding RMB 2 trillion—more than 20 percent of GDP at the time—a measure of how difficult and costly such reforms can be. Potential costs of reforming and restructuring state enterprises may have climbed significantly because opaque accounting practices and lack of transparency mean that some SOEs have accumulated large contingent liabilities that will need to be revealed and reduced over time.

Finally, the Chinese authorities have implemented a complex set of industrial policies that are the responsibility of different agencies at different levels of government. In some instances, these policies may have helped by overcoming coordination failures and promoting infant industries effectively, but in others they did not yield the intended results. Some government departments are keen to adopt industrial policies and view such policies as a close substitute for planning; they

consequently often prefer large-scale investments by SOEs instead of achieving the same ends through incentives, market forces, and private sector initiatives. Industrial policy initiatives by different departments can sometimes conflict and interact with one another, making the overall policy framework complicated and opaque and the results ambiguous and unpredictable.

Many studies suggest the potential for significant growth dividends from giving the private sector a greater role in competing with state enterprises in key sectors. The greatest benefit is likely to accrue in so-called “strategic” sectors where competition has been curtailed. In 2006, China identified seven strategic sectors where the state would keep “absolute control”—defense, electricity generation and distribution, petroleum and petrochemicals, telecommunications, coal, civil aviation, and waterway transport.<sup>16</sup> In these sectors, a handful of state firms might compete with one another, but they are protected by barriers that discourage new entrants. The Chinese authorities have also designated “basic” or “pillar” industries—machinery, automobiles, electronics and information technology, construction, steel, base metals, and chemicals—where the state is expected to retain a “somewhat strong influence” (Owen and Zheng 2007). Although formal barriers to entry may be low in these industries, informal entry barriers convey the clear policy message—competition from private firms is not welcome. These barriers, together with less favorable regulatory treatment tend to inhibit private sector growth and development, dampen innovation and creativity, and slow productivity growth.

### **Key reform recommendations**

Reforms in the enterprise sector must begin with the recognition that government ownership is widespread and varied, covering most sectors and ranging from outright ownership to controlling interest to minority shareholder. The challenge, therefore, is twofold: How can public resources best be used; and how can China best transition from its current approach to managing its portfolio of state enterprises to an approach that is

best suited for its long-term development objectives?

The response to the first challenge is straightforward. Public resources should be used solely or mainly for the provision of public goods and services, the production or consumption of which result in unremunerated positive externalities.<sup>17</sup> These goods and services range from defense at one end to infrastructure, social protection, and basic R&D at the other, and their scope could evolve as conditions change. The recent emphasis on public housing for the poor is a good example of how government resources can be used to address a pressing social need. Indeed, the scope of public goods and services can be quite broad, and can even include reliable energy supplies and the widespread availability of communications and postal facilities. The share of public resources applied in a particular area will depend on the nature of the public good or service being supplied. In areas considered to be of high national priority, like defense, government resources would be expected to provide the full or dominant share of finance. But in most areas, a smaller share is usually sufficient to achieve the government's objectives. Most importantly, in many cases, private sector firms will be fully capable of delivering public goods and services, even though the government may provide the bulk or some part of the finance. The private delivery of public goods and services (with public financing) introduces the added dimension of competition and helps lower production and distribution costs.

The response to the second question is less straightforward. First, the government could securitize its implicit equity in state enterprises as soon as possible (in listed state enterprises, the value of the equity is already known). This would pave the way for state enterprise reform by separating ownership from management and introducing modern corporate governance practices, such as appointment of senior management, public disclosure of accounts in accordance with international practice, and external auditing. Second, the government could consider establishing one or more state asset management companies (SAMCs) that would represent the government as shareholder and would

professionally manage and trade these assets in financial markets where feasible. Each SAMC could specialize in certain sectors. They could then, on behalf of government, gradually diversify the portfolio over time. The dividends of state enterprises would need to be paid to the SAMCs who, in turn, would transfer them to the budget. Finally, a portion of state assets could be transferred to the national pension fund with the flow of returns being used to help meet future pension obligations.

While the operational details of the proposed SAMCs can be elaborated later, it is important that key principles are established early. It is critical, for example, that the State Owned Assets Supervision and Administration Commission (SASAC) confine itself to policy making and oversight, leaving asset management to the SAMCs. The SAMCs should have clear mandates, be independently and professionally managed, and be subject to publicly announced performance benchmarks (depending on the nature of the enterprises in their portfolio). In addition, they will need to adhere to international standards for transparency, including on operations and results, value creation, profitability, and dividend payments.

More competition—domestic and international—will be key to improving the efficiency and innovation capability of Chinese enterprises. To increase competition in domestic markets, further reforms will be needed to support private sector firms, such as lowering barriers to firm entry and exit, breaking up state monopolies or oligopolies in key industries (petroleum, chemicals, electricity distribution, and telecommunications), promoting the growth of dynamic SMEs and increasing their access to finance, stimulating much needed regional and local specialization, and encouraging spontaneous state enterprise reforms through competition. China's own past experience, together with that of other countries, shows that increased domestic competition can result in significant improvements in productivity. With these reforms, state enterprises can over time exit gradually from contestable markets. Starting in the late 1990s, for example, ownership diversification and market reforms stimulated entry and competition in most

manufacturing subsectors. Even in some strategic or pillar industries, such as telecommunications, the breaking up and corporatization of incumbent enterprises created new competitive forces.<sup>18</sup> Easing the entry of private firms into these areas and giving them access to adequate levels of finance from state-owned banks will further promote efficiency and competitiveness.

And with an eye to redefining further the role of government, policies should encourage the private provision of public services, and public procurement should be further opened to competition by private firms. Where natural monopolies exist (for example, in rail services), the monopolist enterprise should be subject to independent and strict oversight to ensure that the lack of competition does not lead to monopoly pricing and the abuse of market power that could harm downstream industries.

In addition, competitiveness and innovation will be encouraged by measures to enhance *international competition* through further integration with the global economy (see chapter 8), and a reduction in behind-the-border barriers to trade. China's accession to the World Trade Organization in 2001 triggered economy-wide improvements in efficiency and spurred technology acquisition and adaptation. More recently, the phasing out of incentives that had favored foreign investors stimulated competition by leveling the playing field with domestically owned firms.

## Factor market reforms

To complete the transition to a market economy and further strengthen its foundations, China needs to also focus attention on factor markets—capital, land, and labor—where market reforms have tended to lag, and consequently, the remaining distortions are particularly large. Price, regulatory, and institutional changes are essential to ensure that resources flow to economic activities that yield the highest returns.

### Capital

Despite impressive progress in reforming and deepening the financial sector in the

past three decades, China's financial system remains repressed and suffers from key structural imbalances. The current system, characterized by dominance of state-owned banks, strong state intervention, and remaining controls on interest rates, has been remarkably successful in mobilizing savings and allocating capital to strategic sectors during China's economic take-off. Going forward, however, such benefits are increasingly likely to be outweighed by many costs. The first cost is the disintermediation of the nonstate sector, especially micro, small, and medium enterprises that have significantly less access to formal financial institutions than state enterprises and large firms. Second, low lending rates have contributed to excessive investment and high capital intensity. Third, the government's important role in credit allocation at the central and provincial levels is leading to the accumulation of contingent liabilities not easily quantified owing to limitations on monitoring, data collection, and interagency data exchange. And fourth, the financial system is growing more complex—markets and institutions are increasingly intertwined across borders, and informal credit markets, conglomerate structures, and off-balance-sheet activities are on the rise.

Not only do the above characteristics of, and trends in, the financial system pose significant systemic risks, they will eventually prevent China's financial system from serving an increasingly dynamic, sophisticated, internationally integrated economy, driven, in large part, by private sector firms. Banks, capital markets, and other financial intermediaries will need to raise and allocate capital efficiently; adopt modern corporate governance arrangements; provide access to micro, small, and medium borrowers; assess and manage risks using best-practice techniques; and provide a broader variety of financial services to an increasingly diversified clientele. At the same time, an increasing number of Chinese enterprises will go global, placing pressure on China's domestic financial system to adopt global standards to ensure seamless integration with foreign financial institutions and global capital markets. Rising income and accumulation of wealth within China will increase the demand for new financial products and investment opportunities. And

finally, in the event of financial crises emanating from inside or outside China, adequate systems (including adequate capital buffers and clear accountabilities) will need to be in place for an orderly and systematic resolution of bad debts and either the recapitalization or the closing of insolvent financial institutions. Instead of persisting in pushing problems into the future, financial sector reforms in the next two decades should be decisive, comprehensive, and well coordinated.

The aim of financial sector reforms should be to build a competitive, balanced, efficient, safe, and sound financial system that meets the demands of the corporate, household, and government sectors. A well-functioning financial system capable of sound risk management is essential to mobilize savings; allocate capital efficiently to an increasingly complex and sophisticated economy, and ensure access to finance for all sections of the economy including individuals, households, the poor, and businesses of all sizes.

To reach these objectives, financial sector reform should follow an implementation road map that is properly sequenced, and, because the financial sector will remain vulnerable to crises, be sustained as a priority through the next two decades. Much has been learned from China's own experience as well as the successes and failures of other countries that have sought to reform their financial sectors.

The first priority should be to make interest rates more flexible, and endeavor to move to a point where interest rates, not quantity controls, clear the credit market. In addition, greater exchange rate flexibility is needed to help cool inflation and take pressure off reserve requirements, together with the deployment of a combination of monetary and macro-prudential measures to pursue growth, inflation, and financial stability objectives.

In parallel, direct and indirect controls of financial institutions must give way to arms-length market-based arrangements. This would mean an autonomous central bank adopting open market operations and using interest rates, rather than credit ceilings, to manage liquidity. Commercial banks would use commercial principles and creditworthiness analysis, rather than follow government

signals, to guide lending (an exception could be made for one or more policy banks that would continue to finance government priority programs). Such reforms may require a thorough overhaul of governance structures in state-owned financial institutions, in which existing state ownership functions, agencies, and practices are reviewed, using lessons from examples of international best practice and failures. In addition, efforts should be made to further diversify the ownership structure in state-owned banks and further reduce the shares held by the state.

Second, although its huge foreign reserves give China a strong safety net against the possibility of a financial or currency crisis, it nevertheless must be prepared in case a crisis occurs. To achieve this, the government needs to strengthen the independence, effectiveness, staffing, and funding of regulatory bodies, including supervisory agencies (at the central and provincial levels), and to give them greater enforcement and resolution powers. A high-level financial committee on the basis of the existing framework could also be established, with the main objective of monitoring and managing systemic risk and maintaining financial stability. Limits need to be placed on emergency liquidity support to solvent banks facing short-term liquidity problems. Standing facilities should operate automatically to provide liquidity support to all domestically incorporated institutions, and clear guidelines should govern and limit the use of fiscal resources. Stress testing should be continued and improved to take account of emerging risks, and "financial war games" should be conducted regularly to fine-tune the institutional arrangements for dealing with a financial crisis if and when one occurs. The government should establish an efficient legal framework; insist on higher standards of disclosure, auditing, and accounting; and streamline the court system to deal with troubled banks and firms in a timely fashion. A functioning deposit insurance scheme to underwrite risks faced by small depositors should be established. Such arrangements will not only help ensure financial stability but also provide the credible foundations for the eventual integration of China's financial sector with the global financial system.

Third, the capital market will need to be deepened and reformed to make available more equity and securitized financing, an important ingredient for more dynamic and innovative industries. To achieve this, China could shift the way it handles initial public offerings from the current merit-based approval system to a disclosure-based system and focus on improving the capital market's legal framework, enforcing laws and regulations, upgrading the financial infrastructure, and imposing stringent rules on information disclosure. Adequate and accurate disclosure and transparency supported by credible accounting and auditing practices can go a long way in supporting financial development by minimizing informational friction. China could also promote the corporate bond market, which would not only open up new channels of financing and further diversify financial markets but also create conditions conducive for further liberalization of interest rates, the opening of the external capital account, and internationalization of the renminbi. Financial infrastructure needs to be further upgraded to facilitate transactions in the financial market in general and the capital market in particular.

Fourth, after the above institutional and governance structures are in place, the Chinese authorities can also prepare and implement a plan that phases out the ceiling on deposit rates and the floor supporting lending rates; this step will facilitate the commercialization of banks and ensure stability in the financial sector. And as is actually well recognized and understood in China, this final stage of interest rate liberalization will have to be properly sequenced—long-term market instruments first, and short-term deposit rates last. Careful monitoring of the progress of liberalization will be crucial to ensure that banks do not indulge in destabilizing competition that erodes margins or in reckless lending that harms the quality of the loan portfolio, and that any emerging risk of distress is dealt with swiftly.

## Land

Over the next twenty years, land will be increasingly scarce, and its efficient use will become critical for a range of China's

long-term objectives—food security, efficient and innovative cities, equality of opportunity, and social stability. Better land policies will help secure farmers' rights over land use and promote agricultural investments and productivity; ensure that land is used for the highest productive purposes, whether in urban or rural areas; help reduce rural-urban inequality; and promote more efficient and sustainable urban development.

Policies affecting land face three key challenges. The first challenge is insufficient security of rural land tenure. Despite a relatively clear legal and policy framework, rural households continue to possess weak land rights and often face expropriation risks. In addition, serious difficulties remain in the implementation of policies and laws, governance and accountability at the local level, documentation of land rights, and increasing citizens' awareness of existing rights.

The second challenge lies in the process of converting rural land for urban use. During 2003–08, government requisitioned 1.4 million hectares of agricultural land for urban use, and another 450,000 hectares were reported to have been requisitioned illegally.<sup>19</sup> In China, the government has unusually wide powers by international standards to requisition agricultural land for urban use. The exercise of this power has led to four consequences: the government has reserved for itself the sole right to requisition agricultural land for urban purposes; the acquisition price of the land is its net present *agricultural* value, not the (usually much higher) market price of land, which is its opportunity cost; local governments, which acquire land at the acquisition price and then sell at the market price, have come to rely on land acquisition as a revenue earner to finance the delivery of public services, especially infrastructure; and the consequent rapid growth of urban boundaries has resulted in urban sprawl (figure 4). The lack of transparency in land acquisition and the large difference between the price paid to affected farmers (after a portion is held back by the collective) and the price received when the land is auctioned has led to a sense of injustice and been a factor in increasing rural unrest.

The third challenge is the use of land as a source of revenue for some local governments

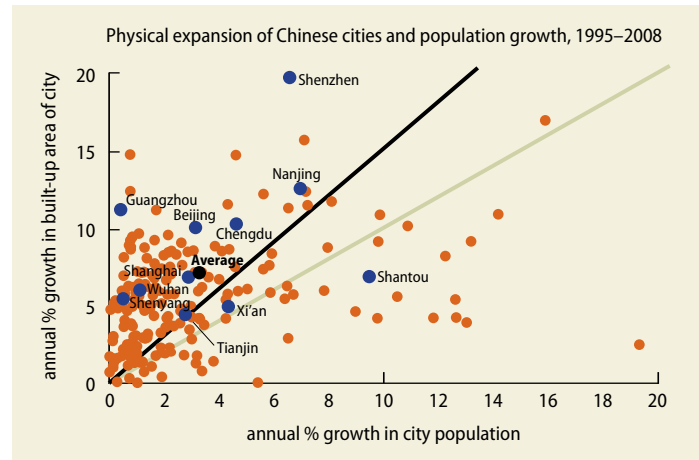
and collateral for borrowing by special purpose vehicles established to circumvent restrictions on local government borrowing. Revenues from land acquisition now constitute a significant share of total government revenues and have become an indispensable funding source that local governments use to finance heavy expenditure requirements. In addition, thousands of special purpose vehicles have been established (by one measure more than 5,000) that use local government land as collateral to raise funds from the banking system. The National Audit Office estimates that local-government-related debts exceeded RMB 10 trillion by the end of 2010, of which a significant share were deemed to be nonperforming.<sup>20</sup>

Meeting these three challenges will require a mix of policy reforms and institutional development that will take time to design and implement but that is essential for the success of the reform program as a whole. Without these reforms, agricultural investment could suffer, rural-urban inequality could continue to rise, urban sprawl could stymie environmental and economic goals, and the efficiency of land use could decline.

The first priority is implementation of measures that ensure the security of agricultural land tenure, including rolling out the recent policy decision to grant indefinite land use rights to farmers, expanding land registration and strengthening rural land markets, and reforming and modernizing the governance structure of rural collectives and dispute resolution mechanisms. A second priority involves reforming land acquisition and compensation practices, including strategic land use planning at the municipal, regional, and national levels. A third priority involves substituting property and other local taxes for land requisition as a revenue source as well as allowing local governments to borrow from domestic capital markets subject to strict controls and regulations.

In rural areas, the government could begin by legally granting farmers indefinite user rights to land they cultivate. It is important that the Communist Party's 2008 Policy Decision regarding this issue be enshrined in law soon. The law will need to clarify who will be eligible for such rights; what the residual role of the collective will be; the actual

**FIGURE 4 Urban land has expanded faster than urban population**



Source: NBSC, various years; World Bank staff estimates.

