1. Reform and China's Long-Term Growth and Development

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Introduction

Reforms to build China's new model of economic growth have gained momentum since our mid 2013 book, *China: A New Model for Growth and Development*. This year's China Update book explores more deeply the new model of growth, through which China seeks to achieve the transition from a middle-income to an advanced economy. This book defines and discusses the reforms that are necessary to bring the new model into reality and to make it work. It describes many barriers that stand in the path to success, and the damaging consequences of failing to cross the barriers smoothly. It identifies opportunities for China to reconcile structural change with maintenance of strong growth in living standards.

In late 2013, a plenary meeting of the Chinese Communist Party's Central Committee authorised far-reaching extension of market-oriented reform. Premier Li Keqiang's *Work Report* to the National People's Congress in early 2014 outlined policies to deepen markets for capital, labour, goods and services and to accelerate progress towards the ultimate objectives of the new model: increasing the consumption and services shares of the economy; raising the relative incomes of poorer Chinese and especially rural residents and unskilled urban workers; and reducing the damage to the local and global natural environments from Chinese economic growth.

The old uninhibited investment expansion of the mid 1980s to 2011 moved China swiftly from a low-income country into the ranks of the middle-income economies. Whereas most Chinese in 1978 experienced material deprivation—living standards that placed most people in the poorer half of humanity—by 2011 a large majority was comfortably separated from shortages of the basic necessities of life and was enjoying more and more of the higher fruits of modern economic growth.

At the same time, a high proportion of the increase in incomes from rapid expansion of output within the old growth model was reinvested in new increments of investment-led growth. Large movements of workers from the countryside allowed sustained rapid expansion of the industrial and urban economies without commensurate increases in real wages. Increased incomes accrued disproportionately to state and private owners of capital, skewing the distribution of income away from ordinary people. The exceptionally investment-intensive character of growth and its concentration after the Asian financial crisis of 1997–98 on infrastructure and heavy industry made it unusually intensive in its use of energy and metals, and therefore a source of great pressure on the natural environment in China and the world.

Our introductory chapter to last year's book noted the considerable questioning of the old growth model from before the Global Financial Crisis (GFC) of 2008. Demographic transition interacted with continued strong growth in demand to make labour increasingly scarce and valuable from about 2005. China entered its turning period of economic growth, with increasing pressure for structural change—broken for a year or so by the contractionary impulse from the GFC of 2008. Preoccupation with overcoming the effects of the global economic slump on Chinese output, incomes and employment postponed the deepening of reform, and the fiscal and monetary stimulus of late 2008 through 2009 temporarily reinforced the old pattern of growth. The restoration of confidence in growth from 2010 established conditions for extending the discussion of reform and the early articulation of the new model of economic growth. Elements of the new model of growth were embodied in the Twelfth Five-Year Plan (2011–15).

The deepening of reform has proceeded more purposefully since 2012. New leaders of party and state have set out to accelerate, deepen and widen reform. Changes are evident in reforms of financial and labour markets, integration into the international economy, policy on the environmental effect of economic activity, fiscal interventions to reduce inequality in income distribution and action against corrupt high officials.

Some of the policy changes are already evident in the statistical record of economic performance. But in a big and diverse economy, some changes take much longer to leave clear marks. Economic growth has slowed as expected, from around 10 per cent per annum through the long floodtide of uninhibited investment expansion from 1992 to 2011, to a new normal of 7–8 per cent from 2012. The labour force has commenced what will be a long decline, but as yet there is little moderation of the high investment share of expenditure. Maintenance of high investment with lower growth in output suggests a considerable decline in the rate of increase in productivity. The decline in productivity has to be reversed through reform if the intended 7–8 per cent growth rate is to be sustained and Chinese expectations met. Domestic demand has increased as it was meant to do, but relatively little of that has come from expanded consumption. Wages and rural incomes have been rising rapidly, with some but so far only a small effect on the general measures of inequality. The growth in environmentally damaging emissions has slowed markedly, with targets for reductions in energy intensity and emissions intensity being met. The daunting scale of the remaining environmental challenge and early success have led to articulation in 2014 of more ambitious goals for raising the contributions of low-emissions sources of energy and reducing coal use.

Now that China has made the transition from a poor to an upper-middle-income country, major reform and structural change are necessary for it to sustain growth and enter the ranks of the developed countries. Reform is required in financial, labour and land markets, in systems of public finance and in China's relations with the international economy. This book takes the reader through recent progress in reform and structural change and associated modifications to performance in the economy as a whole and many of its sectors. It draws attention to the detail of the great challenges facing China as the Government seeks to give substance to the new model of economic growth. The reforms are technically complex and make huge demands on the knowledge and judgment of advisers to government and the skill and political capacities of leaders. They carry risks to economic stability—which, if crystallised in poor economic performance, would introduce risks to political stability.

Many other countries have stumbled at the transition from middle-income to developed-country status. Chinese reform and modern economic growth over the past three and a half decades have been brilliantly successful and China has many advantages in negotiating the next steps, but the task is so large that it would be unwise to presume a smooth transition to the status of an advanced economy.

This volume presents the challenges with unique insights from recent research by economists and some analysts from other disciplines who are following closely progress in the new era of Chinese reform. The following chapters describe advantages that China brings to this difficult stage of reform and growth, and some weaknesses that introduce risks of stumbles and falls. The reader will find indications both of early success and of emerging problems.

