1 Introduction: The Chinese Economy in Context

For the past 35 years, China has been the best-performing economy in the world. China's gross domestic product (GDP) has grown faster for longer than that of any other economy in history. Furthermore, the Chinese economy is now huge, comparable in size and global impact only to that of the United States. China is now a driver of the world economy, in part because it has benefited enormously from the wave of globalization that has washed over the world in the past three decades.

How has China achieved this extraordinary economic success? China is not an obvious candidate for prosperity, in the way that the United States and other "lucky countries" are. China has faced development problems that today's rich countries never had to face. Bringing its massive population out of poverty required China to overcome daunting geographic and resource limitations. China entered its rapid growth period far behind technologically and without the institutional framework and rule of law that rich countries had developed over centuries to support their sophisticated market economies. Yet China dismantled the socialist "command" system, created a dynamic market economy, and vaulted into the ranks of upper-middle-income economies. China has forged its own development strategy in a way that no country has ever done before, independent of the simplistic prescriptions of some brands of orthodox economics. Today, after more than three decades of extraordinary success, China must adapt its strategy to dramatically changed conditions that point to significantly slower growth. A newly middle-class society demands new goods and services, a better environment, and more robust social policies. Can policymakers deliver? Do they have the will to overhaul their approach to development, given the success it has brought them thus far? How big is the danger that hidden vulnerabilities will bring China's miraculous growth to a screeching halt? The Chinese economy continues to display both unmatched dynamism and unrivaled complexity.

It is useful to think of economic development as made up of two fundamental processes: structural change and institutional transformation. Structural change refers to real changes in the distribution of resources and activity. At the macro-structural level, the most fundamental change is the movement of labor and capital out of agriculture into the cities, and indeed China has transformed into a primarily urban industry and service-oriented economy over the past 35 years. Institutional transformation refers to changes in the organizations, information, and incentives that guide economic decision-makers. Governments, businesses, and households respond to the “rules of the game” in pursuing their objectives. China has undergone a dramatic institutional transformation from a “command economy” to a predominantly market economy. Both structural change and institutional transformation are sources of productivity improvement and income growth, and thus of economic development.

The objective of this book is to trace these broad processes of structural change and institutional transformation through the most important areas of the economy. From 1978 through 2010, both structural change and institutional transformation had their maximum possible effect on economic growth: the result was the extraordinary period we label the “miracle growth” period. Today, China has advanced to upper-middle-income status, and there is less opportunity for structural and institutional changes to drive growth: the miracle growth period is over. However, China still has robust growth potential, and medium-rapid growth over the coming decades will drive substantial catch-up and improvement in Chinese standards of living.

Structural change displays some common patterns in all growing economies. Although China has some distinctive features, China’s industrialization can be easily situated in common structural processes. But structural change, as we shall see, is not just a “macro” phenomenon, but also an intermediate, or “meso” phenomenon, affecting specific sub-sectors, and also incorporating changes in demographic and technological structure. Institutional change by contrast, evolves from a specific context, and Chinese institutions are utterly distinctive. As a result, institutional change plays out in China in even more complex ways, in an incentive environment quite different from that in most economies. The objective of this volume, then, is to make China’s ascent comprehensible by integrating the specific realities of China today with the broad patterns of structural and institutional change. Throughout, we hope to convey both the sources of strength and the challenges and vulnerabilities that have confronted China, including those overcome in the past and those that still face China today.

1.1 Enabling Conditions

China could not have achieved such dramatic growth without important advantages. Underpinning China's success are at least four favorable factors that influence nearly every aspect of Chinese economic performance:

1. Extraordinary human resources: China's people have a strong entrepreneurial drive, a cultural repertoire of market-friendly behaviors, and a powerful desire for educational achievement and increased knowledge. Moreover, they were already relatively healthy and literate at the end of the 1970s, so they were well positioned to take advantage of the sudden, massive increase in opportunities brought about by economic reform.
2. Global division of labor: China's opening corresponded precisely with a stage in the evolution of the global economy that permitted the dis-aggregation (or de-localization) of global manufacturing. This allowed the smooth transfer of labor-intensive export manufacturing from the already successful East Asian miracle economies to a newcomer—China—with low-cost, high-quality human resources and skills. China's factor endowment in the 1980s was a perfect complement to the world economy at that stage.
3. Enormous "catch-up" potential: Economists recognize that there are advantages of backwardness: the bigger the distance from the technology frontier, the more rapid the potential growth during the catch-up period. However, this potential can be realized only if there are sufficient enabling conditions, such as those provided by the two previous factors. China's enormous economic potential and human resources attracted interest and investment, enabling China to catch a wave of technological advance, most obviously in the spread of telecommunications and Internet technology.
4. A government with the capacity to learn: The Chinese government carried out an incremental and adaptive program of economic reform. This creativity was especially evident in the 1980s and 1990s, when China broke away from the command economy and created the fundamental institutions necessary to develop a robust market economy.