Note: The green line is the line of equality. The black line is the linear regression between the two variables. The blue circles are China's ten largest cities.

terms of the document that grants land user rights (a common title document used nationwide would be ideal); and the rights and responsibilities of land users as well as sanctions in case of violations.

Effective implementation of land user rights will require some degree of clarity about the land's location and delineation. Over the coming years, various land registration pilots need to be scaled up. Lessons from other countries indicate that placing land registration and administration of the land registry under a single agency is the most efficient, because such an arrangement avoids overlapping and competing jurisdictions.

Developing rural land markets will greatly assist in improving the efficiency of land use. The transition to transparent and efficient rental markets for user rights can potentially raise productivity by 60 percent (Jin and Deininger 2009) and facilitate labor mobility and land consolidation. Such markets have developed rapidly since the 1990s, (they now cover about 20 percent of cultivated land), but the absence of enforceable contracts continues to inhibit growth, and most transactions remain informal. Expanding such markets will require improvements in land registration and documentation (and the latest land-mapping technologies make this cost-effective) as well as the establishment of credible and trusted dispute resolution mechanisms.

Governance standards in rural collectives need improvement. One of the key causes of land insecurity in rural areas is the abuse of power by some village cadres at the expense of the members of the collective. Land readjustment or sales are often undertaken in collusion with commercial developers with little transparency or accountability. Although the frequency of such events may have declined, one survey showed that every village experienced at least one reallocation during the period 1998–2008 (Wang, Tao, and Man 2010). Going forward, and especially in light of the policy supporting indefinite land use rights, the role of the collective will need to be reexamined, with a view to improving governance standards.

Policies governing acquisition of rural land for urban use need to be overhauled. Because the state has used its untrammled acquisition authority to raise revenues, the urban land area in China has grown much more rapidly than the urban population. Two reforms are needed: First, local governments should be allowed to acquire rural land for urban areas only if the urban development plans have been vetted and approved by a higher level of government, and the approval process should take into consideration regional land area priorities and urban land use efficiency. Second, the current practice of compensation—a frequent cause of complaints—needs to be reviewed. One approach would be to pay the going market price to the collective (with total pass-through to the farmer) but then impose a transparent capital gains tax. The current practice of expropriating the entire difference between the agricultural value of the land and its urban market value is equivalent to a 100 percent capital gains tax; a lower figure would be a reasonable compromise between the need for more local government revenue and some benefits for the farmer whose land is acquired and way of life changed forever. Part of the capital gains tax revenue could be used for rural development within the county where the land is located.<sup>21</sup>

In addition to revenues from land acquisition, some local governments have also become increasingly reliant on resources raised by land banks that use land as

collateral, and, as recent events have shown, this practice may lead to significant financial losses and transmit these risks to the broader banking system. The challenge lies in replacing these socially and financially costly forms of raising revenues with a more efficient and sustainable revenue base. Over time, other revenue sources, including a property tax, may help make up the difference (see chapter 7). A few countries, such as the United States and Canada, raise 3–4 percent of their GDP from property taxes, while the average among members of the Organisation for Economic Co-operation and Development (OECD) is near 2 percent.<sup>22</sup> China is already piloting property taxes in two cities but is finding that its introduction is usually difficult for technical, institutional, and social reasons. This argues for its gradual introduction and for modest expectations about its contribution to revenues.

## Labor

Just as land and capital need to be used where they provide the highest returns, so too should labor be allowed to move to where the most productive and best-paying jobs are. But China's *hukou*, or household registration, system and its locally administered insurance and pension systems make mobility difficult. In addition, the labor force is expected to start shrinking in a few years, and a declining labor force participation rate among older workers is likely to make this downtrend worse. Together, these two constraints threaten to undermine China's efforts at becoming an innovative and internationally competitive economy. To compete against advanced economies in global markets, China will need a more flexible and dynamic workforce that can adjust quickly to changing market conditions. In the Republic of Korea, some 45 percent of the population migrated across provincial boundaries, contributing to extraordinarily rapid urbanization, concentration of economic activity, and flexible reallocation of labor;<sup>23</sup> in China's case, 19.5 percent of the population migrated in 2010; nearly 85 percent of the migrants moved from rural to urban areas.<sup>24</sup>



Over the coming decades, notwithstanding a decline in China's overall labor force, hundreds of millions will move in search of better jobs,<sup>25</sup> and their absorption will require labor markets that are flexible and institutions that protect workers by providing some employment predictability, social security, and portable rights to affordable health care and financial security in their old age. Government leadership will be crucial in helping people obtain equal opportunities to access jobs, education, and health care services, and to manage rising risks stemming from further structural change, difficult global conditions, and increased competition. Developing a flexible and dynamic labor market will be central to China's future success as a high-income, open economy; whether that can be done will depend critically on whether production and employment patterns adjust quickly to changing demand conditions globally and domestically. Phased reforms of the *hukou* system to ensure that by 2030 Chinese workers can move to where the jobs are; measures to increase labor force participation rates; and reforms in labor taxation, hiring policy, and wage policy will all be essential to success.

*Hukou* reform will be a top priority in the coming decades and needs to be completed by 2030, but progress will likely be slow because it will depend on fiscal reforms. The *hukou* system no longer restricts movement of labor from rural to urban areas.<sup>26</sup> But rural migrants without urban *hukous* are still denied access to social entitlements—health care, education, and housing—that urban residents receive. One of the key constraints to *hukou* reform is that local governments have neither the resources nor the incentives to extend public services to migrants and their families. So the speed of *hukou* reform will depend on the rapidity with which local governments strengthen their fiscal systems (see chapter 7) and how financing responsibilities are shared between central and local governments. The inability to provide migrants social entitlements on par with urban residents not only increases inequality but also discourages mobility. Local *hukou* reforms have been ongoing but, owing to fiscal constraints, have progressed

least in large cities where rural migrants are most concentrated. In contrast, migrants to small and medium cities receive a modicum of social services and social protection. Taking these factors into account, a systematic approach to propel *hukou* reform forward would include: (1) delinking the *hukou* from access to public services and using a residential permit instead to determine eligibility to receive services; (2) encouraging pilot reform programs at the local level; and (3) redefining financing responsibilities between central and local governments as an incentive for reform.

To increase the labor force participation rate, especially among older workers, the government could increase the retirement age of men and women, which has the additional benefit of reducing the burden on pension systems (see chapter 6). Many OECD and transition countries have tried this in recent years, with the annual increase in the retirement age ranging from six months a year in transition countries to one to three months a year in OECD countries. The government could also promote flexible working arrangements and strengthen mid-career training and life-long learning opportunities.

China should also reduce the level of social insurance contributions required for employed workers. This implicit employment tax imposed on employers, amounting to about 45 percent of the wage rate on average, is high by international standards. Because minimum contributions are set at a rate applied to 60 percent of the *average* wage, the implicit tax rate is much higher for workers earning low wages. Employers therefore avoid formalizing employment. Many employers and employees also “opt out” of social insurance schemes. The total number of contributing urban workers in 2010 ranged from 237 million for health insurance and 236 million for pensions, compared with only 134 million for unemployment insurance and only 80 million for housing funds.<sup>27</sup>

Finally, China's public sector entities should be “equal opportunity employers,” that is, their recruitment practices should be transparent, based on merit, and impose no restrictions on place of birth or possession of an appropriate *hukou*.

## Chapter 4 Increasing the Pace of Innovation

Notwithstanding reforms in factor markets and development of the private sector, sustaining high growth poses a considerable challenge. With population growth slowing sharply and investment rates also set to decline, growth will be more dependent on gains in total factor productivity. During the past decade, TFP growth averaged 3 percent a year, which is high by international standards and attributable in large part to rapid structural change; product and process technology spillovers from high levels of foreign direct investment; the speed of technological catch-up made possible by the build-up of physical, human, and financial capital; the progressive easing of infrastructure constraints; and the creation of a more competitive and open economy.

The potential productivity benefits from catching up in industry and services, from measures to enhance competition in the domestic market, and from the accumulation of human and knowledge capital, are far from exhausted. But there can be little doubt that many segments of Chinese industry are approaching the technology frontier, that intersectoral transfers of labor will diminish, and the contribution of capital as a growth driver will decline. Recognizing these facts, China is turning to innovation as a means of achieving rapid and sustainable growth while coping with looming challenges associated with resource scarcities, climate change, and environmental degradation.

Is innovation the answer? Over the long term, high levels of investment will remain a major driver of growth in China through embodied technological change, but its importance is likely to decline while TFP growth from innovation is expected to become increasingly significant. Were investment to fall to European levels of around 25 percent of GDP or less, growth would trend toward 4–5 percent a year. But a more innovative China that continues to invest at least a third or more of its GDP has a high probability of meeting its growth targets buoyed by above-average advances in TFP.

Even so, much will depend on complementary domestic reforms and the global environment—merely investing another 1 percent of GDP in research and development will be insufficient. Many complementary ingredients in China’s innovation policy, including private sector development and increased competition, reforms in factor markets, the adopting of a green growth strategy, human capital deepening, and the effective harnessing of urban agglomeration economies to advance ideas and technologies, are discussed in other chapters of this report. This chapter focuses on policy reforms needed to develop a system of incentives and institutions that could specifically support broad-based, economy-wide innovation.

### Innovation advantages

As it begins its journey toward an innovative economy, China possesses several advantages. First, China’s spending on research and development is on a steep upward trend. Second, China’s manufacturing sector is large and possesses wide-ranging capabilities. Third, having expanded its education system, China’s efforts to innovate are being supported by a rising supply of science and engineering skills of improving quality. Fourth, an elastic supply of patient capital is being mobilized to support innovative firms and scale up the production capacity of new entrants with good ideas. Fifth, China’s large and expanding market of urban middle-class consumers—expected to double in the next decade—is attracting leading innovative multinationals, encouraging local innovators, allowing domestic producers to attain scale economies, and permitting formation of clusters and agglomerations. Sixth, a pro-business, entrepreneurial culture in several of China’s provinces, including Guangdong’s Pearl River Delta, Zhejiang, and Fujian, is supportive of small firms and start-ups. Seventh, considerable potential is inherent in China’s relatively underdeveloped services sector. Eighth, and finally, not only is China

urbanizing, some Chinese cities are realizing that the productivity and growth of urban economies will rest upon the quality of life and how effectively these cities can attract and retain global talent.

### Innovation weaknesses

China's rising supply of skills and its large and advanced industrial base notwithstanding, the reality is that government and state enterprises conduct the bulk of research and development—and part of this effort still seems divorced from the real needs of the economy. True, China has seen a sharp rise in scientific patents and published papers, but few have commercial relevance and even fewer have translated into new products or exports (the honorable exception being telecommunications and consumer electronics). Part of the problem may lie in weak incentives for indigenous, government-backed research institutes to work with commercial users of new technologies. In addition, research institutes may not be capturing opportunities to leverage their capabilities by networking within the country and connecting with global R&D networks. China has the potential to improve the institutional arrangements needed to encourage broad-based innovation—such as ease of firm entry and exit, increased competition, enforcement of laws protecting intellectual property rights, quality tertiary education, the availability of risk capital for small and medium enterprises, evaluation of government R&D expenditures, and standard setting in government procurement. In the long run, the objective should be to develop a system that stimulates broad-based creativity and innovation.

### Key reform recommendations

A better innovation policy in China will begin with a redefinition of government's role in the national innovation system, shifting away from targeted attempts at developing specific new technologies and moving toward institutional development and an enabling environment that supports economy-wide

innovation efforts within a competitive market system.

The central government will need to take greater initiative in building countrywide *research networks* that mobilize national talent and reduce the isolation of firms in some cities by including them in research consortia that also involve advanced firms (including multinationals) from coastal cities. The governments of Japan and the United States have successfully sponsored such consortia in their countries; similar efforts in China could potentially develop more “global challengers.” These domestic networks can also link to global R&D networks in ways that leverage Chinese efforts with research activities in other parts of the world. The natural inclination may be to protect domestic research efforts and innovative companies, but that would prevent Chinese researchers from interacting with external research efforts, cut them off from new ideas, and lower opportunities to adopt foreign technologies. Links with global networks would also help address constraints in domestic research capacity and overcome perceptions in foreign countries about China's research and development program. Moreover, the trend in global R&D is rather similar to other kinds of economic activity, such as increased specialization, more intense exchange of ideas and know-how, and frequent exchange of research personnel. In such a model, China will be a participatory member in a global research effort in which it is a consumer as well as a producer of new ideas, new inventions, and new ways of doing business.

Many *high-tech multinational corporations* have invested in R&D facilities in China (including in inland cities such as Xian and Chengdu). Such investment should be further encouraged because of its significant spillover effects, the reputational gains for those Chinese cities that are fast becoming science hubs, and the contribution this research can make to industrial upgrading. Closer collaboration and partnerships with multinationals on the basis of mutual trust and recognition will contribute to the creation of a dynamic and open innovation system. In this context, an efficient patenting system that re-

flects the experience of the U.S. and European systems (both of which are in the throes of reform) and effective protection of intellectual property, especially in fields such as biotechnology, nanotechnology, software, and multimedia, will expedite the growth of China's innovation capabilities.

China's innovation policy needs to reflect the lesson borne from international experience that most applied research and innovation is done within *large private sector firms*. Large private firms tend to make innovation a central plank of their competition strategies, respond to market demand and government incentives, and provide researchers with the freedom to pursue interesting ideas and interact with other researchers both at home or abroad. A range of incentives—through fiscal, financial, and regulatory instruments—needs to be applied to encourage such firms to emphasize research, development, and innovation, and to give them a large enough market to ramp up production of new products and achieve economies of scale. In addition to tax deductions for R&D spending, these incentives could include temporary consumer subsidies for the purchase of new products that have proven positive externalities (such as electric automobiles, for which China is already providing consumer subsidies).

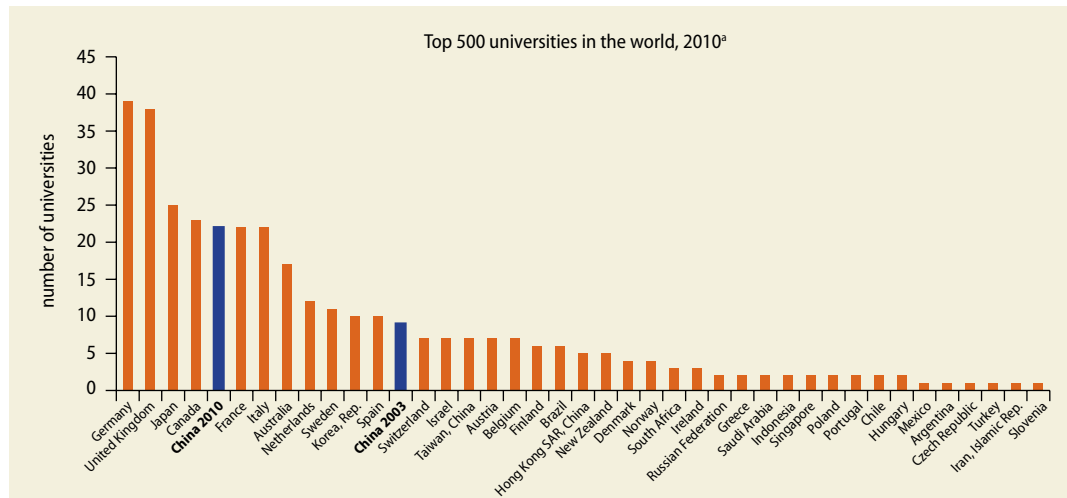
At the other end of the size spectrum, SMEs should also be seen as an important source of innovation, especially in sunrise industries.<sup>28</sup> SMEs, after all, are the big firms of the future, and every effort should be made to ensure they are not disadvantaged by regulations and are encouraged through tax incentives. Innovative new entrants, especially SMEs, face a perennial shortage of *risk capital*. True, local governments and state-owned enterprises are increasingly becoming sources of venture capital and private equity funds. Nevertheless, venture capital is scarce for smaller private firms and SMEs trying to scale up. One partial solution is to increase lending by banks to small, hi-tech, private firms. The resulting creation of bank-led relational networks seems to work in other countries, such as the United Kingdom and the United States, and complements other sources of financing. Another approach is to ensure that capital markets both allow access to funding to SMEs, even though they may be

located in interior provinces, and permit venture capital owners an exit option. Finally, governments could help innovative SMEs by establishing public technology platforms that provide SMEs access to laboratory, metrology, testing, and certification facilities.

Then there is the direct role of government in R&D. Central and provincial governments are seeking to enlarge spending on R&D and also raise the share of *basic research* supported by universities and research institutes. Support of basic research is more likely to succeed through well-targeted incentives, by committing a sufficient volume of funding to a few high-caliber institutions, and by sustaining that funding. One example is the National Institutes of Health in the United States, which plays a central role in boosting innovations in life sciences because it enjoys large and stable funding. Another is the Defense Advanced Research Project Agency, also in the United States. To maximize spillovers from government-sponsored research, findings would need to be made widely available. Beyond that, it is up to firms to transform the research findings into profitable products and services.