But first let us see how the reform era and the new challenge of transition to a developed economy fit into longer Chinese economic history.

The reform era in longer perspective

We only understand the significance of the past three and a half decades of market-oriented reform, deepening integration into the world economy and economic expansion if we compare it with the decades and centuries that went before it.

Ancient China was one of the early centres of world civilisation. Two thousand years ago, Han China, with its capital at Chang'an (now the city of Xian), was about as extensive, populous, technologically advanced and economically productive as its contemporary at the other end of Eurasia, the Roman Empire. The Han Dynasty, which lasted more than four centuries, turned out to be more successful politically than Rome, coming back together more completely after internal and external shocks broke it apart from time to time. Peace and political coherence were conducive to gradual and slow technological advancement, with population expansion absorbing the periodic episodes of increased production so that incomes per person did not increase much on a sustainable basis. This was the way of the traditional world—of global civilisation until the late eighteenth century. Ancient China contributed more than its share of technological, commercial and managerial innovation to what became the foundations of modern economic growth, but did not itself break through into sustained growth in productivity.

From 1700 to 1820, China's growth in output increased by an average of 0.85 per cent per annum. Any tendency for output and consumption per person to rise was overwhelmed by population growth. Population increased at the same average rate as output and production per person increased not at all.

What happened in China in these years was usual in the ancient world during periods of peace and prosperity. The unusual development in the late eighteenth century was in an offshore island at the western extremity of Eurasia. Sustained increases in output were established in Britain, at a pace that allowed increases in output per person as well as an increase in population. To the surprise of the early economists, higher living standards of ordinary people led eventually to a decline in fertility and population growth, so that the increase in living standards could be maintained and continuously extended. We can now recognise these developments as the beginnings of modern economic growth.

From 1820, revolution in France and the uprooting of the established order in continental Europe through the revolutionary and Napoleonic wars allowed modern economic growth to extend its presence through much of Western Europe. From 1820 to 1952—a period encompassing mostly peaceful expansion to 1914 and then the long period of war and dislocation until 1945—Europe's output grew by 1.71 per cent per annum, and output per person by 1.03

per cent. China, like most of the rest of the world at this time, stayed outside modern economic growth, with output increasing at an annual average rate of only 0.22 per cent, and output per person declining by 0.08 per cent per annum.

Small differences in growth rates compounded over more than a century add up to huge differences in economic size and strategic weight. China's share in global economic output fell from one-third to less than 5 per cent between 1820 and 1952.

China met many of the preconditions for participating in modern economic growth from the time it took root in Western Europe. There is a sense in which China was a latecomer to modern economic growth because its pre-modern system of political, social and economic organisation had been so successful. To embrace modern economic growth was to embrace disruptive change. China and other successful, established polities of East Asia embraced this disruption only when it was clear that the alternative was disruption through harassment and perhaps through conquest by others whose strategic weight had been enhanced by economic growth. Japan's political elite came to a coherent and lasting view that the disruption of modern economic growth was less damaging than the disruption of foreign interference in the third quarter of the nineteenth century—three-quarters of a century before China's political elite settled at a similar point.

China unambiguously embraced the change that was a necessary companion of modern economic growth with the establishment of the People's Republic of China in 1949. The historical circumstances of the Chinese Communist Party's accession to power caused it to take a path into modern economic growth that turned out to be a dead end. China adopted central planning on the Soviet model. The rate of increase in output as conventionally measured increased sharply, mainly as a result of a huge increase in the share of output allocated to investment—growth in output of about 6 per cent per annum by some measures from 1949 to 1978, although the nature of the growth made this statistic an unhelpful measure of economic progress. The increase in output was focused overwhelmingly in capital investment in the industrial sector, especially heavy industry. The absence of market discipline in allocation of resources and the tiny scale of international exchange meant there was little increase in productivity or in the standard of living of the Chinese people. The gaps in technology and standards of living between China and the most successful countries continued to grow wider.

All of that changed with market-oriented reform and opening to the outside world in 1978. Garnaut et al. (2013) describe the early concentration of economic dynamism in the rural economy until 1984; the awkward but in the end decisive reform of the urban economy including the central planning system from 1985; and the long period of uninhibited investment expansion from 1992. The massive fiscal and monetary expansions through state-related entities to sustain growth in the aftermaths of the Asian financial crisis (1997–98) and the GFC of 2008 made growth even more investment intensive and oriented even more strongly towards heavy industry and infrastructure from early in the twenty-first century.

The reforms transformed China's economic life. The transformation of rural China was swift, with the household responsibility system replacing the people's communes, and with a dynamic rural economy based on township and village enterprises (TVEs) emerging from the ruins of the people's communes. Decentralisation gave local governments a decisive role in economic life. Integration into the international economy gathered pace from the mid 1980s, making China in the early twenty-first century by far the largest manufacturer, exporter, trading economy, source of savings and creditor at the same time as it was a massive destination for foreign direct investment (FDI). The World Bank estimates that China will be the world's largest economy by 2015 on a purchasing power parity (PPP) basis (Cai 2014; Financial Times 2014).

Diverse patterns of business ownership emerged, requiring complex institutional innovation to ensure effective regulation with the expansion of the market economy. Living standards rose rapidly, with most Chinese coming to enjoy considerable material comfort. The largest migration in human history from the Chinese countryside swelled the resident populations of the cities.