In other words, China in 1978 was in many respects well positioned for economic development. But many apparently well-positioned countries have stumbled in the development process, and some have stumbled repeatedly. China has been able to maintain a rapid pace of transformation. To accomplish this, China had to undergo a process of structural transformation, a technological revolution, the conversion from one demographic regime to another, and system reform that became systemic transformation. These concrete processes make up the subject matter of this book.

1.2 Growth and Development Level

From the beginning of the reform era in 1978 through 2010, China sustained an average annual economic growth rate of 10% according to official statistics. Rapid growth and huge population have long implied that China would one day emerge as one of the world's largest economies. As table 1.1 shows, this promise has now become reality. China's GDP reached US$11 trillion in 2015, valued at the prevailing exchange rate. China is the world's second-largest GDP after the United States ($18 trillion). If the figures are adjusted for purchasing power differences, according to the World Bank's international comparison project, China is already the world's largest GDP. In constant 2011 dollars—adjusted for purchasing power parity (PPP) based on the 2011 benchmarking exercise—China's GDP reached $18.6 trillion in 2015, surpassing the United States figure of $16.9 trillion (in 2011 prices). In PPP terms, China and the United States each account for one-sixth of total global output (see box 7.2 on page 163).

The growth that has made China a great economic power has not yet made it a rich country. China is the most populous country in the world, despite a declining growth rate: its population reached 1.375 billion in 2015. When the vantage point shifts to per capita values, the landscape changes dramatically. From a global standpoint, China is remarkably average. In terms of income, China's PPP-adjusted GDP per capita is close to the world mean value. Although China is still below the global mean, its growth rate is well above the global rate, so China will likely reach the global average in 2018 at about $16,000 in PPP terms.[1] China is a typical "upper-middle-income" country according to the World Bank's classification, right in the middle of that range. Other indicators related to the structure of the economy tell a consistent story. Urbanization—the share of population in cities—exactly equaled the global average of 53% in 2013, after decades of catch-up growth, and reached 57% in 2016. China's human resource indicators are a little better than global averages; for example, life expectancy at birth in China in 2015 was calculated at 76, significantly above the global average of 71.7 and above the upper-middle-income average of 74.7 (but below the high-income average of 80.7, or the United States at 78.7). Overall, China is fairly representative of world average development levels; it is no longer poor but is still a long distance from being a rich country. After adjustment for PPP, per capita GDP is exactly one-quarter of that in the United States.

This position in the global economy could be problematic. In simple terms, the upper-middle-income neighborhood that China now inhabits is rather crowded, while the range just above it is sparsely populated. Over 2.5 billion people live in countries

1. As table 1.1 shows, the gap is larger if it is calculated at current exchange rates, and the catch-up time is correspondingly longer. The comparisons in this paragraph and table 1.1 use the World Bank World Development Indicators.

Table 1.1
China's 2015 GDP in international context.

	2015 GDP (trillions of US$ at current exchange rates)	2015 GDP (trillions of US$ at constant PPP 2011 prices)	2015 per capita GDP (US$ at current exchange rates)	2015 per capita GDP (US$ at constant PPP 2011 prices)
China	11.1	18.6	8,069	13,572
United States	18.0	16.9	56,116	52,704
World	74.3	108.2	10,112	14,724

with PPP-adjusted per capita GDP between $10,000 and $18,000, including China, Brazil, Mexico, Iran, Egypt, and Indonesia. China's objective is to break out of the pack and make it into the group of high-income countries (above $30,000). Above $18,000, the terrain between upper-middle- and high-income status is rather thinly populated and may be especially hard to traverse. Only 400 million people live in countries with per capita GDPs between $18,000 and $30,000. Moreover, most of these are in the former Soviet republics and countries that have recently joined the European Union. Outside these categories, the only large countries (over 5 million population) in this range are Turkey, Malaysia, and Chile. The small number of countries in this range partially reflects the difficulty that a few countries (Mexico, Brazil, and Thailand, for example) have had in breaking out of the $10,000–$18,000 range. This has led to discussion of a "middle-income trap." The essential idea of the middle-income trap is that while it is reasonably straightforward for an economy to develop the skills to industrialize, urbanize, and move out of poverty, it is more difficult to find a path to high-income status. Reaching high-income status requires stronger technical capabilities, better institutions, and more innovation. These factors pose challenges to China as well.