But increasing R&D spending to the government's target of 2.2 percent of GDP, expanding basic research, and emphasizing publishing and patenting is likely to have only a small impact on productivity growth, unless the quality of this research and its commercial relevance and uptake are substantially increased. Good research must be complemented by a stringent and disciplined process of *refereeing and evaluating* research findings. The research community needs to take the initiative here, although the government could provide the parameters.

China's innovation objectives, increased effectiveness of its basic research, development of high-technology industries envisaged in the 12th Five Year Plan all depend on the availability of a vast range of *technical skills* for research, design, fabrication, production, information and communication technology (ICT) support, and eventually marketing. By 2030, China is expected to have up to 200 million college graduates, more than the entire workforce of the United States. Moreover, the quality of university training is improving rapidly: only five other

**FIGURE 5** The quality of China's tertiary education system is improving rapidly

Source: Shanghai Jiao Tong University 2010.

a. The United States, which has 154 top universities, is not shown.

countries have more universities than China in the top-ranked 500 universities of the world. China now has 22 universities in this list, compared with 12 just eight years ago (figure 5).

Even so, the quality of tertiary education more broadly is a matter of concern, and employers are experiencing a serious shortage of skills. To address this shortfall, China needs to further accelerate governance reform in universities, giving them greater autonomy while, at the same time, tightening ethical standards in research. The best universities must be allowed to mobilize funding and appoint faculty that ensure high-quality, cross-disciplinary, postgraduate and postdoctoral programs. They also need to develop innovative approaches to imparting knowledge and analytical skills and set up well-staffed specialized research institutes. In this regard, China should encourage leading foreign universities to set up campuses in China jointly with domestic universities and impart modern governance standards, teaching methods, and research management.

In addition, both the private sector and the government need to invest more in improving the *quality of human resources*. Public-private initiatives can secure and replenish the base of technical skills essential for innovative industries. The education system should emphasize competencies, not

qualifications, and do away with the rigid boundaries that separate academic streams from technical and vocational education and training. To achieve the desired increase in the volume and quality of skills and maximize the returns from the limited supply of quality instruction and teaching facilities, China will also have to rely more on innovations in ICT and pedagogical techniques involving the greater use of multimedia and flexible online training customized to the varying needs of students. The traditional education approach of lecturing to large classes may need to be rethought, with institutions being encouraged to experiment and given the autonomy to do so. Universities can also take the lead in promoting public lectures and exhibitions, and contributing to the teaching of science in local schools. In this context, opening the tertiary education sector to foreign investment and increasing the participation of leading foreign universities in China may help stimulate domestic university reforms.

There is also scope for encouraging innovation through demand-side instruments such as *government procurement* and standard setting. The key to success will lie in genuine open competition. One way to begin would be to take EU or U.S. standards as a technical starting point while looking for ways to advance product performance;

another would be to involve industry leaders when setting standards. A third would be to get industry associations to develop industry standards based on consensus.

Technological capability is more likely to advance in *innovative cities*. In the past three decades, coastal cities served as the incubators of technology development by attracting large levels of foreign direct investment. But industrial cities are not the same as innovative cities. Innovative cities have depth and quality of human capital (especially a high share of science and technology workers) as well as mechanisms that support the generation, debate, testing, and perfecting of new ideas. Innovative cities have local knowledge networks, institutions that support innovation, an industrial base that employs scientific and technological talent, a few major dynamic firms that invest heavily in R&D, and digital networks and online services. Such cities thrive on the heterogeneity of knowledge workers drawn from all over the country and the world. Moreover such cities are closely integrated with other global centers of research and technology development. Finally, innovative cities are “sticky” because their leading edge in design, assets, attributes, and governance attracts global talent and does not let it go. Industrial cities can become innovative cities—such as Tokyo, Stuttgart, Munich, Seoul, Seattle, and Toulouse. But innovative cities do not have to be industrial, as Cambridge (U.K.), Helsinki, San Francisco, and Kyoto all show.

International experience suggests that innovative cities usually include one or more *leading research universities* that compete and collaborate with each other. These universities must interact with employers to mix technical and soft skills as well as impart the latest industry know-how. Possible areas of research include challenges associated with:

- Rapid urbanization—the development of energy-saving building materials, efficient large-scale public transportation systems with low carbon emissions, and the infrastructure needs of intelligent cities;
- Health care—including basic research in science and medicine, biomedicine,

application of ICT in health care management, and institutional arrangements for health care management and financing; and

- Green development—including the development of more-economical renewable energy sources and new green technologies, as well as the application of incentive structures to change behaviors and encourage green consumption.

## Sequencing

The chapter on economic restructuring highlighted the urgent importance of increasing competition, and lowering barriers to entry and exit for increased efficiency and international competitiveness. These reforms are also central in providing incentives for research and innovation activities. With more investment in R&D, perhaps an equally important priority is to introduce an unbiased and independent evaluation system for R&D spending and current industrial policies supportive of targeted technology development. Such a system would give the government rigorous analysis to show what works and what doesn't, and where government financial support needs to be reallocated.

Policies that will take longer to implement include the institutional arrangements for innovation—university development, establishment of venture capital financial institutions, and creation of nationally integrated R&D networks linked with global R&D networks. Many of the reforms will depend on other areas of the economy, notably fiscal and financial sector reforms, but work on these can nevertheless begin soon, recognizing they will take time to bear fruit.

As far as outcomes are concerned, once a sound institutional framework is in place and as firms near the international technology frontier, a concerted effort will be needed to strengthen basic research. The success of China's innovation policy will depend on how effectively all branches of the research and innovation network (research institutes, universities, central and local governments, state and private enterprises) function together and how these efforts are leveraged internationally through global networks.

## Chapter 5 Seizing the Opportunity of Green Development

Concerned that past and current economic growth patterns are environmentally unsustainable and that the environmental base needed to sustain economic prosperity may be irreversibly altered, the Chinese authorities proposed a new approach toward green development in the 12th Five Year Plan. The plan emphasizes continued rapid growth together with ambitious targets for energy efficiency, natural resource management, and environmental sustainability. This approach is consistent with the concept of green development used in this study, namely, a pattern of development that decouples growth from heavy dependence on resource use, carbon emissions, and environmental damage, and that promotes growth through the creation of new green product markets, technologies, investments, and changes in consumption and conservation behavior.<sup>29</sup>

### Why a green development strategy?

China should give high priority to green development for many good reasons, both domestic and international.

First, new technological opportunities make green development not just a realistic possibility but a potential driver of economic growth. If successful, green development will create new business opportunities, stimulate innovations in technology, and potentially make China globally competitive in sunrise industries.

Second, quite apart from stimulating growth, green development would significantly improve the quality of China's economic growth. For example, less production and use of fossil fuels would greatly reduce health losses from air and water pollution, water scarcity, and land subsidence. The costs of environmental degradation and resource depletion in China approached 10 percent of GDP over the past decade—air pollution accounted for 6.5 percent, water pollution 2.1 percent, and soil degradation 1.1

percent.<sup>30</sup> And although air pollution levels may be on a consistent downward trend, the cost of illnesses from pollution has climbed as the population ages and urban populations and urban incomes grow.

Third, green development will help address a wide range of sector-specific issues, such as energy security, urban livability, agricultural output, and infrastructure constraints. The rapid growth of energy consumption has strained domestic supplies of electricity, raised coal prices, and made China increasingly dependent on imported energy. With unchanged policies, China may have to import 75 percent of its oil (making it the world's largest oil importer) and 50 percent of its natural gas by 2030. The efficient use and better governance of land will help reduce urban congestion and sprawl. Improving the quality of land and water will help raise agricultural output. Better energy efficiency will ease infrastructure constraints, particularly for handling coal.

Fourth, given rising and volatile commodity prices, lowering the resource intensity of production will improve international competitiveness and partially insulate domestic prices from fluctuations in international prices.

Fifth, while China's green development strategy is driven almost entirely by domestic considerations, it will make a significant contribution to tackling global climate change. China is now the largest energy user in the world and the largest emitter of carbon dioxide emissions, although its cumulative emissions remain significantly below that of the United States (Baumert, Herzog, and Pershing 2005). Its annual per capita emissions have already exceeded the world average and are still rising rapidly. Furthermore, China is one of many countries that are likely to be most seriously affected by climate change. Vigorous implementation of a green development strategy will not only benefit China but also contribute toward global efforts to reduce emissions and mitigate climate change.

## Green development as a source of growth

There are also many reasons why green development can be a potential driver of growth.

The first is *the greening of traditional sectors*. A large number of existing conventional techniques and management models can both reduce energy use and emissions and improve the level of corporate profitability. Although the greening of traditional sectors may seem less dramatic and revolutionary than the development of cutting-edge new technologies, it is clear that with information and financing, many energy-efficient investments are also cost-effective and yield high economic returns.

Second, going green can drive growth through the *expansion of emerging green industries*, including solar and wind energy, together with upstream and downstream industries such as relevant equipment manufacturing and electric vehicle industries. More broadly, however, new markets and incentives, supported by innovation and research, will likely stimulate new low-carbon, reduced-resource, and environmentally friendly technologies, goods, and exports. In addition, increased public awareness will help shift consumer demand toward green products.

Third, *services will also expand as a complement to new green product markets and changes in consumer preferences*. Not only will the rising share of services in GDP help reduce the economy's carbon intensity, specialized services are likely to develop that specifically support green development. Examples are ecosystem services, carbon asset management services, carbon trading, and contract energy management.

Fourth, by anticipating climate impacts on agriculture, low-lying coastal areas, and areas vulnerable to extreme weather events, green development *will promote sustainable growth and development, reduce climate-related risks, and improve investor and consumer confidence*. International experience shows that preventive measures are usually far more cost-effective than ex-post reconstruction and rehabilitation.

## China's many advantages in moving toward green development

By some measures, China's quality of growth has shown improvement in the past two decades, although it has a long way to go. For example, although its energy efficiency improved faster than that of any other country, it is still one of the least efficient energy users in the world. The share of fossil fuels in China's energy mix has fallen since 1990 but is still much higher than that of advanced countries. China's expenditures on energy research have been the highest in the world as a share of GDP, however, and these expenditures appear to be having an impact. The efficiency of coal-fired plants has shown impressive progress, and China possesses the world's largest capacity for renewable energy generation. It is a world leader in small hydroelectricity generation has doubled its wind-driven turbine capacity every year since 2005, and has become the world's largest manufacturer of solar panels.

Going forward, China can build on this progress and on its many strengths and advantages. First, the Chinese leadership has reached consensus on green development, and the government's strong implementation capability will play an important role in facilitating change. Second, China's relatively low urbanization rate and high level of investment as a share of GDP allows for a rapid turnover of the capital stock, permitting old technology to be replaced with new relatively quickly, thus avoiding the lock-in costs associated with old buildings and aging infrastructure. Third, it can potentially use its newcomer status in green industries and technologies to leapfrog current capabilities in the advanced countries. Fourth, the size of its domestic market can support rapid achievement of scale economies. Fifth, its increasingly educated workforce will provide abundant skilled manpower; this, together with foreign partnerships and appropriate policies and institutions, is likely to accelerate the pace of innovation. And finally, its abundant wind, solar, biogas, and shale gas



resources give it many options to reduce its dependence on fossil fuels and improve its energy security.

### **Obstacles to green development**

While China has many advantages that would help it implement a green development strategy, many obstacles and difficulties also need to be overcome. Most important among these is the price of energy, water, raw materials, and natural resources, which remain distorted to different degrees and do not reflect either the negative externalities associated with their use or their true scarcity value. The result is high resource intensity in production and associated wastage and pollution. A second and related obstacle is excessive dependence on administrative mechanisms to deal with environmental and natural resource management issues. In the absence of market-based mechanisms, the government is forced to make decisions that appear arbitrary and occasionally even heavy-handed. At the same time, other fiscal and regulatory incentives for environmental protection are either weak or weakly enforced; as a result pollution and greenhouse gas emissions remain high.

A green development strategy will also face implementation and incentive constraints within government, and may face opposition from workers and enterprises that benefit from the current pattern of growth, exports, and investment. The strategy will require coordination across many government ministries and agencies, many of whom may oppose it because it reduces their discretionary power to make decisions. In addition, while a green development strategy will be of considerable long-run benefit, it will in the short run conflict with other economic objectives (for example, meeting employment and industrial targets for the five-year plan). Resolving these conflicting objectives will require job retraining, skill development, and similar policies to smooth the adjustment toward the new pattern of green development, and need clear and strong leadership from the highest levels.

### **Recommended reforms**

Economic activities are replete with externalities and market failures that require government intervention through market and non-market policy instruments. To promote green development and control environmental degradation and carbon emissions, governments must intervene to allow economically and environmentally efficient markets to fully play their role.

Applying this principle, the promotion of green development in China will involve five distinct but coordinated policy levers: long-term market incentives to encourage enterprises and households to “go green”; better designed and enforced regulations requiring changes in behavior in situations where market incentives do not work; public investments that deliver key environmental goods and services with high positive externalities and that explicitly incorporate climate risk management; measures to strengthen local government institutions; and safety net schemes to mitigate any short-term negative employment effects of green development reforms.

*Long-term market incentives.* A key goal of using market incentives is to harness the creativity and entrepreneurial energy of China’s private sector and state enterprises to protect the environment and turn China’s green industries into an important source of growth by making them world-class innovators and competitors. Market incentives are also the best way to foster efficiency, which, in the case of green development, goes beyond financial efficiency to include resource use efficiency and the reduction of environmental externalities.

So far, China has mainly employed regulations and edicts to enforce its environmental and emissions targets. Old power plants have been retired and polluting factories closed, with measurable benefits in improved environmental quality. But as the scale and complexity of the Chinese economy and the environmental challenge grow, the disadvantages of this approach will (indeed, already have)

become more apparent. Instead, the government should consider market mechanisms such as taxes, fees, tradable permits, tradable quotas, and eco-labeling. In degraded ecosystems, rehabilitation is warranted, especially through expanded payments for ecological services in poor and ecologically important rural areas (for example, upriver watersheds or downriver flood plains).

There is no better place to begin than by ensuring that market prices of goods and services reflect the true cost of production and consumption to society. For example, the price of oil, water, coal, and other natural resources should include a tax to reflect the social and environmental costs incurred with their use. Complementary actions would involve removing direct and indirect subsidies, raising pollution taxes, and canceling export tax rebates for high-pollution, high-emissions, and resource-intensive industries. (Indeed, export targets for these industries should also be curtailed, if not abolished altogether.) Mining companies, state and nonstate, should pay royalties for the state-owned mining resources they use. These measures, together with enforcement of the “polluter pays” principle, will help internalize the pollution costs of enterprises and reflect the true scarcity of the resources they use, as well as reflect their real competitiveness in domestic and world markets.

Such “no-regrets” policies not only improve efficiency, they also support sustainable growth. But China’s green development strategy has a loftier objective, which is to make green industries a source of growth. To achieve this goal, industries that use green technologies should be open to private and foreign enterprises that compete on a level playing field. Public investment should focus on public goods and services such as basic research, appropriate infrastructure (for example, smart grids), and a supportive environment for private and foreign investment such as streamlined investment and copyright approval and rapid endorsement of new technologies and products.

Because innovation is fundamental to green growth, the government should foster the conditions for creativity by permitting new entrants as well as the import of

high-level talent for innovative firms. New entrants will stimulate competition and innovation; the production of electric vehicles, for example, should not rely solely on traditional automobile manufacturers. Once such public policies spur private sector development in a green sector, the focus could shift to the next vanguard sector. In this way, state investment can play a key role in spurring private sector-driven technological innovation. State enterprises, on the other hand—especially if they enjoy monopoly power, are subsidized implicitly or explicitly, or are favored in any way by discretionary government actions—are more likely to hinder, rather than encourage, green innovation.

In the early stages of developing green industries, the government could “grow bigger fish by adding more water.” During the formative period of green firms, the authorities could offer temporary tax relief, fiscal subsidies, preferential land allocation, and below-market financing. Once these firms are established, however, such preferential policies should be withdrawn. Any initial loss in tax revenues will be more than made up by later increases. At the same time, if it becomes clear that international competitiveness is unlikely to be achieved, this financial support should be withdrawn.

Given the global push on climate mitigation, the most effective way for China to establish itself as a global green technology leader is by implementing stringent and effective policies to reduce greenhouse gas emissions and to internalize the cost of carbon emissions in the operating costs of enterprises. Stringent emissions reduction policies, achieved through such diverse market mechanisms as carbon trading, a carbon tax on fuels, technology standards, and regional carbon partnerships, can act as a powerful mobilizing force for innovation in green technologies. This, in turn, will help lower economic costs associated with improving the quality of the environment and help drive overall growth.

The 12th Five Year Plan commits China to experiment with a carbon cap-and-trade scheme to be rolled out gradually and on a voluntary basis. As China embarks on its own pilot emissions-trading schemes, it

needs to evaluate policy choices between price and quantitative instruments under the guiding principles of efficiency and effectiveness. Beyond the more conceptual differences between these two approaches, China can find valuable lessons in the experiences of many OECD countries, including existing and proposed carbon-trading schemes in Australia, Canada (Alberta), the European Union, New Zealand, Switzerland, Tokyo, and the United States (both national and state-level schemes).