The reforming economy grew rapidly—with increases in the labour supply, increased proportions in the urban economy and high and rising investment shares, but also rapid productivity growth. The pace of economic growth in China over an extended period was unprecedented. By 1995, China had achieved per capita output of $2000 on a PPP basis (1990 Geary Khamis dollars). Over the next 16 years, it increased output fourfold to $8000 (same 1990 dollars)—crossing the ground between these two landmark production levels in less time than any other country had ever done (Table 1.1). It had taken the old developed countries about a century to move from $2000 to $8000. The only near comparators to China were its neighbours in East Asia, Korea (20 years) and Japan (17 years).

Table 1.1 Quadrupling Living Standards from a Base of $2000 PPP GDP Per Capita

Modern country	Year achieved $2000 GDP per capita	Year achieved $8000 GDP per capita	Number of years to quadruple GDP per capita	Compound annual growth rate in period
Netherlands	1827	1960	133	1.0
United Kingdom	1839	1957	118	1.2
Australia	1848	1955	107	1.3
United States	1860	1941	81	1.7
France	1869	1962	93	1.5
Germany	1874	1962	88	1.6
Mexico	1950	2008	58	2.4
Hong Kong	1950	1977	27	5.3
Singapore	1950	1979	29	4.9
Japan	1951	1968	17	8.5
Turkey	1955	2007	52	2.7
Taiwan	1965	1985	20	7.2
South Korea	1969	1989	20	7.2
Malaysia	1969	2002	33	4.3
Thailand	1976	2005	29	4.9
China	1995	2011	16	9.1
Memo item				
World	1950	2004	54	2.6

Source: Table 5.1 from McKay and Song (2013).

Slowdown of the economy and new sources of future growth

The period of uninhibited investment-led growth within the reform era to 2011 brought great benefits to China and its people. As discussed by Garnaut et al. (2013), some elements of the old model of growth were gradually undermined by its own success—for example, the growing labour scarcity and increases in real wages from about 2005 (Garnaut 2010; Cai 2014). The old model had side effects that became less acceptable to the Chinese people as their incomes rose—especially growing inequality in income distribution, unnecessarily slow increases in consumption and unnecessarily limited consumption choices, the increasing scale of official corruption and a decline in local and global environmental amenity. Other side effects threatened economic instability: the tendency towards export surpluses, real estate bubbles and unregulated growth of debt including amongst local governments.

Many of the problems that accumulated in the course of reform are not inherently associated with market-oriented development. Rather, they reflect the underdeveloped state of market institutions and regulation, especially in relation to factor markets and the environment.

The deepening of reform within the new model of economic growth is directed towards the maturation of the market economy, through transition to a modern economy. The urgency of this reform is heightened by the movement from increase to decline in the labour force, as a share of the population absolutely. This loss of a 'demographic dividend' makes increases in productivity through more efficient allocation of resources critical to maintaining growth in living standards.

The new model of economic growth envisages a slower rate of capital accumulation. This also increases the importance of an increase in total factor productivity (TFP)—and makes it more difficult, as more productive technology tends to be embodied in a newer capital stock.

Some slowing of economic growth is inevitable. The question is whether the slowing is a moderate 2–3 per cent per annum, reflecting declining labour and more slowly growing capital stocks partially offset by higher productivity, or something much larger, reflecting a decline in productivity growth as well. At the extreme, the latter would threaten entanglement in the 'middle-income trap'.

Wang et al. (2010) note that average rates of growth in GDP per capita are considerably lower in the decade after than the decade before a country reaches US$7000 (PPP on 1990 Geary Khamis dollars). Maddison's (2006) data show that 31 of 40 economies that reached US$7000 experienced such a deceleration. The average growth rate was 2.8 percentage points less in the following decade.

China reached this inflexion point in 2008—the year of the GFC—which saw a permanently slower rate of increase in demand for China's exports in the developed countries, and added to downward pressures on Chinese growth potential. The massive fiscal and monetary expansion in China after the GFC was successful in sustaining employment and income growth, but for a while obscured the need for more fundamental productivity-raising reform (Cai 2012). Acceptance of slower growth must now be part of the implementation of the new model of growth.

The content of reform for the new model of growth

A kind of consensus has been established across a powerful part of the Chinese leadership on a wide range of reforms to implement the new model of economic growth. The accepted directions of reform embrace readjustment of the role of government in resource allocation.

The reform agenda is comprehensive as the Chinese leadership seeks to sustain growth following the disappearance of the demographic dividend and the expected decline in the rate of growth of the capital stock.

A number of measures focus on augmentation and improvement in quality of the labour supply. The Government has announced its intention to ease the one-child policy. Policies are directed at turning migrants from rural areas into permanent residents of the cities, so as to increase their number and to allow more complete use of the skills they accumulate in their early years in town (Song et al. 2010). Improved education, especially for children of rural residents and migrants, would increase the quality of the labour force.

Labour market reforms are closely linked to reforms of social security and provision of health and education services. These are important in reducing inequality in income distribution.

Other reforms focus on improved regulation of financial markets, with a view to achieving more efficient allocation of capital and to reduce risks of financial crisis. These are closely related to institutional reforms to facilitate expansion of the private sector and more productive use of resources by state-owned enterprises (SOEs). Local government finances need to be subject to more stringent fiscal discipline to avoid excessive credit expansion and rising debt leading to financial instability. The development of effective land markets is necessary for economic efficiency and to ease tensions in relations between peasants and the state.