Yet it is obviously possible for China to overcome the middle-income trap. There are already 1.07 billion people living in high-income countries, with per capita GDP over $30,000. All these wealthy countries, without exception, fall into one of three categories: Europe and the four countries of predominantly European settlement (the United States, Canada, Australia, and New Zealand); oil producers; and East Asian high-performance economies. The East Asian growth stars are clearly the relevant comparison group for China. Japan, Korea, Taiwan, Hong Kong, Singapore, and Macao have all made it to upper-income status. China is more like these economies than any other in all respects except size. The growth miracle China experienced from 1978 through 2010 was similar to that experienced by other East Asian economies, such as Japan and Korea, but bigger and longer. China started from similar economic conditions (but lower per capita income) and underwent similar demographic and structural changes. It adopted related programs of opening and market reform. We should expect that China also has the capability to follow these former growth miracles into high-income status. However, we should also expect China to run into some of the same obstacles and encounter the same pitfalls as these forerunner economies. Moreover, each of these economies experienced unanticipated difficulties when its miracle growth phase ended. China is not fated to repeat the experience of any given forerunner economy. Still, the question that defines China's big economic challenges today is: Can China adapt its policies and institutions to the requirements of slower growth so that it can sidestep crisis and disruption and smoothly enter another decade of moderately rapid growth?

1.3 Growth: Looking Backward and Forward

The first edition of this book was published a decade ago, in 2007. At that time, the relationship between China's growth prospects and the twin processes of structural change and institutional transformation was unusually straightforward. China was undergoing the structural transformation from a rural to a predominantly urban, industrial economy, but it was not yet complete and there was still substantial impetus to be derived from further structural change. China had undertaken the institutional transition from bureaucratic socialism to a market economy and achieved substantial success, but there were still obvious opportunities and productivity improvements to be reaped from further reform and institutional change. Based on data through 2005, then, the first edition pointed out that both fundamental processes were strongly underway, and argued that since "these two transitions [are] both far from complete" (4), the prospects were good for continued rapid growth: "We should expect China's rapid growth to continue for another decade [i.e., through 2015] and then begin to moderate as labor force growth slows and rural-to-urban shifts wind down" (140). This is indeed what happened. Overall growth from 2005 to 2015 was rapid, averaging 9.5% annually, but after 2010 growth rates began a steady, gradual decline to 6.7% in 2016.

Today, the two processes of structural and institutional change are just as fundamental as ever, but neither process can be counted on to deliver growth to the extent that it did a decade ago. The period of the most rapid structural change is now over. The commitment of policy-makers to market-oriented reforms has weakened, and it is uncertain to what extent institutional changes will drive future productivity gains. Each process has become a less powerful driver of development, and the two no longer work together in such an obviously consistent and mutually reinforcing fashion. Combined, they will make a weaker contribution to economic growth in the years ahead. The changed relationship among structural change, systemic reform, and growth is an underlying theme that unifies the diverse chapters in this volume.

This "new normal" is bringing slower growth and heightened risk, but recognition of these essential facts should not lead to a pessimistic appraisal of the Chinese economy. Slower growth should be understood as a deceleration from the 10% annual rates of the past 30 years, which obviously could not have been sustained indefinitely in any case. China's population is already much better off and has escaped the most severe forms of poverty. Moreover, the labor force has stopped growing, so the slowdown in output per worker will be less marked than the slowdown in total output. Anything growing at 6% doubles in 12 years. If China's output per worker grows at 6% annually, successive generations of 24 years will continue to see dramatic change as children enjoy wage incomes around four times those of their parents. Risks can be managed if economic reform continues and challenges are faced proactively. Slower growth is completely compatible with a highly productive and successful economy and a steadily improving standard of living.

1.4 Structural Transformation and the End of the Miracle-Growth Era

Structural transformation in China can be benchmarked against developing economies, since there are general patterns of structural change (chapter 7). However, an even more revealing comparison is that to the select group of so-called "miracle economies" described in section 1.2. These economies compressed the key structural transformations into a roughly 30-year period of extraordinarily rapid growth. These "forerunner economies" are almost all in East Asia, and they provide an obvious framework of comparison for China.