***Better designed and enforced regulations.*** Regulations are an important complement to market-based incentives to promote green development, provided the authorities are able to monitor and enforce compliance effectively. One important step will be the establishment of strong environmental and emissions technical standards that will shape behavior and create market incentives for green technologies. A key example is in the automobile industry, where standards can be set for fuel consumption. Another is in the appliance and lighting industry, where new standards for energy efficiency can have a direct and widespread impact, especially given the scale of urban construction. A third involves setting national standards for climate-robust green buildings, urban design, and transportation to avoid locking in existing carbon footprints. Compliance with these standards can be increased through tougher inspections and buttressed by market-based incentives (such as insurance policies that require flood proofing or compliance with energy efficiency standards). A fourth is the establishment of labels and standards for green products, services, and technologies so they are easily recognizable and understood by consumers. And a fifth is the implementation of recycling guidelines to reduce the need for new urban landfills or incinerators by reducing the volume of waste at the source. The government could also signal its seriousness about environmental goals by changing the way it conducts its own business. The most important and pervasive approach would be to introduce green standards for the roughly RMB 1 trillion in government procurement each year; these standards

could open up a huge market for green products and usher in a period of robust growth in relevant industries.

***Public investment.*** While the bulk of new investment in green industries and technologies will be through enterprises, a sound green development strategy will also require incremental public investments over and above the huge amount the government is already doing. While China's annual investment in the treatment of industrial pollution is roughly comparable to Europe's, its total expenditure on environmental protection activities is less than Europe's by 0.3–1.1 percent of GDP.<sup>31</sup>

To improve environmental quality over the longer term, China's government expenditures related to the environment should be at least half a percentage point of GDP higher than current levels. Incremental expenditures should be focused not only on reducing pollution and solid waste but also on protecting and restoring the health of China's ecosystems, water, and soil and reducing potential damage from flooding. Evidence from other countries indicates that such expenditures have extremely high economic rates of return. Therefore, a relatively modest incremental increase in environment-related expenditures would go a long way toward reducing the annual costs of environmental degradation and depletion (as noted, these costs are approaching 10 percent of GDP).

One of the most important areas for increased public investment will also be adaptation to climate change and, more broadly, the development of a climate risk management framework. Four of the ten Asian cities most vulnerable to rising sea levels are in China. Careful planning and large public investments will be required to protect ports, infrastructure, and housing in these cities from extreme climate events. The government could invest more in public institutions to analyze and disseminate weather-related and emergency response information, and it could also update and develop new climate-robust technical standards for infrastructure. Follow-on actions could include relocating transmission lines and distribution systems for power grids in coastal areas exposed to

natural hazards, and redesigning storm water drainage systems in cities so they can handle extreme weather events projected for the next several decades.

The government also needs to prepare for climate-induced effects on agriculture and to invest early in flood control, water management, drought-resistant plant varieties and agricultural methods, and research on climate-induced effects on the economy. These investments would earn higher economic rates of return if they were complemented by measures to improve water use efficiency (for example, through consumption-based allocation and trading of water rights) and expanded pollution regulation that includes coverage of nonpoint sources of pollution. Finally, expanding current programs that restore forest cover and watersheds to meet the objective of restoring ecosystem health will have even broader benefits. When investing in environmental improvements, it is important to use instruments that give value to environmental quality and then reflect these values in measures used to monitor and rank the performance of local governments.

To mobilize collective action on environmental protection and climate change, the government needs to launch mass education campaigns to increase public awareness of these issues and the actions that individuals and households can take to contribute toward the national effort. China can make emissions reduction and environmental protection a desirable lifestyle, thereby increasing market demand for green products. To do so, it could mobilize nongovernmental organizations, industry associations, and the media. It can also change consumer behavior by providing better information, through energy efficiency labeling for example.

***Local institutional strengthening and reform.*** In the past, some of China's most successful reforms, such as the household responsibility system, originated as local experiments that were later scaled up. The same could be said for green development. In a few cities such as Baoding and Rizhao,

bold efforts are under way to deploy clean technologies, improve energy efficiency, and reduce greenhouse gas emissions. But green successes in some areas are not being scaled up because most local officials remain under more traditional pressure to grow their economies and protect jobs.

One way to align national and local objectives is to introduce explicit performance indicators for local governments that support green growth. China could consider using some of the measurable indicators suggested by the OECD (2010), along with other indicators that have been developed by local governments themselves. For example, some subnational governments—typically more affluent ones—have introduced quality-of-life indexes into performance appraisals for public officials. Meaningful ratings depend on publicly disclosed information, such as on the levels of air and water pollution and on the levels of environmental compliance across industries. Fujian Province has included ratings for environmental quality, energy consumption, R&D, public safety, education, and rule of law in its performance evaluations. Guangdong Province recently started using a “happiness index” as a supplementary measure of performance. A national poll in 2011 found an overwhelming 89 percent of respondents in favor of including a happiness index as part of local government performance evaluations (Feng 2011).

Two other important ways to strengthen local institutions include, first, adjusting the local tax structure away from land sales and in favor of property and value-added taxes (see chapter 7). Among other benefits, greater use of property taxes would provide additional incentives for local governments to increase land values by improving the local environment. Another step is to strengthen interregional coordination to better manage regional transportation, natural resources, and pollution control facilities. Urban, transport, ecosystem, and environmental problems are not confined to local boundaries. Incentives are needed to encourage smart urban planning and risk management by local and regional governments

across an entire region. Transjurisdictional bodies, such as river basin commissions and regional planning boards need to be given more authority.

***Reduce negative impacts on specific sectors or groups.*** The introduction of reforms, whether fiscal and financial incentives or nonmarket policy instruments (such as new standards and regulations), will inevitably alter relative prices and change the profitability of different sectors. Pollution-intensive sectors will see profitability reduced while green sectors will see profitability enhanced.

To handle objections of those likely to be affected negatively, the government will need to be ready with a range of policy measures. First, compensation for carbon pricing (whether through taxation or tradable permits) could be made through fiscal transfers. If done in a fiscally neutral manner, carbon revenues could replace other taxes that may be more regressive. In addition, progressive “social” tariffs could be introduced where price increases in water, electricity, oil, and gas specifically do not affect low-income groups.

Second, if carbon trading is introduced, the original allocation of permits, both by sector and across regions, can be done equitably with the cost of low carbon transition in mind. Less developed areas may not use their full allocation and could potentially earn revenues from the sale of the excess. High-emission enterprises that may be affected by carbon emission limits (especially industries that are still subject to price controls or that cannot pass on the cost of carbon emissions to consumers) could receive free allocations at the beginning, moving to a partial and then full auction over time.

Third, job retraining will be needed for displaced workers, as will labor market policies that permit workers to move jobs and locations at relatively low cost. Managing this transition, and ensuring that the pace of change is well within the capacity of the economy to absorb, will require careful policy planning and proactive implementation of social safeguards.

## Conclusion

Green development can drive growth and address past environmental deficits, but its success will take active government policies—applying market and nonmarket policy instruments—together with competitive and well-functioning markets for goods and services. Valuing natural assets and applying a price to pollution will lie at the heart of China’s green growth strategy. Therefore, a key priority would be to price electricity, oil, gas, water, and other key natural resources not only to reflect scarcity value but also to incorporate the environmental costs associated with their use. Enterprises and households will need to respond to price signals and regulatory standards and restrictions. A cap on greenhouse gas emissions together with an emissions trading scheme—combined, perhaps, with a fuel tax to encourage emissions reduction in transport (which is not amenable to inclusion in carbon trading systems)—will be essential to ensure an optimal allocation of emissions rights.

As a result of these policies, returns to investments in green products and services will increase, and “brown” industries will be discouraged. More important, the expansion of green industries will contribute to economies of scale in production and to R&D. Competitiveness honed in the domestic market could accelerate the competitiveness of Chinese green firms in a rapidly growing international market. Net job creation is likely to be positive. In the long run, green development will derive from new product and process opportunities afforded by innovation aimed at addressing environmental concerns, more efficient use of resources through the removal of price distortions that lead to environmentally harmful practices, more rigorous appraisal of the costs and benefits of alternative government policies and public investments, and lower economic costs associated with growing green now rather than growing now and greening later.

## Chapter 6 Equal Opportunity and Basic Security for All

China's social development over the past three decades has been impressive. The country has universalized compulsory primary education, expanded participation in higher levels of education, sharply reduced the burden from infectious diseases, and dramatically increased health insurance coverage. Labor has become more mobile, and a growing number of rural migrants have moved to cities in search of employment. The "iron rice bowl" social protection system based on state enterprises has been transformed into a set of social protection programs that are being expanded and consolidated.

Going forward, social policy will need to focus on establishing a welfare system appropriate for China in 2030—one that promotes human capital development, provides basic social welfare but avoids welfare dependency, and creates social conditions supportive of growth and development. Its foundation should be a basic level of security provided to all, with a particular focus on the poor. Just as important, policies should promote equality of opportunity in education, health, employment, and entrepreneurship to realize everyone's full potential and substantially narrow disparities in income, living conditions, and wealth that will allow people to enjoy a higher standard of living and share the fruits of development.

### Key problems and risks

China's social policy faces four broad problems and risks. The first is *relatively high inequality*, some dimensions of which may have even worsened in recent years. Inequality remains high in incomes, consumption, and asset ownership, as well as in access to quality education, health, jobs, and social protection programs across and within regions and especially between rural and urban areas. Although regional inequality appears to have narrowed to some extent, other dimensions of inequality, such as housing wealth (accounting for some 60 percent of total household wealth), have increased. Rising inequalities increase the risk of reduced vertical mobility

in China and gradual ossification of social structures. In addition, many who escape poverty remain near-poor, and a shock, such as an illness, injury, or layoff, could easily thrust them back into poverty (box 3).

Part of China's income and consumption inequality is the result of the "Kuznets' effect"—which comes from structural change as labor moves from low-productivity agriculture to higher-productivity manufacturing. But there are three other drivers of inequality, all related primarily to the inequality of opportunity in accessing social services and social entitlements:

- China's decentralized fiscal system and the mismatch at the local government level between resource availability and social spending responsibilities have led to large differences in government expenditures per capita on social services—between rural and urban areas within provinces, and between coastal and interior provinces. The inadequacy of fiscal resources at subprovincial levels also makes many public service units (PSUs) behave like private sector profit-maximizing units and distorts incentives for service provision. Spending differentials have resulted in disparities in access. For example, progression rates of rural students to senior secondary school remain far below those of their urban counterparts, and relatively few of them are entering universities. Another example is public subsidies on health care, which differ by several multiples between urban and rural residents. Just as important, spending differentials have resulted in "inequality of quality" in education and health services and in the degree of financial protection offered by pension and health insurance programs. Such disparities in turn lead to inequality in job opportunities, productivity, and eventually incomes, as well as in risk management capacities.
- Institutional arrangements and policies reinforce and, in some cases, accentuate inequalities; examples include the different rural and urban social entitlements

### BOX 3 Reducing poverty

Over the past three decades, more than 500 million Chinese have moved out of the ranks of the poor—an achievement of historical significance. At the same time, China still has large number of poor people—204 million in 2005 when applying a \$1.25 a day poverty line (purchasing power parity) and household consumption as the measure (Ravallion and Chen 2008). Reaching those that still remain below this international poverty line will prove difficult. Many are in remote western provinces, and the rest are dispersed throughout the country. Many more are “near poor”—just above the poverty line and only one crisis away from falling back into poverty. The challenge facing the country will therefore increasingly be to reduce risks faced by the near-poor and tackle transient poverty. The recommendations below are designed to meet this challenge.

First and foremost is the need for continued rapid growth. Throughout the world, higher growth has meant greater likelihood that incomes and consumption rise above the poverty line for increasing numbers of people. But poverty is not just about income—it is also about access to affordable quality health care and education and the ability to deal with risks. Indeed, China’s rising inequality is largely the result of inequality of opportunity; one’s connections, place of birth, employer, and parental circumstances still play a large role in gaining access to critical social services.

Second, it follows that identifying the poor and vulnerable through a metric broader than just income—one that includes access to public services and ability to deal with uninsured risks—will help targeted poverty reduction programs and keep poverty reduction at the top of the government’s development agenda. China has developed a household-based targeting system for providing direct assistance to the poor, but there seems to be scope to improve this program through a more explicit proxy-means targeting system based on easily observed household characteristics that are correlated with income.

Third, universal access to quality health care, secondary and higher education services, and finance

for agricultural investments can improve the conditions of poor rural residents and migrants, while also improving opportunities in agriculture through additional investments in rural infrastructure (notably water, renewable energy, and roads).

Fourth, returns to labor can be raised by relaxing disincentives to rural-urban migration and providing migrants affordable access to urban services through the phased reform of the *hukou* system. These steps would not only raise household incomes of the poor and reduce poverty and inequality, they would also boost household consumption, and at the same time allow firms more time to make the adjustment from labor-intensive to skill-intensive production. Complementary efforts could include improving the education and skill base of potential migrants before they migrate, providing assistance to migrants to reduce job search and information costs, increasing connectivity between rural and urban areas, and improving the investment climate in the poorest western provinces where the bulk of poor potential migrants reside.

Fifth, notwithstanding significant improvement in recent years, social protection instruments—health, unemployment, and pension insurance—need to be strengthened to meet two objectives: insuring the poor against a variety of risks with adequate but sustainable financial protection; and making full portability of entitlements a reality to promote occupational and geographical flexibility for workers, giving them the freedom to seek better and more productive jobs wherever they may be.

Finally, because local governments shoulder the bulk of the responsibility for implementing and financing these programs, they cannot be expanded without fiscal reforms (identified in chapter 7). Bridging the gap between expenditure responsibilities and revenue sources is one priority, and reducing regional disparities in fiscal performance is another. This in turn warrants strengthening the fiscal system so it can shoulder these additional responsibilities.

created by the *hukou* system, and the fragmented institutional arrangements and delivery systems that limit portability of entitlements and impede labor mobility. Thus, notwithstanding recent local *hukou* reforms, there remain obstacles to

migration from rural areas to cities, from interior to coastal provinces, or even from city to city, because most migrants are denied access to affordable health, education, housing, and pension coverage to which urban residents have access by right.

- Other factors also contribute. For example, high taxes on labor—to pay for social insurance—limit formal sector employment opportunities, lower remuneration for workers, and bias investment toward capital-intensive technologies. In addition, weak labor market institutions, in particular the wage determination system, do not provide an effective platform for balancing the interests of workers, employers, and sustained competitiveness to ensure the growth of labor earnings in line with increasing profits. The labor market is segmented between and within localities, often according to the *hukou*, income, and social status of workers. As a result, workers without family or social connections are disadvantaged in accessing government or public enterprise jobs. The lack of portability of social entitlements and differences in worker wage and entitlement terms between the formal and informal sectors, and between the private and public sectors (state enterprises, PSUs, and government departments) exacerbate the segmentation.

A second challenge is inefficiencies in social service delivery stemming from *distorted incentives and market structures*. Public organizations and agencies exercise a monopoly or quasi-monopoly in delivering social services and face little competitive pressure to improve efficiency or quality. Pressure from users of services is also limited because government incentive structures are not based on downward accountability. As noted, the revenue and incentive structure in health and, to some extent, education services encourages public providers to maximize revenues and to act as profit-maximizing private sector entities. This results in some undesirable outcomes: for example, between a third and a half of admissions to hospitals in China are estimated to be unnecessary; the average number of days in hospital is double the OECD average (World Bank 2010); and school selection fees in urban areas drive a further funding wedge between “key” schools and regular schools, excluding many deserving students.

The third challenge is *rapid aging of the population*. China’s demographic transition will be among the most rapid ever seen

and poses future challenges for social policy formulation and the economy more broadly. With rising life expectancy and with total fertility at only around 1.5, the country is “growing old before growing rich.” As the country ages, the labor force will peak around 2015 and then start to shrink (albeit gradually at first); and health and pension costs will escalate. A smaller workforce, combined with higher dependency rates, puts a premium on deepening human capital to enhance labor productivity, places additional demands on education and training systems to increase relevant skills, and heightens the importance of ensuring that labor is allocated efficiently. Moreover, the aging of the population means that the disease profile has changed sharply toward noncommunicable diseases—a trend that will only accelerate—requiring a shift in health care strategy from curative to preventive care and better health education for children and adults. The fiscal costs of health and pension programs will need to be contained through greater emphasis on primary care rather than hospitals, structural reforms in pension systems, efficiency improvements in service delivery driven by information and communications technology (ICT), and better incentives for health care providers.

And the fourth challenge is *rising expectations*, especially among second-generation migrants and a rapidly growing middle class, for higher wages, greater income security, better social services and greater equality in access, and a voice in the design and delivery of those social services. There is growing dissatisfaction with service providers and increasing expectations for more accountable, affordable, and equitable social programs. The expectations and interests of different groups may not be aligned, however, and may even conflict with one another, raising concerns that unless these deep inequalities are reduced, social unrest could grow.