There is an extensive agenda related to improving the legal system and market regulation of all kinds underlying the reform of factor markets. This is a subtle process of institutional change and development that in its nature must proceed at a measured pace (Perkins 2013).

One of the guiding ideas of Chinese reform is that the transformation from a centrally planned to a market economy can't be achieved in one leap. The caution embodied in that idea has been important to China's economic success in the reform area and will continue to be influential. The Chinese Government continues to see China as in transition to a market economy, with government continuing to have an important role in filling gaps left by the underdevelopment or imperfection of markets. More fundamentally, there is no retreat from established views on the continuing roles of SOEs in the provision of a wide range of infrastructure services, heavy industry and financial services.

The continued large role of the state in business and the use of administrative in place of market regulation are problems for the efficient operation of some markets. In the new phase of economic development, the continued large role of the state hampers the emergence of the higher productivity that is necessary to sustain reasonably strong growth. Naturally there is resistance to far-reaching reduction of the role of the state, arising from private gains for private agents exercising state power. This is currently the source of tension around reform efforts.

Whether China is successful in its drive from $8000 per capita (1990 PPP) towards the global frontiers of productivity and income depends on the deepening of reform within the new model of economic growth. China's success in building a modern economy is at stake. The current leadership has demonstrated commitment to strong action in many areas. Inevitably, reform challenges powerful private interests, which are inevitably damaged by new systems of resource allocation. The associated political tensions are considerable, and one cannot be certain of the outcome in advance of success.

The deepening of reform in the financial sector carries the possibility of a temporary disruption of growth, as risky practices are brought within the ambit of prudential supervision. Disruption leading to markedly slower growth of output, employment and incomes even for a short period would give rise to pressures to move more slowly with reform, and to resume the expansion of funding through the old state channels. Acceding to these pressures would cut across the reform program and reduce the chances of China emerging in a decade or so as a successful modern economy.

Other chapters of the book describe in detail various aspects of China's deepening of reform within the new model of economic growth.

Structure of the book

The book has five parts with 21 chapters. Part I discusses the way in which the big forces determining the rate of economic growth will interact to determine whether China continues to grow towards the status of an advanced economy. Part II looks at how the higher priority for domestic and global environmental amenity is affecting some important dimensions of development. Part III looks closely at various dimensions of financial sector reform—the most consequential, complex and risky of the reforms that are necessary to implement the new model of growth. Part IV focuses on factor market reform beyond the financial sector: land and labour markets and the role of FDI. Part V concludes with five chapters examining important determinants of productivity growth.

The seven chapters in Part I of the book fill out our understanding of various dimensions of China's new model of economic growth. They range over the relationships between output growth and changes in the labour force, income distribution, business ownership and investment; and the traps in the path of short-term and long-term growth that can only be avoided with reform.

Lu Yang and Cai Fang in Chapter 2 explain how China enjoyed a 'demographic dividend' in the early decades of reform, which has now disappeared and has begun to operate in reverse as the labour force shrinks. Continued strong growth requires replacement of the demographic dividend with a 'reform dividend'. The authors use simulations of various policy-induced demographic changes within a growth accounting framework to show that changes in population and labour market policies can make a significant difference. Increased TFP derived from reform is essential for maintaining reasonably strong growth. Increasing the labour force participation rate helps short-term but not long-term growth. Lifting TFP is critical to long-term growth. That means China's economic growth will increasingly depend on improvement of TFP rather than increasing inputs of factors of production.

Lu and Cai show formally how improving human capital through training of people who are already in the labour force can have powerfully positive effects on growth. Combinations of policies to increase the quantity and quality of the labour force and lift productivity can be important. Major policy implications from the chapter include the following: the transition from the 'selective two-child policy' to a 'two-child policy' should be made as soon as possible to increase the total fertility rate; reform to improve the operation of markets including through the creation of a more equal and competitive environment is essential to achieving the necessary lift in the productivity growth rate; there would be a large growth pay-off from expanding the urban residence rights of migrant workers through reforming the household registration system; and priority should be given to training programs for employees as instruments for lifting rates of innovation and productivity growth.

Xiaolu Wang and Yixiao Zhou in Chapter 3 examine the imbalances in the Chinese economy associated with an exceptionally low and until recently falling consumption share of expenditure. Massive investment has caused the rapid expansion of production capacity, while consumption growth cannot keep up with the expansion of capital investment and production capacity, resulting in a sustained lack of domestic demand and excess capacity in many areas of production. They see the weak consumer demand coming from highly and until recently increasingly inequitable distribution of income. The unbalanced distribution of income has many causes, including the underdeveloped nature of labour protection, social security and public welfare systems; the strength of business monopolies with privileged access to resources and control of markets; the competitive disadvantages suffered by labour-intensive small and medium-sized enterprises; and the large and increasing scale of improper use of public funds and corruption, made possible by the loopholes in the Government's financial and resources management systems and by weaknesses in regulatory and legal institutions and pervasive low transparency and lack of supervision in financial transactions.