1.4.1 Features of Growth Miracles

There is no precise definition of a growth miracle. The Commission on Growth and Development (2008) covered 13 countries that grew at 7% or more for 25 years. Another common definition is economies with GDP growth above 8% for 20 years, or GDP per capita growth above 6% for the same period. Along with China, these definitions all include Japan, Korea, Taiwan, Hong Kong, and Singapore in the first generation of growth miracles; and Malaysia, Thailand, and Indonesia among a second generation of incomplete growth miracles. These nine economies, all in Asia, are the primary inhabitants of the growth miracle category.[2] In the most basic sense, these economies share four common features. Besides sustained rapid growth, these characteristics are:

2. In addition, the Commission on Growth and Development includes Brazil (1950–1980), Botswana, Malta, and Oman as sustained high-growth economies. Some definitions include Chile as well. In this volume, the comparison is primarily with East Asian forerunner "growth miracles."

1. Rapid labor-force growth as population dynamics change and economies enjoy a "demographic dividend";

2. Rapid structural change as workers leave agriculture and move to higher-productivity urban industry and services;

3. High investment rates that provide the infrastructure and industrial facilities needed to carry out this structural change; and

4. An open economic policy that allows rapid growth of export-oriented manufacturing.

China obviously displays all these characteristics. These features interact in a way that creates a virtuous circle in the development process. However, there is no clear consensus on which features are the most important. A great deal of attention has been paid to the policy lessons of export-oriented development, since that is potentially transferable to other countries. There is no dispute that the growth of labor-intensive export-oriented manufacturing plays a crucial role, since it allows the economy to absorb rapid labor-force growth and generate broad-based growth of incomes. Orientation to the world market means that growth does not run into demand-side constraints imposed by the size of the domestic market. Manufacturing may also be uniquely effective as a vehicle for importing and learning modern technologies. Export-oriented industrialization is a key part of the miracle growth process.

Since the 1990s, scholars have paid increasing attention to the centrality of the "demographic dividend" as well (chapter 7). Demographic change provides an abundant supply of young workers while also giving households an increased ability to save. High economy-wide saving and investment are essential to facilitate migration and rapid structural change. It is clear that each of these elements enables the positive impact of the other elements. They are complementary, and when they come together can produce phases of explosive growth.

Growth miracles cannot go on forever. They end when the structural and demographic conditions conducive to miracle growth are exhausted, and when economies move close enough to the global frontier that they can no longer succeed through imitative catch-up growth. The demographic and labor-force changes are inevitable and unavoidable. Rapid labor-force growth and the demographic dividend (chapters 8, 9) end after birth rates decline and as the population ages; structural change from workers moving out of low-productivity agriculture is exhausted when all young workers have left the farm. Other elements may also make less effective contributions to growth as the miracle ages. Dependence on export-oriented manufacturing does not automatically end, but as the supply of low-skilled workers dwindles, costs of labor-intensive manufactures rise quickly, and exporters lose competitiveness in traditional industries. Global markets for some specific commodities may become saturated by a huge exporter like China. Whether manufacturers can maintain growth by shifting to new capital- and skill-intensive industries depends on a host of sector- and product-specific factors.

Countries also face challenges in continuing to use high investment rates to drive growth. High investment rates can support demand in the short run, but to contribute to long-run growth this investment must be used productively. It was relatively easy to find productive investment projects during the period of massive structural change and rapid growth, but it is harder to find productive investments after the miracle ends. Some domestic markets are saturated (home appliances); infrastructure networks like high-speed rail are completed; and the stock of developed country innovations that can be cheaply copied is depleted. None of these opportunities are completely exhausted, but investors are forced to be more selective, and must search harder for productive and profitable opportunities. More generally, the end of the miracle-growth era reshapes the economic landscape in such fundamental ways that new approaches and policies are necessary to sustain moderately rapid growth.

1.4.2 The Abrupt Endings of Growth Miracles

The complexity of the relationships among demographics, migration, investment, and trade policy may illuminate one aspect of the end of miracle-growth eras that is otherwise difficult to explain. In all miracle-growth economies, gradually slowing labor-force growth and structural change would have been consistent with a smooth slowdown. Indeed, economic theory leads us to expect a gradual deceleration of growth as the growth of factor inputs (labor and capital) decelerates while productivity growth remains stable. However, the historical experience of previous growth miracles shows that growth transitions often happen quite abruptly and usually with significant economic disruption. For example, Japan grew at 10.4% per year for 23 years, between 1950 and 1973, but after 1973 growth dropped sharply, and Japan never sustained growth above 6% again. Less than 20 years later, Japan entered a profound economic crisis that saw its growth rate drop close to zero for another two decades. In the case of Japan, the end of the miracle was marked by short-term economic disruptions that were surprisingly severe and followed by a long-term slowdown that seems unduly protracted.