## Proposed reforms

Based on these problems and challenges, social policy reform has three objectives. The first is to reverse rising inequalities in income, consumption, and access to public services and ultimately to ensure that equal



opportunities are available to all, irrespective of whether someone is migrant or local, old or young, in the city or countryside, or from the coast or interior. The second is to help households better manage employment, health, and age-related risks, and ensure a basic level of security. The third is to promote greater accountability of service providers, public and private, to ensure that services are made available in the right amount, at the right place, and of the right quality.

To achieve equality of opportunity for all by 2030, the policy focus will require expanding opportunities to include all citizens so they can access quality, affordable health and education services and share in, as well as contribute to, the country's prosperity through equal participation in the labor market. To become a competitive high-income economy, China must deepen and broaden its human capital base and put it to the most productive use.

A more complex and dynamic economy also brings greater risks for workers during and after their working lives, and reducing these risks requires measures that enhance security in old age and help workers better manage risks inherent in a more flexible labor market. The provision of such "flexicurity" requires making structural reforms in pension and unemployment insurance systems so that workers have reasonable and portable support in old age or when unemployed, while avoiding an ever-increasing burden on the working population; ensuring comprehensive coverage of pension insurance, in particular for rural citizens, migrants, and informal sector workers in urban areas; preparing for and gradually expanding long-term care for the aged and terminally ill; and strengthening labor market institutions to enable wage bargaining and dispute settlement mechanisms that balance the interests of workers and employers.

Underpinning these reforms is the cross-cutting need to promote greater accountability for results in social services and social protection programs. Accountability would need to come through three channels: administrative systems that monitor performance and encourage quality and equity in service delivery; market-based mechanisms that encourage the private delivery of public services and

rely on competition with appropriate regulation; and accountability to citizens for quality services by increasing the role of civil society organizations in monitoring and in some cases giving them co-responsibility for managing social services. Emerging local experience in China with citizen participation in oversight and management of service delivery (for example, through school councils, election of school principals, and medical dispute mediation councils), and in providing feedback on service quality (for example, through web-based public feedback and citizen score cards) suggests that China can benefit from more active citizen participation in service delivery as many other countries have.

To achieve these objectives, China needs to *develop a vision*, core values, and guiding principles for social policy reforms. Policy makers need to ask two questions: What level of social services and protection should the state aim to finance, and how much of the burden should be shouldered by individuals and households? And what should be the roles in service provision of government, the private sector, and communities? In China, the answer to the first question will depend on the amount of fiscal resources the government intends to devote for this purpose. Extending the current level of urban services and social protection to rural residents and migrants—well over half the population—will itself impose a significant burden on fiscal resources. Therefore, additional government-financed social services should be undertaken with considerable caution and only if they do not strain the fiscal system (see chapter 7). At the same time, international experience suggests that social spending accounts for the bulk of incremental public expenditure as countries get wealthier. China will want to strike the appropriate balance and avoid the current predicament that many advanced countries face—a fiscal crisis that has arisen, in part, from financially unsustainable entitlement programs.

### **Achieving equality of opportunity**

Providing equal access to quality, affordable education and health care for all by 2030 requires action in several areas. In the first place, the challenge will be to continue

fiscal and structural reforms that ensure the wider framework for equitable and sustainable service delivery. But these will need to be accompanied by sectoral reforms that promote opportunities to build human capital and allow people to be healthy and productive across the life cycle.

Based on a vision of China's future social policy, the government will need to put in place the *appropriate fiscal measures*—increased aggregate social public spending commensurate with the level of development, lower payroll taxes to increase labor intensity in production and encourage formal sector employment, and stronger fiscal equalization across local governments at the subprovincial level (see chapter 7).

In addition to fiscal measures, several *structural reforms* in the social sectors can improve the efficiency of service delivery and help achieve equality of quality. First, human resource management should be reformed for service providers, through effective monitoring of performance on key outcomes, strengthening the link between provider performance and career progression, providing incentives that discourage rent-seeking, and ensuring that the best health providers and teachers also provide services to underprivileged urban and rural areas (for example, through rotation policies for teachers and outreach programs for hospital doctors to periodically provide services to poor patients).

Second, nonstate provision of social services should be increased, and different stakeholders (communities, commercial and nonprofit providers, and even households themselves) given greater co-responsibility. The state cannot and probably should not “do it all” as it seeks to provide a wider and deeper range of social services and social protection programs. Involving the nonstate sector will open up new possibilities, from private hospitals and clinics, to private pre-schools and universities, to involvement of private insurers and third-party administrators. In some fields, such diversification may also benefit from enhanced partnerships with international firms. New approaches to financing will also be required. Greater plurality of service provision also offers a greater

role for communities and the nongovernmental sector, often with financial support from the state. The experience of OECD countries suggests a range of innovations in unbundling financing, provision, and regulation of social services that China could consider. At the same time, achieving plurality of social service provision while ensuring quality will require the state to assume a greater role in licensing, accreditation, oversight, and regulation of providers.

Third, integration of ICT in social service and social protection delivery systems should be increased. This integration could include electronic medical records, telemedicine, distance learning, and high-functionality smart cards that allow individuals easy access to their key medical data from anywhere. A good ICT system will permit exchange of data and financial information across the country, dramatically reducing administrative costs and costs to the population. But realizing such gains requires harmonization of data standards and systems to end the current situation of major investments by local authorities in IT systems that are incompatible with one another.

Fourth, intra- and intersectoral coordination is needed for policy development and delivery of social services. As economies age and grow richer, effective social services increasingly require better cross-sectoral coordination. For example, within health services, coordination of care across levels of service is critical for managing noncommunicable diseases, and for education the boundary between technical and vocational education and training and academic streams becomes more porous. Across sectors, new needs such as long-term care require inputs from social welfare, health, and other agencies, while labor policy for older workers requires coordination of social security and training initiatives. Developing an administrative system of cross-sectoral coordination requires the transformation of government functions and responsibilities.

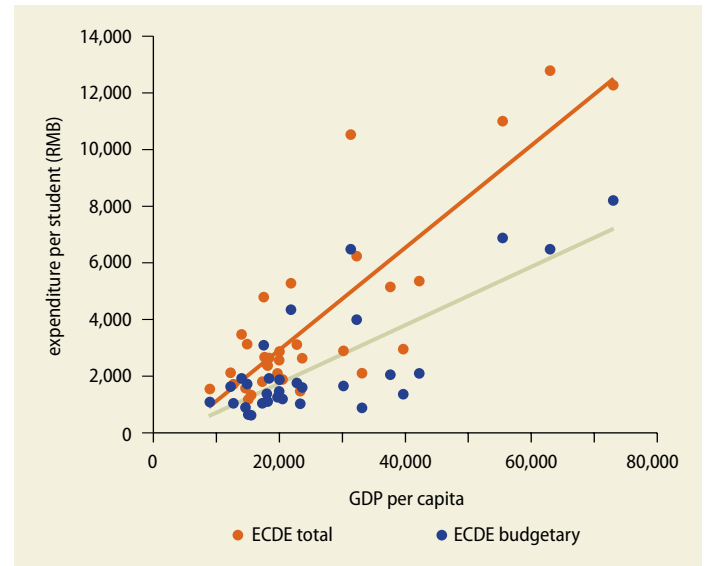
These structural reforms need to be complemented by a range of sector-specific policies to promote equality of quality from young children to the elderly.

**Education.** A key priority in improving equality of quality will need to be an equal start in life for all children, especially in the areas of early childhood nutrition and education for rural and poor children. These are some of the highest return social investments in the next generation. The government should prioritize nutritional supplements for children ages zero to three and for pregnant or lactating women in all poor rural counties, especially in the central and western provinces, and for migrant children in urban areas. The cost of such a program is not prohibitive—this intervention is in fact very cost-effective in light of the high returns to health, cognitive development, and productivity. Over time, the focus of child nutrition efforts would increasingly need to shift to stemming the incidence of childhood obesity, which is already approaching Western levels in a number of China’s coastal cities.

Similarly, *early childhood education* for three- to six-year-olds is another relatively low-cost, high-return public investment. In the coming five to ten years, the program should focus on children in poor rural counties, gradually expanding to rural areas in central and western provinces, and migrant children in urban areas (figure 6). The financing can come through supply-side subsidies to providers and fee exemptions for targeted households. Another option could be the use of conditional cash transfers (CCTs) targeted to poor households. CCTs have proven to be effective in other developing countries, and pilots in China indicate that they have significant potential.

Another priority will be extending affordable access to *secondary education*. High fees are a key reason why a significant portion of rural children fails to enter senior secondary schools (fees are high because schools are encouraged to use them to make up for inadequate financing through local government budgets). Yet, given the needs of the Chinese economy over the next two decades, and given the experience of countries that have moved from middle to higher income, providing free senior secondary level education will be essential. China has set itself a 90 percent senior secondary enrollment target

**FIGURE 6** Unequal spending on early childhood development across Chinese provinces



Source: World Bank staff estimates based on data from Chinese authorities.  
Note: ECDE = Early Childhood Development and Education.

by 2020—comparable to Korea’s senior high enrollment rate in 2000. Following the example of the abolition of fees for primary education, a similar policy is needed for senior secondary schools in rural areas, together with a parallel initiative for poor and migrant children in urban areas. This could be financed in part by the incremental public funding that China has already committed in its Education Law (4 percent of GDP, around half a percentage point above current levels).

**Health.** Just as in education, much needs to be done in health. Deepening health reform is one of China’s biggest social challenges in the coming years. At the same time, Chinese and international experience demonstrates that health sector reform is one of the most complex and politically challenging reforms that governments confront, a challenge exacerbated in China by the rapid pace of population aging and the explosion of noncommunicable diseases, which in 2009 accounted for more than 80 percent of all deaths in China and 82 percent of the total disease burden.

A critical challenge is reorienting China’s three-tier health delivery system away from the current hospital-centric model to one

that manages care across levels of the system with a revitalized *primary health care system* playing the key role in care coordination. Primary health care, in turn, will need to have stronger links to the broader health delivery system to manage the epidemic of noncommunicable diseases and to control the escalation of health service costs. Up to 85 percent of patients with noncommunicable diseases need primary care because their conditions are best controlled with self-management. This care can—and should—be provided and managed by a strong primary health care system that is well-coordinated with the broader health care system. Greater reliance on primary health care will mean less demand for hospital-based care, which has been a key factor behind the major cost escalation experienced in the Chinese health system in recent years. Unnecessary admissions and over-treatment have made hospital costs in China a significant outlier compared to a range of OECD countries.

The necessary reorientation to primary and preventive care in China will be difficult to achieve without further progress on hospital reform. Fundamentally, it will be necessary to change the current incentives for public hospitals and doctors to behave like private providers. The key reform will be setting firm budget constraints on public hospitals through a more active purchasing role for health insurance agencies and the use of information to monitor and provide better incentives for improved provider performance. Evaluating the experience in improving hospital governance and management will also be important. Given the diversity in hospital organizational reforms across China, it is necessary in the short run to have more rigorous evaluation of different models and the lessons from them.

Reforms of the health delivery system will be effective, however, only with a broader reform of the incentive structure for health care providers, including *health financing and provider payment* arrangements in particular. An initial step will be to raise the pooling level of the health insurance system to harmonize benefits across different schemes, promote administrative efficiency,

and facilitate portability of entitlements. Greater pooling would also pave the way for greater integration of schemes across rural and urban areas. In this process, health insurance agencies could gradually ensure value and quality of health services, including through contracts with public and private providers. More broadly, the experience with the New Cooperative Medical Scheme and urban residents' health insurance schemes points to the need to consider over time an appropriate balance between financing from health insurance contributions and from the budget. Developments in the rest of Asia point to an increasing role for general revenues in financing health care, especially for the poor.

In parallel, provider payment reform must be accelerated to increase the incentives for all health providers to produce efficiency and quality. A number of efforts have been made to control costs in the health system, including drug lists, zero markup policies, and controls on the use of costly medical equipment and procedures. But without a more fundamental shift away from the current provider payment systems, the basic provider incentive structure will continue to drive inefficiencies and inappropriate care. Changes in incentives will need to be complemented with a stronger emphasis on professional ethics among providers, and tools for greater accountability of providers to patients.

Going beyond the health system, China's aging population will increasingly require *aged and long-term care (ALTC)*, as the 4-2-1 extended family structure places greater care burdens on adult children. To date, the policy framework for ALTC is limited, and its multisectoral nature has posed institutional challenges to developing a coherent approach. Nor are there enough appropriately trained personnel to provide required services. Given the early stage of development of ALTC in China, a first need is deciding on the appropriate mixture of public and private financing and provision and the role of the public sector for different population groups. These decisions would benefit from extensive piloting and local experimentation. Another key issue will be the institutional and coordination

arrangements for the ALTC sector, given the number of public and private actors involved. Once these questions are decided, a framework for ALTC can be developed that involves mixed models of providers (state, nonstate, communities, and households) and ensures that basic standards of care are met.

### Achieving flexicurity

An increasingly open economy with greater labor market flexibility brings greater risks for workers during and after their working lives. To help them manage these risks requires flexicurity—labor market and social security institutions that promote flexible and efficient allocation of workers and also ensure they have decent working conditions and adequate social protection during and after their working lives.

A first element of flexicurity is a set of *labor market policies and institutions* that promote an internationally competitive workforce in which workers share in the benefits of growth and also enjoy some social protection. This would first require eliminating the remaining barriers to labor mobility—the most critical measure being phased reform of the *hukou* system (see chapter 3). To improve labor mobility, segmentation among social protection programs needs to be reduced to promote an integrated and seamless social security system. Social security entitlements should be portable within and across provinces, and with central government involvement reducing interprovincial disparities in social insurance protection. In parallel, labor market institutions will be needed to support wage determination that is driven less by administrative direction and more by collective bargaining where the interests of workers and employers are balanced. Finally, by 2030, as people live longer and healthier lives, the retirement age will need to rise gradually. Flexible work arrangements could make continued work more attractive, and life-long learning opportunities for workers would help reduce the depletion of human capital with age.

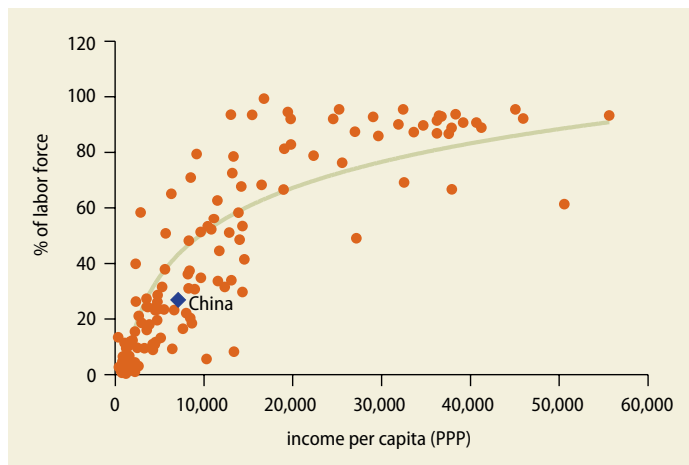
The second element of flexicurity is a *robust but sustainable social protection*

*system*. Since the 1990s, China has put in place a comprehensive package of social protection programs at a speed that is unprecedented internationally. These include pension programs for urban and rural residents; pension, unemployment, sickness, workplace injury, and maternity insurance for urban sector workers; and a national social assistance scheme that now covers more than 70 million people, among others. But there remains a big unfinished agenda to deepen the reforms already introduced.

The first item on this agenda is the need to *expand coverage of the pension system* among rural residents, migrants, and other urban informal sector workers. Until very recently, China had pension coverage well below that expected of a country with its per capita income (figure 7). Low coverage has been driven by the absence (until very recently) of a national rural pension program, the very low participation rates of migrant workers in urban schemes, and the absence until mid-2011 of a pension scheme for urban informal sector workers (30–40 percent of the urban labor force). Current policies commit to comprehensive coverage of the pension system by 2020, and new schemes for rural workers and urban residents represent a major step in this direction. To achieve comprehensive coverage, the authorities could consider a system with three pillars: a basic benefit pillar that provides minimum poverty protection to the elderly through noncontributory social pension benefits (this would build on the general approach being taken in the new rural and urban residents' pension schemes); a contributory pillar with a mandatory notional defined contribution scheme for workers with wage incomes (modifying the current urban pension system) and a voluntary defined contribution pension savings scheme for urban and rural residents with nonwage incomes; and a supplementary savings pillar for the urban and rural population providing voluntary occupational and personal pensions that may supplement other pension benefits.

The second priority is the need to ensure the *fiscal and financial sustainability* of existing urban pension systems in order to ensure

**FIGURE 7 Pension coverage rate of the active labor force, various countries, mid-2000s**



Source: Holzmann, Robalino, and Takayama 2009.

a credible commitment to basic security in old age. Pension reform will need a robust financing strategy that ensures basic benefits consistent with fiscal constraints. A key step is phased increases in the retirement age in line with higher life expectancy, and gradually harmonized retirement ages for men and women. In addition, there is a need to address the issue of inadequate returns on contributions in the current urban system, while controlling investment risks (for example, through a notional defined contribution approach). Pension reform will also require a strategy for financing the legacy costs of the urban system. Pension liabilities for those under the previous pension regime—so-called legacy costs—are estimated to range from 82 to 130 percent of 2008 GDP, depending on assumptions. An appealing option for financing this obligation would be to gradually pay it down through incremental fiscal resources, while all the time ensuring that assets accumulating in pension funds are properly managed and yield rates of return adequate to meet future liabilities. This approach in turn would create space for future reduction in

pension contribution rates to enhance the competitiveness of Chinese workers. Finally, voluntary supplementary saving arrangements will need to be expanded for those workers wanting pension replacement rates above the basic level.