The authors link the declining consumption rate until recently and the continuing low rate with over-reliance on foreign markets before the GFC in 2008–09 and on heavily expansionary fiscal and monetary policies since then. They argue that neither the over-reliance on export nor the over-reliance on fiscal and monetary expansion is sustainable in the long run. The necessary raising of consumption requires measures to improve income distribution and fairness in society. The relationship between equity and sustained economic growth is not contradictory but complementary.

Son Ngoc Chu and Ligang Song in Chapter 4 discuss the relationship between state control, entrepreneurship and resource allocation. The authors examine changes in institutions governing the availability of capital, land, energy and utilities across different ownership types. State control of capital, land and resources has created substantial rents that have been used to promote infrastructure projects and provision of public good. This has sometimes contributed to rapid economic growth. It has also supported rent-seeking activities by governments and enterprises. Competition for rents has encouraged the emergence of overcapacity in some sectors, and has set back the development of private entrepreneurship. In the most recent period, with more competitive product markets, the negative effects of state intervention in factor markets on the performance of the private sector have been larger. Nevertheless, there has been robust development of private entrepreneurship over the reform period as a whole. Reducing state control of key resources would further expand that development, with beneficial effects on productivity and economic growth.

China's investment share of GDP is exceptionally high, even compared with other East Asian economies at a similar stage of development. Owen Freestone and Dougal Horton in Chapter 5 document the likely causes of China's high rates of investment and discuss how the deepening of market-oriented reforms might reduce investment and boost household consumption. They argue that government policies have contributed substantially to excessive investment in recent years. Asian economies that preceded China's movement from middle-income towards advanced status experienced a fall of about 10 percentage points in the investment share of GDP through the transition. Using that as a guide, the authors apply a computable general equilibrium model of the world and Chinese economies to examine the effects of a 10 percentage point reduction in China's investment share of GDP (and a commensurate rise in household consumption) over a 10-year period. They conclude that this could be achieved without disruption of growth in the context of simultaneous reforms to lift the rate of growth in TFP. The rebalancing from investment to private consumption with a productivity boost would lead to reduced demand for the output of industries producing inputs into investment and increased spending on services, and to a small decrease in exports and increase in imports.

There has been much discussion in China over the past few years of countries reaching middle-income status and failing to move into the ranks of developed countries—the phenomenon of the 'middle-income trap'. Yingjie Feng and Yang Yao in Chapter 6 confirm the existence of a middle-income trap by analysing the experience of many countries which have attained middle-income status. The analysis shows that the middle-income countries which have succeeded in the transition to high-income status generally share high saving rates, large and dynamic manufacturing sectors, high levels of education, favourable demographic structures (high ratios of working-age people to dependants), political stability and relatively equal income distribution. China has most of these characteristics—but not equity in income distribution. They conclude that China still has great potential for growth, but requires effective policies to achieve more equitable income distribution. China should pay particular attention to increasing education for rural youth and training for migrant workers. The financing of education is currently principally a local responsibility. Greater benefits flow from investment in human capital than in physical infrastructure, so China's Central Government should shift its financial support for local government from infrastructure construction to education.

China's size and the slow growth of its trading partners now limit its capacity to grow rapidly through increasing exports of labour-intensive manufactures. Growth must rely more heavily on increases in domestic demand. Rod Tyers and Ying Zhang in Chapter 7 point out that domestic demand has increased since the GFC through fiscal expansion and public investment. Provincial indebtedness will constrain these sources of demand expansion in future. China's Government has sought inward-oriented growth through reform of industrial policy, trade policy, landownership laws, the one-child policy, fiscal federalism and taxation, financial market regulation, urbanisation (*hukou*) and capital account liberalisation. Change can be expected to have slight effects on short-term growth performance for most of these reforms. The exceptions are changes in industrial structure and liberalisation of the capital account.

To analyse the effects of reforms on short-term performance, Tyers and Zhang apply an economy-wide model that takes explicit account of oligopolistic behaviour in 17 industrial and service sectors. The model makes it possible to examine the interactions between industrial reform, regulatory policy and liberalisation of the capital account. The results suggest that further fiscal expansion could not contribute the major share of growth in future, even with large public investment components. Industrial reform in heavy manufacturing and services has considerable potential, reducing costs and fostering growth in output, private consumption and modern-sector employment. The effects of capital and financial account liberalisation are less certain and could be negative depending on whether demand for foreign assets is currently constrained by controls on outward movement of capital.

Part II focuses on aspects of the new objective of reconciling economic growth with conservation of the natural environment.

Yongsheng Zhang in Chapter 8 investigates how a focus on environmental amenity can accelerate development in poor areas. He first discusses the issue in a Chinese context, and then comments on its significance for poorer developing countries. Traditional development views saw poor regions encountering large obstacles to development in geographic remoteness, inaccessibility, small markets and weak endowments of resources, capital, talents and technology. Two big changes have greatly diminished these disadvantages. First, poor regions, thanks to the disadvantage of underdevelopment, retained beautiful natural and cultural characteristics, which today are rare and are an asset for development. Second, technological change has reduced the cost of transport and communications to distant places, the Internet has reduced many educational and business disadvantages of distance from the main centres of activity, and has reduced the cost of decentralised power using renewable energy. Zhang suggests that poor regions which take a different path to development will find that industries based on the high quality of the environment have considerable value.