Korea grew robustly into the 1990s and tried to keep growth high even as labor costs rose and structural transformation slowed. The eruption of the Asian financial crisis in 1997 brought Korean growth to a temporary halt and forced deep and painful restructuring. Korea's post-1998 growth was more vigorous than that of Japan, but there was no mistaking the abrupt end of the miracle-growth era. GDP growth never retained previous highs and decelerated to 3% annually from 2010 to 2016. Other East Asian economies had less dramatic growth slowdowns, but each in its own way has experienced substantial difficulties in making a smooth transition to slower growth.

Economists have not developed a general understanding of these abrupt slowdowns. In each case, a sharp external shock produced lasting changes in long-term growth trajectories. The first world oil crisis in 1973–1974 shook up the Japanese miracle-growth model, and the Asian financial crisis in 1997 derailed Korea's growth. However, nobody has convincingly shown why these transitory external shocks, however severe, should lead to a permanent fall in the growth rate. China is not fated to follow a similar trajectory, but these experiences should alert us to the complexity of the end of the growth-miracle phase. China's level of development today is similar to that of Japan and Korea when their growth miracles ended. Looking just at GDP per capita, China in 2017 is at the level of Japan in 1973 ($15,000 in 2011 PPP U.S. dollars). By 2023, if growth remains strong, China will reach the level of Korea in 1997 ($20,800), and in another decade reach the $30,000 of Japan in 1992. Many factors are at play, and policy must adapt effectively to a number of new challenges, but the broad context is given by the end of the miracle-growth era.

1.4.3 Multiple Turning Points

The preceding discussion has made clear that the end of the growth-miracle phase is not simply a single dimensional quantitative change; an economy does not simply downshift from 10% to 6% growth. Instead, a society undergoes a multi-dimensional shift. Reaching middle-income status, the economy begins to mature, and changes take place in economic, social, and institutional arenas. Indeed, it is striking how many fundamental, long-run trends in the economy changed and reversed course, especially in the 2007–2010 period. For example, some of the unambiguous turning points that have occurred in the last decade include the following:

- Labor force growth had been robust as late as the 1990s, but gradually ceased and went into reverse after 2011 (chapters 8 and 9).
- Rural-to-urban migration had accelerated until 11 million new migrants were annually moving across provincial boundaries in the 2005–2010 period, but from this peak migration has dropped to less than 5 million annually in 2010–2015, and continues to fall (chapter 6).
- Exports as a share of GDP increased for three decades to a peak in 2006, and have declined steadily since to about half their peak level (chapter 16).
- The share of manufacturing in GDP and the share of investment in GDP, both among the highest ever attained by an economy, increased further before beginning to decline. The manufacturing share finally peaked in 2007 at 33% of GDP and investment

plateaued from 2010 through 2013 at 45% of GDP. Both have now begun to drift downward (chapter 7).

- The economic center of gravity shifted steadily toward the coastal regions for decades, but the coastal share peaked in 2006 and the center of gravity is now slowly shifting inland (chapter 2).
- From being one of the world's largest host countries for inward foreign direct investment (FDI), China has become a large source of outward FDI. FDI outflows surpassed inflows for the first time in 2016. More generally, China now resembles a developed country with balanced inward and outward FDI flows (chapter 17).
- Income inequality, which had increased relentlessly to a peak Gini coefficient of 0.49 in 2008, has finally stabilized and begun a moderate decline (chapter 9).

Accompanying these profound reversals of economic trends, long-established policies have begun to change as well. A selection of these policy changes includes:

- The One-Child Policy, in place since 1980, was finally abolished and replaced in 2016 by a general two-child policy (chapter 8).
- China stopped taxing farmers and began to subsidize and protect agriculture (chapters 6, 12).
- The long-term process of rebuilding a social safety net, including health insurance and universal education, was undertaken in earnest after 2005 (chapter 20).

These policy changes are important adaptations to the "new normal" that China faces after the growth miracle. Chinese policy-makers have recognized for a decade that they will need to rebalance the economy, and find new drivers of growth in service and knowledge-intensive sectors.

1.4.4 Shift in Development Strategy After the Growth Miracle

One important difference between China and its forerunners in the Asian miracle-growth club is already apparent. Japan and Korea responded to the end of the miracle-growth phase by reducing government steerage of the economy. China, by contrast, has responded by increasing the activist role of the government in promoting new growth sectors. "Industrial policy" was most important in Japan and Korea in the 1950s through the 1980s and much less important thereafter. By contrast, industrial policy is a hot discussion topic in China today, and China has been increasing the scope and intensity of its industrial policy since 2006. As discussed in chapter 15, China has rolled out a series of activist industrial policies designed to foster the emergence of so-called "strategic emerging industries," industrial automation, and internet-based services. At the same time, government investments in infrastructure and research and development have been increased. In other words, rather than stepping back, letting market-based actors select investments in the young shoots of new industries, China has aggressively sought to foster new infant industries.