The third priority is the *reduction of fragmentation* across different subsystems of the pension system. The integration agenda has both a spatial dimension and a cross-program dimension. Across space, greater portability in the short run would be complemented by pooling funds at higher levels over time, first at the provincial level and ultimately at the national level. Across programs, within the urban schemes, PSU and civil servant schemes should be gradually merged with the urban workers' scheme in line with emerging global practice. In addition, national policy can build on the growing provincial practice of merging rural and urban residents' schemes so that mobile workers have a more harmonized and ultimately integrated system as they follow productive work opportunities.

Finally, there is a broader need to build a more coherent social protection system, where the individual elements are aligned and the system is more than the sum of its parts. The Chinese government has committed to guaranteeing the poor a decent living with access to public services, including education, health, and housing by 2020, and the social protection system will play an important role in this process by assuring a minimum standard of welfare for the poor (State Council 2011). In addition, the medium- to long-term agenda in social protection will require greater coherence across insurance, social assistance, and other welfare and antipoverty programs to ensure not only that the poor are protected but also that the near poor are not subject to "poverty traps," where low-wage earners are worse off than those receiving social assistance.

## Chapter 7 Strengthening the Fiscal System and Aligning It with the Evolving Role of Government

Over the past two decades, China has reformed its fiscal system significantly. A major overhaul in 1994 focused on enhancing revenue mobilization and revamping national-provincial fiscal relations. A new tax system with a value added tax at its core laid the foundations for a significant increase in the ratio of revenue to GDP. The reforms also launched important changes in China's system of intergovernmental fiscal relations. Changes in tax assignments increased central government revenues, laying the foundation for larger and more rules-based transfers to subnational governments to help tackle fiscal disparities. The combination of these reforms put public finances on a solid footing, allowed China's government spending to grow to levels comparable with other economies with similar incomes, and paved the way for increased social and environmental expenditures.

### Key fiscal challenges

Now a key challenge is to further strengthen China's fiscal system, improve fiscal sustainability, and align it with the evolving role of government to support the delivery of a large economic, social, and environmental agenda by 2030. For example, in the economic sphere, improvements in the efficiency and independence of the financial system will mean that some of its quasi-fiscal functions will need to be transferred gradually to the fiscal system. Additionally, as state enterprises are subjected to hard resource constraints and better credit evaluation criteria, their restructuring, closure, or ownership diversification may require budgetary support. A strong fiscal system will also be central to China's objectives to meet domestic and external economic shocks as and when they arise—the 2009–10 fiscal stimulus package being an example of what can be achieved when an economy has adequate

fiscal space. Finally, although the share of public expenditures on social and environmental services has climbed in recent years, the large social and environmental agenda over the next two decades will entail further increases in public spending.

At the same time, it is important that China preserve fiscal stability to protect against future macroeconomic shocks. The demand for additional budgetary resources to address social and environmental needs will arise at a time when China's total public spending is already high relative to GDP, and the emergence of structural budget deficits could potentially erode available fiscal space and pose a risk for future fiscal stability. So the challenge China faces is to contain the level of government expenditures as a share of GDP while at the same time changing the composition of those expenditures to address evolving strategic priorities. This will require fiscal discipline as well as budgetary procedures that allow reallocation of resources over time from lower- to higher-priority government programs. How China deals with two key factors—its decentralized fiscal system, and its public finance management system—will be central to achieving these objectives. Consider each in turn.

China is among the most decentralized countries in the world when it comes to government expenditures, but government revenues are highly centralized. Its subnational governments account for around 80 percent of total budgetary expenditures and bear responsibility for the provision of vital public services including basic health and education, pensions, unemployment insurance, disability, housing, infrastructure maintenance, and minimum income support. But local government revenues—available through the tax revenue-sharing mechanism and intergovernmental fiscal transfers—are not commensurate with local government expenditure responsibilities. On average, these “revenues”

from the center finance 40–50 percent of the expenditure burden of local governments. Moreover, provincial governments have considerable discretion in transferring resources to subprovincial governments, and it is at the local level in poorer jurisdictions that the imbalance is most acute between available resources and responsibility for public service delivery.

While intergovernmental transfers are common in most large countries, China is unusual in the discretionary power wielded by provincial governments and the fiscal stress experienced at the lowest level of local government responsible for service delivery. In pursuit of rapid growth and motivated to “collect resources to do big projects,” subnational governments have identified innovative ways to raise resources locally. China’s subnational governments derive substantial revenues from fees of various kinds, the sale of land use rights, and taxes on real estate transactions. Distorted incentives to develop land can lead to corruption, forced land acquisition, inefficient use of land, and abuse of government power. Because local governments are prohibited from borrowing directly from banks, they have established special purpose vehicles that are free to borrow for infrastructure and urban construction, financed principally by local land sales and bank loans, often with land as collateral. Such activities have contributed to systemic risks in the financial sector (see chapter 3).

Arguably, the availability of revenue and borrowing outside the general budget has fostered some degree of local government independence (especially because most transfers from higher levels of government are for earmarked expenditures). But not only have locally generated revenues led to distortions in land and financial markets, they may also have exacerbated inequalities. Some poor provinces, townships, and villages may not be able to raise enough resources locally to provide quality services, and poor households cannot afford their high cost (see chapter 6).

Finally, *government financial management, fiscal transparency, and accountability* are key issues. China currently runs four budgets—the general budget (comprising the

bulk of government expenditures, including center-provincial revenue sharing and resource transfers), the government-funded budget (comprising off-budget revenues and expenditures), the state capital budget (financed by dividend payments from state enterprises), and the social security fund budget. The absence of a comprehensive budget makes it difficult to assess or alter the aggregate allocation of government resources across priority sectors and programs. Ministries have substantial latitude in allocating earmarked transfers to the provinces. Few budget details are made available, and there is little oversight by higher authorities or discussion about implicit intra- or cross-sectoral priorities. Moreover, little information is available on whether governments spend money according to budgetary allocations (except at the broadest levels), whether government expenditures and programs lead to the desired outputs, and whether the outputs lead to the expected outcomes. Internal audits focus on detecting malfeasance, not program performance. Additionally, the budget cycle and the expenditure cycle are not synchronized. Thus, even though the fiscal year starts at the beginning of the calendar year, the budget is not finalized until the end of the first quarter of the calendar year. This delay forces government departments to start program implementation before budgetary authorization. While that may seem a small procedural matter, it tends to reinforce the view that the budget itself is a formality with little operational significance for local governments and central ministries.

## Proposed reforms

Over the next two decades, then, China’s challenge is to reform its fiscal system in the following four ways: first, to contain government expenditures as a share of GDP but change their composition in line with China’s new challenges, with higher allocations for social and environmental public investment and recurrent expenditures; second, to improve the efficiency of revenue mobilization, including through changes in the structure of revenues; third, to reform intergovernmental fiscal relations, including



through better alignment between resource availability and expenditure responsibility at different levels of government; and, fourth, to strengthen the management of government finances and improve the efficiency of public expenditures.

### **Containing growth of government expenditures while altering their composition**

The composition of government spending will need to evolve to reflect China's changing development challenges. Most notably, the next twenty years will see a pressing need to further increase spending on health, social protection, and environmental protection. These increases will be important to provide social security and a basic set of public services and to build human capital and expand opportunity (see chapters 5 and 6).

The amount of public spending relative to GDP for social and environmental protection will depend on choices the authorities make in the current and upcoming five year plans. While China's reported spending on environmental protection appears to be in line with OECD and upper-middle-income country standards, the significant backlog and new challenges in this area could well require a further scaling up of such expenditures over the next two decades. In health, however, the scaling up of China's public expenditures will need to be significant. If high-income countries are used as benchmarks, the share of public spending on health in GDP can range from 4 percent (in Switzerland) to near 8 percent (in Iceland). China's current spending is about 2.5 percent of GDP.

Using these and other international benchmarks as reference, China could potentially aim to increase public expenditures by 1–1.5 percentage points of GDP for education, 2–3 percentage points for health care, and another 3–4 percentage points to fully finance the basic pension pillar and to gradually meet the legacy costs of existing pension obligations. These add up to an incremental fiscal outlay of around 7–8 percent of GDP, a reasonable estimate to bring China's aggregate "social expenditures" by 2030 to near the lower end of the range of high-income countries. Part of

these incremental expenditures could be met through efficiency improvements in current expenditure programs and the rest through reallocation away from lower-priority investment budgets (such as infrastructure).

Managing such a fundamental shift in government expenditure composition by 2030 while containing its total share in GDP will prove to be a major challenge. China's total government budget and off-budget expenditures as a share of GDP are about the same as some other upper-middle- and high-income countries. It would be inappropriate to push it higher. At no point should China fall into the "high-income trap" by expanding entitlements to the point that they become fiscally unsustainable in the long run. To prevent such an occurrence, a debt and fiscal sustainability analysis that accounts for contingent liabilities and considers alternative stress tests should be required as a condition for the approval of each annual budget.

### **Improving the efficiency of revenue mobilization**

Since the 1994 fiscal reforms and subsequent improvements, China has been very successful in mobilizing revenues. But it has significant untapped potential to increase the efficiency of its tax structure. These are concentrated in six areas.

First, higher taxes or prices on energy (carbon), water, natural resources, and pollution will encourage resource conservation while improving environmental outcomes and generating revenues (see chapter 5).<sup>32</sup> Second, raising SOE dividend payments to the general budget (perhaps through the intermediary structure of state asset management companies; see chapter 3) will spur more efficient investment planning in SOEs while also generating significant budgetary resources.<sup>33</sup> Third, additional revenues can potentially be mobilized from personal income taxes. These taxes make up only 1 percent of China's GDP, compared with an average of 5.85 percent in high-income countries.<sup>34</sup>

Fourth, enhanced taxation of motor vehicles and parking (as a near-term option) and congestion pricing (as a longer-term option) would lead to more efficient and livable cities

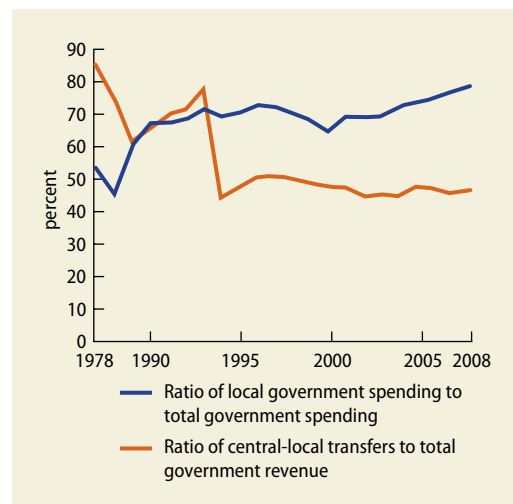
and better environmental outcomes. Fifth, property taxes will encourage more efficient use of land while also reducing urban sprawl and lowering local government dependence on funds from land acquisition. While promising, property taxes are unlikely to become a major source of overall revenues for some time; very few developing countries raise more than 1 percent of GDP from this source (Bahl 2009). Sixth and finally, the government could capture important economic rents by auctioning public resources such as bandwidth user rights, franchises for public utilities, and exploitation rights for natural resources. Not only will such measures raise government revenues, they would prevent politically powerful interests from capturing these economic rents for free.

### **Make resource availability commensurate with expenditure responsibility at all levels of government**

Local governments are responsible for 80 percent of government expenditure responsibilities but receive only slightly more than 40 percent of tax revenues (in the form of transfers from the central government) (figure 8). The recentralization of revenues in 1994 strengthened the central government's capacity to redistribute in favor of poorer provinces. The most serious disparities in resource availability, however, occur at the subprovincial level, which was not included in tax-sharing arrangements in 1994 and which is responsible for more than 50 percent of total public spending. Fiscal transfers to subprovincial levels remain largely at the discretion of powerful provincial governments and are subject to negotiation, leading to high disparities across subprovincial local governments.

One way to deal with the disparity in government resource availability across and within provinces would be to introduce rules governing resource transfers from the provincial to the township and municipality level. Increasing the autonomy and capabilities of local governments is a common trend in other countries, even in unitary states. But in China, such increases will have

**FIGURE 8** Local governments: large expenditure responsibilities, inadequate revenues



Source: NBSC, various years.

to be implemented in a manner consistent with ongoing discussions regarding reforms in the number, structure, and hierarchy of subnational governments. In addition, it may be appropriate to selectively raise some expenditure responsibilities to higher levels of government or to pool their financing at these higher levels. Scope for such reforms lies largely, but not exclusively, in health and pension spending (see chapter 6). Ultimately, any such solutions will need to be guided by a clear understanding of the functions and responsibilities of subnational governments in China.

Subnational governments will be able to increase their fiscal autonomy if they are given increased scope to raise their own revenues. The high disparity in development across different countries, townships, and villages warrants some flexibility in revenue assignment. China could consider first granting new sources of “own” revenues—such as property taxes and capital gain taxes on agricultural land acquired for urban development (see chapter 3)—to subnational governments in relatively developed cities to replace revenues from land acquisition. This step would free up fiscal resources at the center for additional transfers to poorer regions and help bring a larger share of subnational financing on-budget. In addition, citizens are likely to

hold officials more accountable if local public services are financed to a significant extent from locally imposed taxes.

Increasing the fiscal autonomy of local governments can be supplemented by allowing them to prudently expand on-budget borrowing. In the past, local governments have circumvented the rule against borrowing by establishing Urban Development Investment Corporations and other special purpose vehicles that can borrow using land as collateral. Total local government debt in 2010 reached as high as 26 percent of GDP, according to the National Audit Office.<sup>35</sup> Such indirect borrowing played a significant role in financing infrastructure investment and thus supported rapid industrialization and urbanization. But lack of transparency and regulation has created potential risks to fiscal sustainability,<sup>36</sup> and such quasi-fiscal financing also obscures the true size and composition of public spending and revenues. The government has recently introduced a pilot program that allows selected local governments to issue bonds with a guarantee from the Ministry of Finance. Once lessons are learned from this experience, the program can be expanded to other provinces. Over time, subnational governments should be allowed to borrow from the domestic capital market on the strength of their own creditworthiness but subject to a prudential regulatory and institutional framework for subnational debt.

### **Improve government financial management**

China could introduce a number of public finance management reforms to improve the efficiency and effectiveness of public finances, but here we just mention nine possibilities.

- First, it could bring all off-budget government revenues and expenditures on budget and prepare a comprehensive budget that combines the general budget, the government-funded budget, and the state capital operating budget, and includes current and capital expenditures together with transfers.
- Second, China could complete the ongoing move from five to three (budgetary) levels of government in a manner consistent with reforms, also under way, to the structure of subnational governments. This step is a key toward streamlining the size of government, improving the efficiency of government services, and empowering county governments.
- Third, to discipline the budgetary process, the budget and expenditure cycles need to be synchronized by either finalizing the budget two months before the start of the fiscal year or moving the start of the fiscal year to April 1.
- Fourth, independent agencies should be used to conduct rigorous performance evaluations of government programs on a random basis. These evaluations will help provide feedback on the allocation of resources and identify programs that are delivering the right outcomes and those that are not.
- Fifth, treasury management and budget accounts, together with cash management, could be strengthened to streamline disbursements, introduce fiduciary controls, and prevent fraud and corruption.
- Sixth, a strict tally could be kept of contingent liabilities accumulating in the banking sector, state enterprises, and local governments and conduct regular fiscal sustainability analyses, accounting for these liabilities under different stress scenarios.
- Seventh, all levels of government should complete the process of bringing all public revenues and expenditures on budget in accordance with the latest Ministry of Finance regulations.
- Eighth, the central government should change the criteria for performance evaluation of local officials from an emphasis on growth to a focus on a “harmonious society.”
- Ninth, and perhaps most important, all levels of government should publish and make transparent all budgetary revenues and expenditures from aggregate sectoral allocations and outturns to project level allocations and outturns. In the experience of other countries, this disclosure has been one of the most powerful ways to improve expenditure efficiency and ensure that budgetary resources are used in accordance with budgetary priorities.

## Chapter 8 Achieving Mutually Beneficial Relations with the Rest of World

China has benefited enormously from globalization and by opening to the global economy. Open trade policies worldwide helped sustain global demand for Chinese products just as opening its market has sustained Chinese demand for global products. China's openness to foreign capital helped improve domestic economic efficiency by encouraging competition within China and providing access to cutting-edge technology. China imported foreign practices in a host of areas ranging from banking regulation to product standards. And substantial inflows of foreign direct investment helped drive productivity in domestic firms through competition, workforce training, and demonstration of new technologies.