Frank Jotzo and Fei Teng in Chapter 9 provide an update on China's greenhouse gas emissions and progress towards its 2020 emissions intensity target. The authors point out that the relatively high share of economic activity in investment and heavy industries, the rapid expansion of domestic infrastructure as well as exports and the relatively low energy efficiency in many (though not all) industries and processes have lifted Chinese energy intensity and emissions intensity to unusual heights. At the same time, they provide great potential for further reduction of China's emissions intensity. The relatively high emissions intensity of China's energy supply—around 20 per cent above US and global levels, and 36 per cent above the average EU level—is primarily due to the dominance of coal. It is a Chinese policy objective to reduce the share of coal in energy supply. There has been early progress, but a big task lies ahead.

The policy impetus to clean up the energy sector in China derives not only from climate change objectives, but also increasingly—and perhaps largely—from the desire to reduce urban air pollution. This means stemming the increase in coal use through continued improvements in energy efficiency and substitution away from coal in the energy mix. The Chinese Government has stated its intention to place greater emphasis on market mechanisms in climate change policy as well as other areas. Pilot emissions trading schemes are under way, though the real test is whether they lead to a national scheme of carbon pricing—and, if so, whether it will be effective. For pricing mechanisms to work effectively in creating incentives to cut energy use and emissions, China's energy markets need more market-oriented reform.

Part III digs deeply into the urgent, important but complex and potentially destabilising area of financial reform. The four chapters focus on widely disparate questions that together provide a strong sense of the challenge ahead.

Yiping Huang, Li Ran and Bijun Wang in Chapter 10 examine how the Chinese financial sector evolved in the reform era to where it is today, assess its achievements and then explain the reasons the authorities have now decided to accelerate financial reforms. There are three reasons the status quo is no longer an option: 1) whereas financial repression once had positive effects on growth, these are now negative; 2) financial repression is contributing increasingly to risks of financial and macro-economic instability; and 3) many of the policy restrictions are being corroded by the evolution of the economy, and a new regulatory framework is required for the emerging financial system. The authorities' reform program has 11 elements, including: opening to foreign and private financial institutions; developing multi-layered capital markets; building inclusive financial institutions; establishing market-based interest rates, exchange rates and risk-free yield curves; achieving capital account convertibility; and improving financial regulations. The central motivation of these reforms is to complete the transition to a market system in the financial sector. There are two broad emphases: in the near term, interest rate liberalisation; and over time, currency internationalisation, including capital account convertibility.

The authors caution that financial liberalisation is tricky: it improves the efficiency of capital allocation but also raises financial volatility. The key to avoiding major financial instability in the wake of liberalisation is to make sure the preconditions for reform are in place, and to undertake reforms in the right sequence. Financial crisis is a virtual certainty if the capital account is opened up before the strengthening through reform of commercial banks and other financial institutions and before elimination of misalignment of interest rates. It is important to accelerate financial liberalisation, but essential to go about it in the right way.

Alexander Ballantyne, Jonathan Hambur, Ivan Roberts and Michelle Wright in Chapter 11 point out that the financial architecture currently in place in China shares some characteristics with Australia's financial system prior to deregulation in the late 1970s and early 1980s. This chapter goes through the Australian story in great detail, not to prescribe Australian choices for China, but for Chinese economists and policymakers to have available to them lessons from the experience of a country whose financial system has much in common with China's at this stage of development. It notes aspects of the sequencing of Australia's financial reform that depart from the prescriptions in the economics literature. The chapter stresses the interdependence between financial reform and financial deepening. The authors' discussion of Australia's historical experience with financial reform extends to the contribution of financial deregulation to the inflationary boom of the late 1980s and the subsequent deep recession of 1990–91. The authors then turn to the case of China, covering banking system and interest rate reform in the 1980s, capital controls and the exchange rate in the 1980s, growth of financial markets and banking sector fragility in the 1990s, steps towards interest rate deregulation in the late 1990s and early 2000s and the currency regime and capital controls in the 1990s. The chapter then discusses China's evolving financial reform agenda.

The authors conclude that the sequencing of Australian deregulation might not be optimal for China. In some ways, China is now more advanced in institutional development than Australia was in the late 1970s—for example, with its hedging markets and prudential framework. Broadly speaking, the Australian experience suggests that reform creates its own momentum. Domestic financial deregulation creates additional channels for capital flows, making capital controls less effective and creating pressure for their removal. Capital account liberalisation may increase the need for broader financial sector reforms to manage the increased capital flows. Reform has risks and the stakes are undoubtedly higher for China today than they were for Australia in the early 1980s.

Guonan Ma and Robert McCauley in Chapter 12 compare the financial sectors and reform needs and programs of China and India. Their comparisons show the Indian financial sector is more open than China's; that opening of the capital accounts in both countries has a long way to go; and that both countries would experience pressure from large inward capital flows in the event of full capital opening. The authors caution that Chinese policymakers need to take into account the risks of such dynamics and volatility on the journey to capital account liberalisation.

The authors note the possibility that short-term net inflows could be followed by medium-term net outflows. Initially large inward portfolio and banking flows could interact in unpredictable ways with and exacerbate existing imbalances in the domestic financial system. Financial imbalances and vulnerability may then trigger capital outflows in a more liberal environment. Policymakers need to be concerned not only about the immediate money-market yield differential, and its relation to exchange rate volatility, but also the unpredictable outcome of the contemporary surge of credit in China. These considerations do not argue against incremental capital opening, but rather for keeping a strong measurement system in place so that the authorities do not find themselves flying blind.