It remains to be seen whether China's approach will prove effective, but it is certainly different. Most mature economies have already moved to a "light touch" industrial policy, investing in research and seeding new sectors with modest amounts of funding. Some eschew industrial policies altogether. China has instead elected to spend a significant amount of government money and deploy a wide range of intrusive instruments to shape the emerging economic structure.

At a minimum, China's policy approach reveals a great deal of confidence in the government's ability to pick winners, and a somewhat surprising lack of confidence in the market's ability to generate dynamically efficient outcomes. This is surprising, because marketization has been so profoundly involved in the most important successes of the Chinese economy over the past 40 years. To understand this point, we must consider the fate of market-oriented reform in China today.

1.5 System Reform: An Increasingly Contested Transformation

System reform has contributed powerfully to growth in China since 1978. Yet it is a curious fact that growth has not completely vindicated the market, nor has it necessarily improved the fortunes of further market-oriented reforms. After about 2005, the Chinese government's commitment to market-oriented reform was noticeably scaled back. To be sure, the government's rhetorical commitment to the idea of reform has never wavered. However, the formulation and implementation of concrete reform programs has slowed since 2005. Market-oriented reforms seem to face more opposition than before from conservatives, big-government advocates, and interest groups. Moreover, policy-makers are clearly concerned with balancing objectives of at least equal priority with market-oriented reform, including rebuilding social security nets and fostering high-technology industry.

This is very different from the commitment to market reforms during most of the miracle-growth era. For most of the period from 1978 through 2005, top policy-makers saw the problem of reform as being central to the quest for growth, and inseparable from it. Chapter 5 argues that the desire to foster growth was an integral part of reform strategy from 1978 on; it is equally true that market reform was an essential part of growth strategy as well. Most key economic policy-makers took it for granted that China could not achieve the wealth and power it wanted without profound market-oriented reforms. As of 1978, the command economy had failed; that system was rotten to the core. The economic reforms of the 1980s represented a thorough effort to reconstruct and revitalize the system from the ground up. In the 1990s, a crisis of state capacity stared Chinese policy-makers in the face, and the reforms of the 1990s rebuilt institutions and the capabilities of the government and the economy at large. Reform was always difficult, and policy-makers debated and fought over reform policy. In the end, though, China overcame each successive economic crisis through thorough market-oriented reform.

Moreover, these reforms were successful. Each wave of reform was followed by a wave of re-invigorated growth and development. Reforms revealed information about economic potential that allowed China's development strategy to be tailored to the economic development stage China had achieved at the time. No other economy ever went through the initial stages of development more rapidly, more effectively, or with as much single-minded determination as China did. With the highest sustained investment rate ever experienced, China built infrastructure and factories, urbanized rapidly, and developed into an export powerhouse. This approach was thoroughly intertwined with market reforms, which provided the incentives that changed behavior and put hundreds of millions of people in motion.

After 2005, the unity between market reform and economic growth began to come apart. Chinese policy-makers faced new trade-offs. They could allow market forces to drive the emergence of new sectors, or they could force the process through government action. While they understandably tried to do both, they gradually began to tilt more toward government steerage then market reform. As a result, systemic transition slowed down after 2005.

In fact, successful growth after about 2003–2004 greatly reduced the urgency of reform. The experience of rapid growth and profound economic success made policy-makers complacent: What was the need for further reform? In the 1990s, a profound sense of crisis pushed forward painful changes, but what pressing crisis demanded painful reforms in the twenty-first century? Without compelling answers to these questions, further reforms stalled out. The absence of crisis may have coincided with a stronger commitment to the existing system among various interest groups. State-owned enterprises returned to profitability, so they were worth holding on to. Moreover, the system was in many respects further strengthened by the creation of a set of complementary social institutions—neglected in the previous reform phase—that began to provide basic medical insurance, improved education, and basic social security. The balance of forces was altered: sources of dissatisfaction were reduced, and defenders of the status quo were strengthened. Inclinations toward stronger government steerage were strengthened when the global financial crisis hit in 2008–2009, and a robust stimulus program vindicated government intervention, at least in the short run.