Other countries have similarly benefited from China's rise. The rapid growth of China's exports has been largely driven by its participation in the global production value chain; nearly half of its exports are processing trade—imports that are further processed and then exported—and multinational companies that have invested in China produce more than half of its exports. Therefore, China is part of a broader success story in which enterprises from many countries and territories have benefited, directly or indirectly. Furthermore, China is now not only the world's second-largest import market, it is also its fastest-growing. Its strong demand for raw materials, advanced machinery, and consumer products has benefited developed and developing countries alike.

At the same time, China's relations with the world have changed over the past decade. It is now the world's second-largest economy and its largest exporter. Its foreign exchange reserves are the highest in the world, and they provide a large amount of sovereign debt financing for the United States and European countries. China's economy is now so large that its domestic policies have an impact on the global economy. If China had not implemented such a strong fiscal stimulus package in 2009 and grown as robustly as it did during the recent global financial crisis, the

global effects of the Great Recession might have been even worse than they were. In addition, China's outward foreign investment is playing an increasingly important development role in developing countries.

Going forward, this mutual dependence between China and the world economy will only increase. China's large and growing middle class will become an even more important source of global demand, the country's industrial upgrading and expanding trade will lead to further specialization and increased efficiency in world markets, and its increasingly educated labor force will become a force for global innovation. It is now in the world's interest to see a growing and thriving China that will contribute a positive force in support of global economic recovery and sustainable global growth. The world outside China will change dramatically too. In 2030 the contribution of other developing countries to global growth will exceed 40 percent, far more than the contribution of all (current) high-income economies together, which will contribute roughly one-third. This shift will dramatically change China's relations with its trading partners and its comparative advantage relative to other countries.

With this backdrop of mutual dependence, China's strategy toward the world will need to be governed by a few key principles: open markets, fairness and equity, mutually beneficial cooperation, global inclusiveness, and sustainable development. And China should help shape global governance structures that will accommodate its own evolution while promoting global growth and providing opportunities for the development of other countries. As with other large economies, China's long-term interest lies in global free trade and a stable and efficient international financial and monetary system. China benefited enormously from entering the WTO and is now an important stakeholder in the existing global trading system. Similarly, it will want to see stable international financial markets and a well-regulated international monetary system supported

by stable currencies and underpinned by sound monetary policies. And finally, to ensure sustainable global growth, it is in China's interest to work toward a global climate change agreement that is fair and effective.

### Key issues in China's external economic relations

Notwithstanding slower growth in the advanced economies for the foreseeable future, greater integration with the global economy will further increase China's international competitiveness in a number of ways: through the specialization of Chinese manufacturing firms in the international value chain and greater economies of scale; increased specialization and productivity in services, where China would benefit from more international competition; continued access to international technologies and greater participation in the global R&D network; and increased inward and outward foreign direct investment that would build on the comparative advantage between China and its trading partners.

The hard fact is that unless China moves up the value chain, the future *contribution of exports to economic growth* will decline for three reasons. First, China's penetration in key markets is already large, and further expansion of China's market share is limited within the current export structure. Second, rising costs for unskilled labor are changing China's international comparative advantage within the export sector and will require China to move up the value chain to remain internationally competitive. And, third, reforms in input markets and natural resource pricing designed to correct distortions will help increase the efficiency of resource allocation, but, if labor productivity does not increase to compensate for higher production costs, international competitiveness will erode in traditional energy- and resource-intensive industries.

As China moves up the value chain, it will inevitably have to manage rising trade and investment tensions (in part, because of China's sheer size). Increasingly, China will compete internationally in the same product

space as advanced countries and other emerging markets. Reflecting these trends, the number of disputes in the WTO involving China has accelerated in recent years and currently stands at 107 (78 as third party, 21 as respondent, and 8 as complainant). These are expected to rise in the short term. The share of developing-country antidumping actions against China (as a share of their total actions) increased from 19 percent in 2002 to 34 percent in 2009.<sup>37</sup>

With services rising as a share of GDP, productivity growth in services will become increasingly important in maintaining overall rapid growth, and this growth can be boosted by further opening the services sector to global competition. Moreover, a more efficient services sector will also advance the competitiveness of manufacturing as China moves up the value chain. In stark contrast to the important position China holds in global trade is its virtual lack of *presence in international financial markets*. In the next two decades, Chinese firms are likely to become regional and global companies, and they will need to invest and raise funds abroad. The international presence of Chinese commercial banks and other financial institutions that have close relations with Chinese firms can help in this process.

Moreover, China's emerging multinationals will face new challenges as they seek to become global players. China's *outward flows of foreign direct investment* have climbed rapidly over the past decade. Even as the stock of China's foreign investment remains a minuscule share of the global stock, efforts by Chinese companies to invest in other countries have already faced market access restrictions in several countries, and these tensions are likely to rise. Such restrictions are misguided, because Chinese multinationals can play an important role in a host country's development, by transferring technology and by integrating business practices and organizational approaches.

China faces other challenges in its external accounts. The combination of its current and capital account surpluses has resulted in record foreign exchange reserves, exposing China to notably increasing risks from any depreciation of the U.S. dollar or the euro

and to limits on its macroeconomic policy space to contain inflation and domestic overheating.

As its interactions with the global economy continue to intensify, China will need to continue to protect its economic security and respond properly to risks that arise in other countries. The opening of the capital account as part of a possible initiative to internationalize the renminbi will, however, increase international capital movements and sudden changes in asset prices. China will also be more reliant on imported energy and raw materials, placing it at greater risk of supply disruptions arising from sharp price movements in global commodity markets. And the wide and increasingly deep application of the Internet and other information technologies will increase risks regarding information and financial security.

Finally, China is becoming an important source of development assistance to other developing countries, but its conditions, procedures, and approaches differ noticeably from those of some international donors. These differences did not matter when China's official development assistance was still small, but it is beginning to matter now and will be of increasing importance in coming years. China's processes—on tying aid, transparency of terms and conditions, and application of environmental and other safeguards—will come under increasing scrutiny as its development aid program grows in size.

## Recommendations for achieving mutually beneficial trade and investment relations

***Improving the external economic and trading environment.*** Given its high trade-to-GDP ratio relative to other large economies, the environment for international trade is crucial for China's future development, so promoting an open global trading system should remain an important policy objective. In the absence of a successful Doha Round, a multitude of bilateral and multilateral free trade agreements have emerged around the world (most notably in East Asia), and the number of preferential agreements has

increased from about 70 in 1990 to almost 300 today; this poses a major challenge for China's future trade because Chinese exporters are increasingly excluded from the same preferential access as other exporters to key international markets.<sup>38</sup> China should adopt a strategy of emphasizing both multilateral and regional arrangements—abiding by and protecting existing multilateral agreements as well as pushing for further opening of global markets using multilateral channels. It should also proactively push ahead with the negotiations for accession to the WTO government procurement agreement as part of its effort to improve procurement procedures, enhance transparency, reduce costs, and enhance quality in government purchases. At the same time, China needs to proactively participate in regional trade agreements that lower trade barriers at and behind borders and introduce trade facilitation arrangements. Where possible, China should advocate “open regionalism,” which requires that tariff levels agreed among regional partners be offered to other nonmember countries on a most-favored-nation basis.<sup>39</sup>

***Further opening of the services sector to international trade and investment.*** Notwithstanding rapid opening up of China's service sector since its entry into the WTO, its policies on services trade remain more restrictive than policies in many developing countries and much more so than in high-income countries.<sup>40</sup> Further opening up the services market will help introduce advanced technology and managerial expertise, promote reforms, increase competition, and ultimately enhance the efficiency and competitiveness of China's service sector while, at the same time, providing China leverage in international trade negotiations to further open the services markets of trading partners.

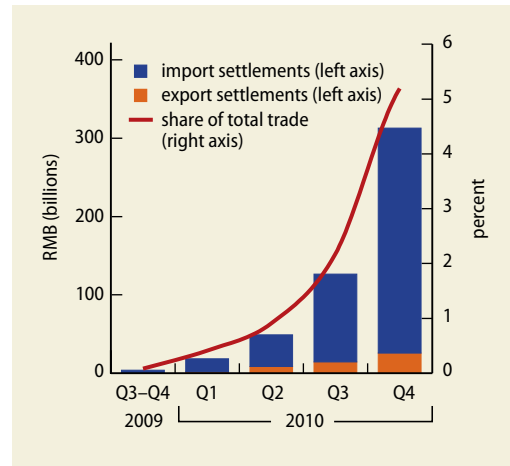
***Promoting outward FDI.*** By becoming global players, Chinese companies can capture higher value added segments of the global production chain and exploit economies of scale. It can also be an effective strategy in anticipation of increased scarcity of low-skilled labor within China. Moreover, increased outward FDI can limit the

continued expansion of foreign exchange reserves (in part to temper international protectionist sentiment). To facilitate the globalization of Chinese firms, the government should further promote outward FDI and perhaps even liberalize outward flows of portfolio capital. Bilateral investment protection agreements could help create a better investment environment for Chinese enterprises investing abroad. Given doubts about foreign investments made by Chinese state-owned enterprises, the focus should be on promoting outward FDI by private enterprises, thus enhancing their ability to operate internationally and, over time, to become global companies.

China should also consider supporting a multilateral investment agreement that liberalizes FDI flows, provides basic guarantees, and includes binding dispute resolution mechanisms. China's contribution toward the shaping of such a multilateral agreement would be to ensure that the terms would be appropriate for developing-country circumstances. Achieving stronger protection and easier access for all investors, including Chinese investors, would require granting reciprocal concessions to foreign investors in China, implying a dismantling of most restrictions on FDI inflows—something that would also be in China's long-term interest.

*Steadily pushing ahead with the internationalization of the renminbi.* Internationalizing China's currency will bring important long-term benefits for China. The renminbi is already being used increasingly as the currency for cross-border settlement (figure 9). If a substantial portion of China's assets and trade were denominated in renminbi, then fluctuations in the dollar-renminbi exchange rate would have few implications for domestic stability. But internationalizing the renminbi requires opening the capital account, and that can be done only after China has in place a stable financial sector with improved corporate governance in banks and other financial institutions; well-functioning legal, supervisory, regulatory, and crisis management frameworks; deep financial markets with credible indirect monetary controls to manage liquidity; and an exchange rate that

**FIGURE 9** The renminbi is increasingly being used as the currency for cross-border trade settlement



Source: People's Bank of China.

Note: China's total exports 2010: \$1.75 trillion; China's total imports 2010: \$1.52 trillion.

is made flexible over time. The many prerequisites for an open capital account was the main reason why many European countries took nearly 20 years after the collapse of the Bretton Woods system to achieve full capital account liberalization.<sup>41</sup> In the case of China, therefore, a relatively prudent approach, stretching over many years, is recommended in transitioning safely to a more open and efficient financial and exchange rate system.

## A stakeholder that plays a positive role in global governance

With its growing share in the world economy and its rising per capita income, China has become an essential partner in the provision of global public goods. A growing number of global problems cannot be solved without China's active participation. China's future prosperity depends to a large extent on the capability of global collective action to make available key global public goods. It is in the common interests of the international community (and China) for China to become a key proactive stakeholder in these global governance arrangements. The fact that China is the second-largest economy in the world

and yet ninety-third in terms of per capita income has created a huge gulf between the world's expectations about China's ability to shoulder important roles and responsibilities in global governance and China's perceptions of its own capabilities to do so. The process of China's participation in global governance will inevitably be gradual as the international community and China make constant adjustments to accommodate each other.

As China's strength in the global economy rises, the international community will expect China to play a more proactive role as a key stakeholder in *international governance rules for trade and capital flows*. In multilateral negotiations, China could capitalize on its unique position of straddling the interests of virtually the entire range of economies from low to high income. Its responsibilities will correspondingly increase. China can also wield enormous influence in shaping these rules to ensure that they are supportive of Chinese development. In particular, China's considerable impact on the global economy means that it can take, and would benefit from taking, a proactive stakeholder role in the design of such multilateral agreements.

China should continue to proactively *push forward global climate change negotiations*. China's 12th Five Year Plan already includes declining intensity of carbon dioxide emissions as a binding target. A fair and balanced global climate agreement could leverage these planned domestic actions by China, and make them more effective, without placing China at a competitive disadvantage. China's earnest efforts to reach this target and establish a market-based emissions reduction mechanism within the country will provide a solid basis to help shape a global agreement and create crucial win-win solutions. Failure on the part of major countries to reach agreement on climate change and contain the climate crisis will lead to serious consequences for the world economy and, in particular, developing countries, including China, that are likely to be the most severely affected by climate change. Such an agreement is also needed to create a level playing field and to avoid carbon tariffs, which can easily turn into protectionist measures. China's proactive role in the climate change negotiations is important

to put policies in place—such as international carbon trading—that are fair for developing countries and create win-win solutions for the world. Once carbon mitigation policies are implemented globally, incentives increase to invent and implement new green technologies. The resulting technological progress and economic growth can potentially turn the reduction of emissions into an opportunity instead of a burden.

China should proactively push for the reform of the international financial system. China's role in discussions on reforming the *international financial architecture* should be to ensure that the final outcome not only is consistent with China's own plans to liberalize its foreign exchange system, financial sector, and capital account, but is also appropriate for developing country conditions and suitable for strengthening the financial systems and the reduction of financial risks in developing countries. For example, it is necessary to assess the appropriateness of international prudential norms for China's financial system and their implications for China's interactions with global financial markets. Another example is the need to consider the proposal of establishing a derivatives clearing house and the capital needs for such institutions to ensure that they can reduce systemic risks facing China's financial system.

China also needs to be an active stakeholder in shaping the *international aid architecture*. As China has become a more significant source of concessional assistance, it can better improve aid effectiveness, by further enhancing the transparency of its foreign aid program, strengthening communication with OECD donors, and enhancing aid project management techniques.

Finally, China should increase its participation, contribution, and predictability in global governance in the international community and play a role commensurate with its capabilities. Over time it can better play its role as an international stakeholder if it strives to learn from the experience of other major powers in global governance, train its representatives in international governance institutions to be world class, and enhance the mechanism for and efficiency of internal coordination in international affairs.



## Chapter 9 Overcoming Obstacles to Implementing Reforms

So far, this report has described a proposed medium-term reform program composed of six new strategic directions to make China a modern, harmonious, creative, and high-income society. Reaching this goal is important for China and for the world, but much will depend on the design and direction of the reforms as well as on their implementation.

International experience shows that the presence of a crisis may help a country reach internal consensus for action on reforms, but it also tends to make reform costs high and outcomes uncertain. Crises narrow policy options, dictate the pace of reform implementation, and prevent adequate preparation. The advantage of appropriately timing and sequencing policy reforms is lost. In some cases, crises also set in motion events that spin out of control and irreversibly shift economies to a lower growth path. Conversely, initiating reforms proactively allows adequate time for good policy design, appropriate sequencing, steady implementation, and corrective actions when necessary. Yet proactive reforms tend to be opposed by vested interests, and reaching consensus is difficult, requiring governments to be clear about objectives, communicating them well, consulting widely, and working to overcome obstacles.

In China's current situation, the case for reform is urgent. The world economy is entering a dangerous phase in its recovery from the global financial crisis, and the next five years could prove to be particularly difficult. At the same time, China's economic, social, and environmental challenges are increasing. China could postpone reforms and risk the possibility of an economic crisis in the future—or it could implement reforms proactively. Clearly, the latter approach is preferable. Over the past three decades, proactive policy change has been key to China's economic success, and the calls for reforms within the country have never been louder. In pushing for reforms proactively, China possesses the considerable advantage of good

economic conditions, robust growth, and the largest stock of foreign exchange reserves in the world. Moreover, it has able and effective central and local governments that have demonstrated strong capabilities for mobilization, organization, management, and implementation and, as in the past, can make the important collective action decisions needed to ensure successful outcomes.

### Sequencing reforms

The six priority reform areas lay out objectives for the short, medium, and long term, and policy makers need to sequence the reforms within and across these areas appropriately to ensure smooth implementation and to reach desired outcomes.

Highest priority should be given to actions that enjoy broad support, are likely to encounter little resistance, and are relatively easy to implement. Examples include increasing investment in human capital, encouraging public participation in the reform and development process, introducing a broad set of indicators to assess economic, social, and environmental progress and to measure the performance of local governments.

High priority should also be accorded to actions that deliver “quick wins” and address short-term risks. These actions include increasing the flexibility of bank deposit and lending rates and lowering high interest rate spreads; increasing SOE dividend payments to the national budget; stopping forced conversion of rural land for urban use, with any conversions based on vetted urban plans, payment of market prices for acquired land, and the introduction of a reasonable capital gains tax; raising the retirement age for men and women (which can be started soon but implemented gradually); removing fees for secondary education in rural areas; changing local government growth targets from indexes based on GDP to those based on “quality of growth”; raising energy, water, and carbon prices to reduce bottlenecks and

shortages, encourage efficiency, and lower carbon emissions; and aggressively expanding public transport options.

The next priority is for actions that will form the basis of future reforms, offer incentives for innovation, and lay the foundations for future sustainable growth. These include introducing fiscal transparency as well as independent and rigorous evaluation of public expenditures; mobilizing additional fiscal revenues, including by rapidly ramping up implementation of property taxation in urban areas; recentralizing expenditure responsibility for key social security programs, such as the basic pension system and unemployment insurance, which will encourage labor mobility and integrate the labor market; phasing out the *hukou* system; lowering entry and exit barriers for firms; and imposing a carbon emissions quota, adopting tougher ecological and environmental standards, and introducing new building codes to meet energy efficiency and safety standards.