In Chapter 13, Wing Thye Woo points out that China has now reached the stage of development at which fundamental financial sector changes are necessary to avoid falling into the middle-income trap. Woo discusses at length the profound and deeply damaging financial sector problems of the developed countries, which China has an opportunity to learn from and to avoid. Lessons from the unhappy experience of the developed countries should be applied taking China's circumstances into account. It is important not only to prevent financial failures with effective monitoring and appropriate regulation, but also to possess financial firefighting ability to put out inevitable financial sector fires. Risk management and supervision are central to successful financial deregulation.

Part IV covers reform in the land, labour and FDI markets in three chapters.

Since the early 2000s, land-related issues have been prominent sources of social tension as rapid urbanisation and industrialisation increase demand for changes in land use without mechanisms being made available to smoothly transfer land from less to more valuable uses. Chapter 14 by Tao Ran discusses the land question in relation to China's urbanisation and growth. Under the current land requisition system, rapid urban growth has led to tens of millions of farmers being dispossessed with inadequate compensation. Under the current rural land management system, farmers are not allowed by law to develop their own land for non-agricultural purposes. Tao discusses the economic and social distortions resulting from China's land management system, including the imbalance between urbanisation of population and availability of land, wasteful use of industrial land and real estate bubbles, and the role of real estate investment in the accumulation of local debt after 2008. He notes that current arrangements make the provision of affordable housing with decent living conditions extremely difficult.

Tao proposes a new model of urbanisation with coordinated reforms focusing on land. To remove the distortions in urbanisation and help China to complete its great economic transformation, the Government must carry out fundamental land reforms, which, among other things, set up a rental property market focusing on the requirements of the 200 million rural migrants who already choose to live and work in cities. This could be done by redeveloping urban/suburban villages so local farmers in these villages can legally build rental housing for migrants. Government can also levy rental income tax and, in the long run, a property tax to finance urban public services such as education for the children of migrants. To make up for the potential revenue shortfall from these measures, local government could also convert some industrial land for residential and commercial construction and levy a tax on land value appreciation from such conversion. Only by implementing real land reform and coordinating the land reform with reforms to *hukou* and local public finance can the unsustainable model of urbanisation be rectified. Tao argues that the proposed land reform package may offer some hope of a successful transition to a more healthy urbanisation model.

Chinese economic development in the reform period involved high levels of movement of rural residents to urban employment while preventing most migrants from becoming full citizens of the cities to which they have come. Understanding the restrictions facing migrants helps policymakers to avoid future mistakes. Xin Meng in Chapter 15 discusses the effects of these restrictions, and how they now pose potential challenges to the continued progress of China's urbanisation and economic development. Meng argues that institutional restrictions, explicit or implicit, on rural–urban migration make a large contribution to the shortage of unskilled labour in cities, which has been driving up wages at a rate faster than productivity. Meng discusses the implications of the newly published *National New Urbanisation Plan 2014–2020*, the recent industrial upgrading policy for migrant workers, the potential for removal of restrictions on migrants' rights, to increase urban labour supply in quality as well as quantity, and the relationship of these labour market developments to China's future urbanisation and economic development. Meng concludes that the *National New Urbanisation Plan 2014–2020* is built on inadequate understanding of labour market realities. Current industrial upgrading policy may not provide favourable labour market conditions for those currently engaged in agricultural work and soon to be redundant in the agricultural sector.

Chunlai Chen in Chapter 16 presents the results of research on the impact of FDI on China's regional growth and development. By the end of 2013, China had attracted a total of US$1.4 trillion in FDI inflows, making it by far the largest FDI recipient in the developing world. This chapter investigates and identifies empirically how FDI has contributed to China's regional economic growth. The chapter finds that FDI has contributed to China's economic growth directly through capital augmentation and technological progress and indirectly through knowledge spillovers on the local economy. The contribution of FDI to economic growth is influenced by local economic and technological conditions. FDI has a stronger impact on economic growth through capital augmentation and technological progress in the developed provinces than in the less-developed provinces. While FDI has a positive and significant impact on economic growth through knowledge spillovers in the developed provinces, the positive knowledge spillovers of FDI on economic growth are absent in the less-developed provinces.

The differences in the contribution of FDI to economic growth across provinces deserve the attention of both policymakers and academic research. The problem is not that FDI causes a widening of the gap between the developed provinces and the less-developed provinces, but that FDI has played a much less significant role in the latter than it might have done. Policy should encourage FDI flows into the less-developed provinces. The achievement of the full potential of FDI requires investment in education and infrastructure. Policies on inter-regional migration and cross-regional investments are also important in reducing regional disparity in income and production. More generally, China should encourage contact, information exchange, production and technological cooperation, joint research and development (R&D) activities, industrial linkages and competition between domestic firms and FDI firms in order to enhance and accelerate technological progress and the diffusion of positive spillovers from FDI to its economy.

Part V has five chapters discussing various matters related to productivity growth and its contribution to China's transition to an advanced economy.

Harry X. Wu in Chapter 17 measures the industry-level productivity of the Chinese economy and relates it to the reform debate—specifically reform to reduce the role of the Government in business. Since the mid 2000s, there has been a resurgence of consolidated and enlarged SOEs in so-called 'strategic industries'. Increasing government intervention in resource allocation, especially following the GFC in 2008, has been a main focus of policy debate. Since government interventions are often made through industry-specific policies and related institutional arrangements, it is necessary to examine industry-level TFP performance of the Chinese economy. This study applies the Jorgenson–Griliches framework in growth accounting to a newly constructed industry-level data set for China, to examine the sources of growth in Chinese industry from 1980 to 2010.