Thus, the market transition framework is less convincing today than it was 10 years ago. Around 2005, it was reasonable to see China as moving toward a form of mixed-market economic system, the basic framework of which was familiar and understood in similar ways by most Chinese and foreign observers. Today, a Chinese economic system has emerged that indeed relies predominantly on the market, especially in the downstream and foreign-trade sectors, but also retains a robust, relatively centralized state sector in some industrial and service sectors, including finance. Moreover, a powerful government intervenes extensively in microeconomic processes throughout the economy in pursuit of increasingly ambitious goals. Ten years ago, the achievements of economic reform were already evident, and it was easy to extrapolate their (positive) impact on the economy. The direction of change was clear, even if the exact end state of reform was unknown. Today, it seems more appropriate to see the Chinese system as having taken on a relatively stable form, a distinctively Chinese economic system based on the market, but with extensive direct government intervention and substantial discretionary control in the hand of government and Communist Party bureaucrats. Of course, this system will still undergo substantial change as policy-makers and the Chinese population adapt to new capabilities, opportunities, and challenges, but it is not obviously in transition to something else.

Since the Third Plenum of the 18th Communist Party Central Committee in November 2013, Chinese leaders have announced a broad program calling for the revitalization of reform. The Plenum more or less officially adopted the view that economic reform stagnated during the 2002–2012 Hu Jintao–Wen Jiabao administration. The Plenum marks a welcome recommitment to the goal of market-oriented reform, but it is not easy to restore momentum to a process interrupted for many years. It will take time to see where the new round of reforms leads, especially since many promising reforms were suspended during the market turmoil of 2015. Because it makes less sense to think of China as a transitional economy, the subtitle of this second edition has been changed. While the first edition was called *The Chinese Economy: Transitions and Growth*, this second edition is entitled *The Chinese Economy: Adaptation and Growth*. While China will continue to go through multiple transitions, the key challenge will be to adapt to the complex realities of the new normal, after the period of high-speed growth.

1.6 Growth Acceleration and Slowdown

From a long-term perspective, we can look at the years from 2005 to 2016 as the end of miracle growth and the transition to the new normal. However, the short-run experience was more complex: after 2005 the economy first accelerated and only then slowed down. Looking backward from 2005, GDP had grown at 9.2% per year for a decade. Optimists believed rapid growth could be maintained, but scarcely anybody expected that it would accelerate. In fact, though, from 2005 through 2010, growth increased to a remarkable 11.2% annually, an acceleration of two full percentage points. Moreover, since population growth dropped from 0.8% to 0.5% annually, per capita GDP growth accelerated from 8.3% to 10.7%, a difference that was probably perceptible in the daily life of households. This really was a golden era in the experience of the average Chinese household. Moreover, the acceleration of this five-year period occurred despite the impact of the global financial crisis that raged from late 2008 into 2010. This is also the period in which China's economic success burst into international recognition, and China began to play a significantly altered and expanded role on the international stage. This is one of the most extraordinary economic outcomes of modern times.

Why did growth accelerate after 2005? System reform played a crucial role. In 2005, the Chinese economy was emerging from the milestone reforms of the Zhu Rongji years (1993–2002), a period of fundamental transformation from a command economy to a market economy (chapter 5). The relationship between the Zhu Rongji reforms and the growth acceleration exemplifies the general logic of economic reform. Reform is difficult and costly, and it produces productivity and growth benefits with a lag. In the case of the Zhu Rongji reforms, painful reforms in the late 1990s cut back the state sector, releasing factors of production for more productive uses and reducing the drag on the government from subsidizing inefficient firms. It also cleared the way for the emergence of qualitatively more efficient producers who understood the new rules of access that enabled their growth. The evidence is overwhelming that substantial productivity growth occurred during the first decade of the century, encompassing both private firms and newly reformed state firms (Brandt, Van Biesebroeck, and Zhang 2012). The liberation of the potential of Chinese producers led to a massive positive supply-side productivity shock. China's growth acceleration after 2005 is inconceivable without the prior achievement of the Zhu Rongji reforms.

A successful growth acceleration is realized through specific sectoral changes. Two were most important in this period. First, China's entry into the World Trade Organization (WTO) was the culmination of several years of market-liberalization measures. By dismantling the barriers that had prevented domestic firms, especially private firms, from accessing international markets, WTO membership was crucial in facilitating the phenomenal surge of exports that occurred after 2004 (chapter 16). China's trade growth then became a constituent part of a virtuous circle of global growth fueling development in commodity exporters such as Brazil and Chile as well. Second, the urban housing boom was the result of the privatization of existing housing owned by work units, combined with a practical resolution of the problem of landownership in the cities through the development of tradable long-term use rights. As urban households traded up to more modern apartments and invested in a second or third apartment, demand for housing exploded. Rising prices in turn fueled investment demand, sparking dramatic growth in construction and then in upstream heavy industries such as steel and cement. Investment rates rose again as households contributed to increased national saving and investment. Growth acceleration was the deferred gift of the Zhu Rongji economic reforms to the Chinese economy.