It is also important that the government make breakthroughs in core reforms to cement the foundations of a market economy and form the foundations for the rest of the reform program. The core of the program comprises the fiscal, financial, and enterprise reform components—key here are enterprise reforms (especially measures promoting competition) and pricing reforms for natural resources, including energy and raw materials. Not only are these very closely tied to one another, they are building blocks upon which the innovation, environmental, and social components rest. These core reforms are key to China's efforts to consolidate the foundations of a market economy. Their success will determine the success of the other elements needed to achieve sustainable and innovation-driven development.

In the medium term, efforts should focus on promoting innovation, green development, and participation in the reform and support for global governance.

### Overcoming opposition to reform

Finally, as China knows only too well, and as is also the experience of other countries,

reforms and change always meet opposition. In China, this opposition is likely to take many forms, and the policy response should be accordingly varied and flexible. In summary, we identify three kinds of possible opposition.

The most resistant group is likely to be vested interests—such as those enterprises that enjoy partial or full monopoly (or monopsony) in key markets as well as firms, groups, institutions, and individuals who obtain special privileges and benefits or enjoy preferential treatment from the current power structure and institutional setting. These groups gain from a special relationship with decision makers or reap economic rents from distortions implicit in the current price, institutional, and administrative structures. Not only are these vested interests unlikely to surrender their privileged position easily, they are likely to be very influential, powerful, resourceful, and resolute in protecting their interests. Overcoming such opposition will require political courage, determination, clarity of purpose, and adroit leadership qualities at the highest level of the government.

A second group that may oppose the reform agenda are those who are likely to be hurt from reforms in the short term, even though they will gain in the long term. An example would be those affected by the proposal to reform the *hukou* system. In the long run, this reform would clearly be beneficial to China by helping to develop a more integrated and efficient labor market and also by lowering inequality in incomes and access to social services, which would reduce social tensions. But urban *hukou* holders, driven by concerns that their privileged access to public services and social security may be threatened, may not be supportive of these reforms. Similarly, workers in loss-making enterprises, energy- and pollution-intensive industries, and unregulated financial institutions may think the reforms will hurt their economic interests. If this were to happen, the government could not only provide appropriate information and guidance but also allocate such groups transitional assistance in the form of temporary income support and training in new skills. The government could also take steps to ensure that local governments

do not thwart or undermine the reforms by placing local interests above national interests.

A third group is opinion makers who equate today's problems as outcomes of earlier reforms rather than of the distortions that remain. Some, for example, attribute the deterioration in the natural environment (air, water, land) to the market mechanisms rather than to ineffective implementation of existing laws, rules, and regulations, or inappropriate price and incentive structures. Their impact on public opinion is usually significant and out of proportion to their small numbers. It is important that such influential voices have access to the thinking, analysis, and rationale underlying the reform program. Government departments, think tanks, research institutions, and universities should be encouraged to analyze reform issues and disseminate their results. Indeed, involving the participation of civil society organizations not only will rally support for reforms but could improve the design of the reform program itself.

Winning over opposition to reforms will need to be a key part of the strategy and will require a calibrated response depending upon the reasons for the opposition. Strong leadership and commitment to the reforms will provide important signals, facilitate coordination across ministries and agencies, and ensure that opposition to reforms is dealt with sensitively and effectively.

As a practical matter, a high-powered reform commission needs to be established by—and with the full support of—the highest level of government. This commission should be made responsible for the design and implementation of the reform program. Only with such high-level support can reforms be implemented steadily and with a determined will. Commission members will need to undertake extensive and genuine consultations and discussions with all stakeholders so that everyone respects and understands the objectives of the reforms and the underlying rationale for policy changes and so that a proper balance is struck between the interests of various stakeholders. At the same time, reforms should be designed so that they do not create new interest groups supportive of distortive policies. Thus, fiscal or financial

incentives introduced to assist those who may be hurt by structural reforms should be temporary, and the conditions for their termination clearly established at the time of their initiation.

Finally, local governments and line ministries should be allowed to experiment with certain reforms within the framework of national policy objectives, and successful examples scaled up. China's success in previous reforms has built on the strength, flexibility, and adaptability of its institutions. Its future institutional evolution should continue to be firmly rooted within China's own reality and experience. Interest groups that oppose change usually find it difficult to argue against success—and successful reforms at the local level tend to grow their own champions who see benefits from the new policies. Moreover, it is only through learning-by-doing that implementation problems in reforms can be ironed out, so that when scaled up, the potential for opposition is minimized.

## Managing macroeconomic risks and vulnerabilities

Macroeconomic and social stability is not only key for innovation, investor confidence, and sustainable growth, it is also a fertile environment in which reforms—short- and long-term—can achieve desired outcomes. Over the next 20 years, it is important that China's record of stability be maintained given the possibility of greater risks. These risks include greater susceptibility to external economic shocks resulting from China's tighter economic integration with the world; weaknesses in government finances or in the financial and enterprise sectors, which might be revealed in a slowdown in China's economic growth as it is transitioning from middle-income to high-income status; possible social unrest, which could erupt in the face of perceived injustices; and greater danger from natural disasters (rise in sea levels, earthquakes, floods, droughts, tsunamis, pandemics), which are likely to be magnified by increasing urbanization.

Usually, risks are idiosyncratic, that is, they occur randomly. But occasionally, they

can be covariant or systemic, when they occur together or have economy-wide effects. Economies can usually cope with idiosyncratic risk, but covariant or systemic risks are more difficult to manage. China is well prepared to deal with idiosyncratic risks, but it must anticipate the possibility of systemic risks and prepare appropriate responses.

Thanks to its impressive capacity for collective action, China has shown itself to be particularly effective at dealing with macroeconomic shocks (including those from abroad). The challenge to China is not whether it can respond well to crises but whether it can further lower the risk of future crises. Indeed, all risks—natural, economic, or social—are essentially contingent liabilities that can translate into actual liabilities for either government or households. Most important, measures to reduce risk are not only possible, they are usually cost-effective. For example, adequate prudential safeguards that prevent reckless behavior in the financial and enterprise sectors can help governments avoid costly expenses in the wake of a macroeconomic crisis; such safeguards can reduce the probability and the costs of a financial crisis. The benefits of such measures are often orders of magnitude higher than their costs.

Notwithstanding government efforts to ensure stability, the risk of macroeconomic shocks and instability cannot be completely eliminated and will need to be dealt with in a way that promotes medium-term reforms rather than sacrificing them. When shocks occur, the policy response should depend on the cause. If growth slows because of a temporary slowdown in demand, then countercyclical policies may be appropriate. But if the potential growth rate decreases, then countercyclical policies would be inappropriate, and instead additional emphasis would need to be given to structural reforms.

The government should also take preventive action to reduce the size of “shock amplifiers”—which tend to be high debt (including high contingent debt) ratios in key parts of the economy such as banks, firms, households, and governments. Careful supervision of banks will need to ensure that capital

ratios are adequate, nonperforming loans accounted for properly and kept within prudential limits, and currency and asset-liability mismatches kept to a minimum. Balance sheets of banks, systemically important state enterprises, and local governments should be able to pass a variety of periodic stress tests (such as interest rate variability, exchange rate fluctuations, growth slowdowns, and capital flight).

International experience has shown how quickly a small spark can ignite widespread social unrest. According to surveys in China, the public’s trust in the judicial system and public services is very low, and social frustration has been building. This situation points to the critical importance of building an impartial and effective legal and justice system and improving equality of opportunity and accessibility to high-quality social services. An essential element of reforms in these areas will be greater consultations and participation of the public in decision making and oversight of service delivery (including by the justice system), increased transparency in the operations of these branches of government, and greater accountability to stakeholders and citizens.

If one thing has been learned from systemic crises, it is the importance of avoiding overconfidence and remaining vigilant against potential problems from social, economic, and natural causes. Countries need to ensure that such vigilance is incorporated into the national risk management system. That can be done in five ways:

First, risk management requirements should be embedded firmly in national regulations, policies, and public investments. In addition, weaknesses in economic and financial systems should be probed constantly to identify where a crisis may arise and appropriate preventive action taken. Regular risk audits for critical parts of the financial infrastructure and systemically important enterprises can reveal where structural or other flaws may expose the broader economy to unnecessary risk.

Second, because risk management tends to cut across institutional jurisdictions, not only is coordination needed across different agencies and levels of government, so too is

clarity on who is responsible and accountable for what.

Third, the government can and should make information more easily accessible to help individuals, households, and firms take risk mitigation measures or preventive action.

Fourth, risk management institutions need to be capable of quick and decisive action when crises occur, be receptive to all ideas from all sources, and be able to build partnerships for collective action, especially with communities that hold a stake in the outcome.

Fifth, neither prevention nor mitigation can completely eliminate risk, so insurance is needed to soften the blow when macroeconomic disasters unfold. One insurance policy is China's already large external reserves. Another would be to keep adequate fiscal space by maintaining a prudent public debt burden. A third would be strong supervision of the financial system. And a fourth would be a deposit insurance program that discourages reckless lending and encourages prudent financial management, such as observance of capital requirements.

In managing social and macroeconomic risks, three principles need to be kept in mind: the first is to guard against a retreat from the market mechanism and a return to administrative measures; the second is to press ahead with long-term reforms, because structural factors usually lie at the root of many of China's periodic episodes of macroeconomic overheating; and the third is to ensure that risk mitigation strategies are consistent with, and reinforce, the long-term strategy.

China's road toward a modern, harmonious, creative and high-income society will be filled with challenges; but the goal has never been closer. The world's economic landscape will change when China becomes a high-income country. China's rapid growth and poverty reduction over the past three decades—achieved through domestic reforms and opening up to the global economy—was nothing short of a miracle. The next two decades could witness another miracle in which China's economic, social, and cultural contributions will not only benefit China's own people but also contribute to global economic prosperity and stability. Much will

depend on the wisdom, strength, and determination of the Chinese leadership in pressing ahead with reforms in the six key areas highlighted in this report.

## Notes

1. The term “provinces” here includes municipalities and autonomous regions that have the same status as provinces.
2. <http://www.bankersalmanac.com/addcon/infobank/bank-rankings.aspx>.
3. <http://money.cnn.com/magazines/fortune/global500/2011/>.
4. <http://aapa.files.cms-plus.com/PDFs/WORLD%20PORT%20RANKINGS%202009.pdf>.
5. Although the reputation of forecasting is rightly in disrepute, even for the short term, let alone the medium or long term, national development strategies do need to consider future trends in the global environment, difficult as that may be. The authors recognize that discontinuities and shocks, by their very nature, are difficult to anticipate. Ideas, technologies, events, and individual actions can sometimes snowball into powerful forces of change—the so-called “butterfly effect” that occurs when initial conditions are such that a small change triggers large consequences.
6. Estimates of the scope of the middle class vary depending on the definition. The estimate quoted here is from Kharas and Geertz (2010), who define the middle class as falling within the threshold levels of \$10 a day to \$100 a day per capita (measured in 2005 PPP terms).
7. The old age dependency ratio is defined as the ratio of the number of people aged 65 years and older to those aged between 15 and 64 years.
8. During 1994–2009, particularly high TFP growth continued in part because of SOE restructuring, WTO accession, and very successful integration in the world economy of China's manufacturing industry and associated economies of scale. With a lower contribution expected from such forces, TFP growth (excluding the contribution of human capital formation), is expected to fall by half a percentage point to 2.5 percent a year in 2010–15 and ease thereafter to around 2 percent in 2026–30. By way of comparison, in 1966–90, annual TFP growth in Hong Kong SAR, China; Korea; Singapore; and Taiwan, China, averaged between 1.7 and 2.3 percent. This average includes the contribution of

- human capital accumulation, which is separated out in our analysis.
9. The U.S. labor force numbers about 155 million. The calculation assumes that over the next decade, China's tertiary education completion rate rises to the advanced country average, where the advanced country average is determined based on data from Barro and Lee (2010).
  10. The population of Hong Kong SAR, China is around 7 million.
  11. Based on the global wealth study prepared by the Boston Consulting Group (2011).
  12. Estimate for 2010 using 2005 purchasing power parity prices based on staff calculations in Povcalnet (<http://web.worldbank.org/wbsite/external/extdec/extresearch/extprograms/extpovres/extpovcalnet/>).
  13. The term "state dominance" goes beyond just state ownership and includes active state involvement in investment and other management decisions.
  14. Unfortunately, the average profitability of the rest of the SOEs cannot be calculated for lack of data.
  15. TFP growth in the state sector was 1.5 percent a year, whereas the nonstate sector's TFP grew at a rate of 4.6 percent a year; see Brandt and Zhu (2010).
  16. For example, in 2006, state enterprises accounted for the production of all petroleum, natural gas, and ethylene; all basic telecoms services; about 55 percent of electricity generation, and 82 percent of airline and air cargo traffic; see Owen and Zheng (2007).
  17. A pure "public good or service" is one whose consumption by one individual does not reduce its availability for consumption by others, and when no one can be effectively excluded from using the good. The term, as used in this report, applies to those goods and services that, when produced or consumed, result in positive externalities that are not remunerated, and hence tend to be underproduced.
  18. However, in some sectors such as telecoms, the splitting up was along geographic lines, still leaving a single dominant provider in any given area.
  19. Land Resources Statistical Yearbooks 2002–09, published by the Ministry of Land Resources.
  20. The National Audit Office report is available at <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.
  21. An alternative approach could be the one adopted by Korea, which provides affected farmers with a plot located within a developed urban area equivalent to 40 percent of the acquired land area. Such a program, however, may incur administrative delays and lead to very different outcomes for farmers affected by the same land acquisition transaction.
  22. OECD Stat Extracts: <http://stats.oecd.org/index.aspx?DataSetCode=REV>.
  23. Based on data from Sam Ock Park (2009).
  24. Sixth National Population Census, National Bureau of Statistics of China (NBSC), People's Republic of China.
  25. The amount of "surplus labor" in rural areas, and therefore the number of potential rural-urban migrants, is the subject of much study and controversy; see Knight, Quheng, and Shi (2010).
  26. There remain cases in very large cities where this process remains incomplete, such as in Beijing where applicants for government jobs and in many enterprises require a Beijing *hukou* to be considered.
  27. MOHRSS (Ministry of Human Resources and Social Security), data from end-2010.
  28. Sunrise industries are the opposite of sunset industries—relatively "young" industries with future growth prospects, unlike sunset industries that are mature and likely to decline in relative size.
  29. The three key underlying concepts are that growth and resource use can be "decoupled," that the process of "going green" can itself be a source of growth, and that green development and economic growth could potentially reinforce one another.
  30. In addition, of the world's 30 most polluted cities, 20 are in China. More than half of China's water is polluted, over 300 million people use contaminated water supplies, a third of China's waterways are below the government's own safety standards; and about one-fifth of China's farmland has been contaminated with heavy metals (Ministry of Environmental Protection 2011).
  31. For 2008, the last year for which data is available.
  32. Several such taxes address negative externalities. Unlike many other taxes, such taxes present few if any trade-offs when viewed in a more holistic way than through GDP alone, because they make prices better reflect the true marginal cost of a particular activity, including the damage to environment.
  33. Zhang (2010) provides a detailed discussion on SOE dividend policy and international practices.

34. Furthermore, the “revenue productivity” of personal income taxes (PIT), measured as the revenue collected as a share of GDP divided by the weighted average PIT rate, is only 15 percent of global averages and 11 percent of high-income country averages.
  35. <http://www.audit.gov.cn/n1992130/n1992150/n1992500/2752208.html>.
  36. Liu (2010) and Liu and Pradelli (forthcoming) give a detailed discussion on the regulatory framework of subnational government debt management.
  37. Antidumping is not the only mechanism used to discriminate against China’s exports. Others include the Transitional Product-Specific Safeguard Mechanism (a unique feature of China’s WTO accession that allows importers to invoke safeguards against China through 2014, with less evidentiary requirements than under the normal safeguards regime), the traditional safeguards regime, voluntary export restraints (particularly as a result of U.S. and EU investigations of China’s textile and apparel exports, and despite the banning of voluntary export restraints under the WTO Agreement on Safeguards), and countervailing measures under antisubsidy policies (Bown 2007). Recourse to such instruments will become more difficult when China attains market economy status in 2016.
  38. Only 6 percent of China’s exports enjoy preferential access, well below the world average.
  39. “Open regionalism” ensures that “regional agreements will in practice be building blocks for further global liberalization rather than stumbling blocks that deter such progress” (Bergsten 1997).
  40. Insurance remains closed in many respects, majority foreign ownership is prohibited in some sectors (such as telecommunications and air transport), and provision of domestic legal services is restricted.
  41. The end of the Bretton Woods system between 1968 and 1973 was meant to eliminate the need for capital controls, but European countries did not achieve full capital account liberalization until the late 1980s and early 1990s, and then only because liberalization was seen as a step toward monetary integration.
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