The estimation results show that the TFP growth of China's industrial sector as a whole for the entire period is only 0.5 per cent per annum. Although semifinished and finished goods industries have maintained slow TFP growth in the past three decades, there has been persistent TFP decline in industries that produce material inputs including energy. Wu also shows that China's World

Trade Organisation (WTO) entry was not accompanied by a continuous TFP improvement as one might have expected. Annual TFP growth for all industry fell to 1.2 per cent in 2002–07 although Chinese industry experienced its fastest output growth in history—that is, 18.8 per cent compared with 12.5 per cent in 1992–2001. The declining productivity performance in this period could be caused by the resurgence of large state corporations and the greater involvement of local governments in resource allocation. This finding highlights the urgency and importance of the Government's new strategy for growth by lifting China's industrial TFP through deepened reforms.

Yanrui Wu, Ning Ma and Xiumei Guo in Chapter 18 examine the considerable regional variations in industrial development. Their study applies a shift-share analysis of productivity gaps in industrial sectors across Chinese regions and examines issues associated with growth and structural change in China's manufacturing sector. They find that while manufacturing output has grown much more rapidly in the coastal zone than the central and western zones over the longer term, the last two started to catch up in the second half of the new century's first decade under the influence of various government policies supporting economic development in these areas. About one-third of the country's 30 regions recorded a positive productivity gap (relative to the national average). Most of these are coastal regions. Regions with relatively large negative productivity gaps are mainly in western China. The findings confirm the importance of development policies specific to each province and region. There are gains to be reaped from focusing on productivity improvement in the central and western zones and on structural rationalisation and allocative efficiency in the coastal region. Over the past decade, the official focus on western development, the rise of the middle regions and the north-eastern reinvigoration programs made significant contributions to the reduction of inter-zone disparity. The experience of the past decade demonstrates the importance of the central and local governments working together to deal with inter-zone productivity inequality.

China's railway system is the third most extensive and the busiest (million traffic units per route-km) in the world, with by far the longest and most rapidly growing high-speed passenger capacity. Robin Bordie, Stephen Wilson and Jane Kuang in Chapter 19 describe the history, current challenges and discussion of reform of China's rail system. Recent institutional changes are momentous, with the dissolution of the Ministry of Railways in 2013 and the establishment of the China Railways Corporation (CRC). The reform of the rail sector is challenging, as it must balance demands for national security, economic efficiency, primary energy transport and social stability. The natural monopoly characteristics of the rail sector create vested interests in the large 'benefit and profit' chain that become centres of resistance to reform. The CRC must pay down debt while continuing to pursue an aggressive expansion of services. Private investment is sought, but discouraged by social obligations and related subsidies. Commercial stability requires increases in freight rates, but adjustments have to take account of competition from trucking fleets offering more flexible, including door-to-door, service. Service efficiency and quality must improve while the system remains the lowest-cost and most environmentally sustainable transport option over long distances. China is clearly in the early stages of the railway reform process. The authors compare China's railway system with other countries'. China, Russia and France, but not India, have moved away from the full ministry model. The tendency is towards private or mixed state and private ownership, and towards light regulation. As the authors point out, however, no two countries are exactly alike with respect to ownership and regulatory arrangements. The industry structure and regulation in each country reflect history, the stage of development and the general approach to public policy.

Haiyang Zhang in Chapter 20 provides some insights into whether and how Chinese patent laws and related institutions have stimulated research and development, and influenced technology transfer from advanced economies to China. The Chinese Patent Law has been strengthened step by step over time. The central and local governments as well as universities and companies have introduced strong incentives for the acquisition of intellectual property rights (IPRs). The number of patent applications and grants has increased rapidly in recent years. Zhang identifies a number of differences between domestic and foreign companies in taking up patents in China. At the international level, China has also increased its international patent applications under the Patent Cooperation Treaty (PCT), especially since the mid 2000s. China has surpassed Germany and ranked third in the world in the number of PCT applications at the end of 2013. Against the background of rising numbers of patent applications in China, Zhang cautions against seeing patents as equivalent to innovation, since innovation can occur outside patented technology and many patents are never used in industry—some are taken out to obtain government subsidies or intimidate competitors. Patents also vary greatly in technical and economic significance.

Xiang Gao and Huiqin Jiang in Chapter 21 provide a comprehensive overview of China's foreign investment laws. They cover the basic framework of China's foreign investment laws and policies, historical developments and current issues and challenges. Foreign investment laws in China have been gradually improved along with the progressive deepening of reform and internationalisation of the economy. There has been progressive widening of the areas, industries and corporate structures in which foreign investment is welcome. There has been progressive improvement of the approvals process and movement towards national treatment. China's joining of the WTO played a significant role in the development of China's foreign investment legislation; however, as pointed out by the authors, problems with China's foreign investment laws remain and they include too complex and uncoordinated foreign investment laws and regulations; the complicated and ambiguous foreign investment approval process; and lack of transparency. Thus, China has some distance to travel in order to make its foreign investment laws an integral part of a system of rule of law, which China is endeavouring to establish.

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