Since institutional reforms had cleared away most of the barriers to macro-structural change, high investment was enough to facilitate restructuring. Migration from the countryside to China's cities peaked during the 2005–2010 period: inter-provincial migration reached a staggering 11 million per year during this period (chapter 6). An extraordinary investment effort provided factories for these migrants to work in, as well as shelter and transportation. Frenetic growth also pushed China more rapidly toward the conclusion of its period of maximum structural change.

Chinese policy-makers eventually began to worry seriously about economic over-heating caused by excessively rapid expansion of exports and housing. Inflation surged above the 5% warning line in the third quarter of 2007. Economic imbalances were exacerbated by a fateful policy choice of maintaining an almost fixed exchange range between the renminbi (RMB) and the U.S. dollar even as large export surpluses began to develop in 2005. In the fourth quarter of 2007 China finally began to allow faster appreciation, but within a couple of months, the global financial crisis upset everyone's calculations. The collapse of Lehman Brothers in October 2008 brought global crisis to China's front doorstep. China's reaction was to unleash an enormous wave of domestic stimulus spending. This domestic stimulus succeeded in buffering China against the worst of the global crisis and pushed investment rates to new highs. The surge of credit rebalanced China's foreign-trade account by dramatically expanding domestic demand (through increased investment demand), and China's GDP growth rate bounced back after spending only one quarter below 8%.

Only after the global financial crisis had been weathered did China directly face the challenge of the secular decline in the growth rate. GDP growth slid steadily from 10.6% in 2010 to 6.7% in 2016. In this circumstance, the stimulus program of 2009 marked the beginning of a period of rapid expansion of credit designed to keep the growth rate from declining too precipitously. The credit spigots that were opened during the 2009 crisis have never really been closed. As a result, the problem of managing the long-term structural changes has been compounded by the challenges of dealing with a debt overhang and the need to de-leverage the corporate economy. These issues are discussed in chapters 18 and 19. As the experience of earlier growth-miracle economies demonstrates, the transition to slower growth is never simple or easy.

1.7 Responding to the "New Normal"

China's economic future will continue to be shaped primarily by the impact of structural change and institutional transformation. However, it no longer makes sense to portray these as essentially well-known and ongoing transitions. China's postindustrial economy beckons, but at the same time technological changes loom that may fundamentally shift the relationship between industry and other types of economic activity. In some respects, China has become a typical upper-middle-income emerging market, but in other respects, Chinese institutions and policies have become even more distinctive and more settled into a "Chinese system."

On the developmental side, China has come further and faster than expected. However, the structural changes that have brought China to where it is today, while far from exhausted, will not drive the same kind of growth in the future. One stage of development transition, in other words, has been mostly completed, and the prospects for the next stage are inevitably less clear.

The ultimate result of these changing trends is that the Chinese system is under increasing pressure to adapt to a new stage of growth. The necessary transitions are now multiple: demographic, technological, macroeconomic, and institutional. Can China rebalance its economy? Can it avoid the middle-income trap? Can it make the leap to an innovative society and economy? These are all questions that confront economic policy-makers with new challenges and new risks.

1.8 Using This Book

The chapters of this book are organized in a bottom-up fashion. Chapters 2 through 6 cover endowments, legacies, and economic systems and their evolution through the present. Chapters 7 through 10 approach the developmental process through four complementary perspectives: structural change, population, labor, and living standards. This is followed by seven chapters that cover specific sectors, beginning with agriculture and progressing through industry and technology and foreign trade and investment. Three chapters consider macroeconomic, financial, and fiscal issues. A final chapter on the environment concludes. The book is designed to be a platform, covering much of the essential information about the Chinese economy and thereby serving as a starting point for further in-depth study of any specific topic. Each chapter is a descriptive essay. The chapters are extensively cross-referenced, but each is designed to stand on its own. Some chapters have been changed and renumbered since the first edition. Chapter 18 is a new chapter on macroeconomic policy, discussing the dramatic macro events of the past decade and introducing three chapters on macro and financial issues. Coverage of macroeconomic and financial issues is much stronger than in the first edition. The section on energy that was included in a chapter on sectoral change in the first edition has been moved into chapter 21 on the environment, and the sectoral chapter (the former chapter 14) has been eliminated.

Because the chapters in the book are intended to stand alone, courses should be able to assemble the chapters in different sequences to accord with different approaches to the material.