2

Imbalances and Their Implications for China's Economy

China's early, large, and well-designed stimulus program meant that China came through the global financial and economic crisis in an unusually strong economic and financial position. While global output shrank by more than 2 percent in 2009 and then recovered at a subpar 3.9 percent pace in 2010, China powered ahead with growth of 9.2 and 10.4 percent in 2009 and 2010, respectively (IMF 2011b, 2; National Bureau of Statistics of China 2010f, 40; 2011e).[1] Similarly, while global trade fell by 23.5 percent in 2009 (the sharpest decline in 70 years) and then recovered by an estimated 13.5 percent in 2010, China's trade fell only by 14 percent in 2009 and then roared back with a 35 percent expansion in 2010.[2] That meant global trade in 2010 was well below the previous peak level of 2008, while China's trade in the same year was well above its 2008 level. Finally, global foreign direct investment (FDI) flows fell sharply in the downturn in 2009 and were stagnant at that depressed level in 2010. China's inbound FDI also fell sharply in 2009 but soared by almost two-thirds in 2010, reaching $185 billion, an all-time high. China's outbound FDI did contract by almost 20 percent in 2009, but it rose by 37 percent to reach a record high of $60 billion in 2010 (State Administration of Foreign

1. Global growth rates are measured at market exchange rates. China's GDP growth of 10.4 percent in 2010 is an upward revision of the initially reported 10.3 percent.

2. Figures for global and Chinese trade are in volume terms, i.e., current prices, and are from World Trade Organization press releases of March 26, 2010, and September 20, 2010, available at www.wto.org (accessed on February 1, 2011) and China General Customs Administration data releases of January 10, 2010, and January 10, 2011, available at www.customs.gov.cn (both accessed on September 12, 2011).

Exchange International Balance of Payments Analysis Small Group 2011).[3] Despite China's impressive economic performance, the central thesis of this study is that sustaining a high rate of economic growth in China over the medium and longer run will require a fundamentally new growth model.

China's premier, Wen Jiabao, apparently shares the belief that significant reform is needed to sustain China's economic development. In what appeared to be an unscripted response to a question at his press conference following the annual meeting of the National People's Congress in March 2007, Premier Wen said that "China's economic growth is unsteady, imbalanced, uncoordinated, and unsustainable." This was a remarkable characterization of an economy that had just recorded its fastest annual growth in 11 years and, since 1978, had expanded at an average annual rate of almost 10 percent, faster than any other economy in the world. Premier Wen subsequently has used the same or similar language to describe China's economy on a number of occasions, and Hu Jintao used similar language in his July 1, 2011, address on the occasion of the 90th anniversary of the founding of the Chinese Communist Party.[4] This chapter analyzes the factors that may have led to the premier's characterization of the economy in this way; the following chapter examines the policies the government has pursued to correct the various imbalances in order to make China's economic growth more sustainable.

There are four different but complementary approaches to examining the structure of an economy and evaluating the degree to which it might be considered "imbalanced." The first, called the expenditure approach, looks at the sources of growth, i.e., the sources of demand. What is the mix of demand among consumption (by households and the government), investment, and net exports? How has this changed over time? The second, called the production approach, examines the economy from the supply side, i.e., the structure of output. What are the relative contributions of agriculture, industry, and services to total output? The third, called the income approach, looks at the shares of income accruing to workers, enterprises, and the government. The fourth method, called the savings-investment approach, looks at the balance between national savings and national investment. When national savings exceed national investment, a country necessarily has an external surplus. Conversely, when savings fall short of investment, a country has an external deficit. The specific source or sources of the national external imbalance can be identified by disaggregating national savings and national investment into the contributions of households, the corporate sector, and the government.[5]

3. An annex to the cited report contains China's revised balance of payments data for the years 2005–09. These revised data are used throughout this study.

4. Hu Jintao, speech at the 90th Anniversary of the Founding of the Chinese Communist Party, July 21, 2011, available at www.gov.cn (accessed on August 23, 2011).

5. Chinese data also break down the corporate sector into financial firms and nonfinancial firms. Since the contribution of nonfinancial firms to China's GDP is more than 10 times the contribution of financial firms, disaggregating the corporate sector into the two components does not provide any additional insights and is not undertaken in this study.

As I will show, considered by each of these four approaches, the Chinese economy became increasingly imbalanced after 2002 or 2003.

The material in this chapter is dry and technical yet important. In economic policy, as in medicine, the prescription is of little value if the diagnosis of the underlying problem is wrong. This saying is especially apt in the case of China because revised economic data require a substantial change in the diagnosis of the nature and causes of the country's economic imbalances. For example, on the basis of data published through the summer of 2010, it appeared that the main reason for the dramatic fall in the consumption share of GDP was that the growth of wages lagged far behind the growth of labor productivity, with the result that the wage share of income had fallen sharply while the share of national income accruing to corporates had soared (Luo and Zhang 2009, 157; Pettis 2011, 3–4). However, new data published in September 2010 show that the wage share of national income has fallen, but only slightly, and that the share of national income accruing to corporates was virtually unchanged.[6]

The Expenditure Approach

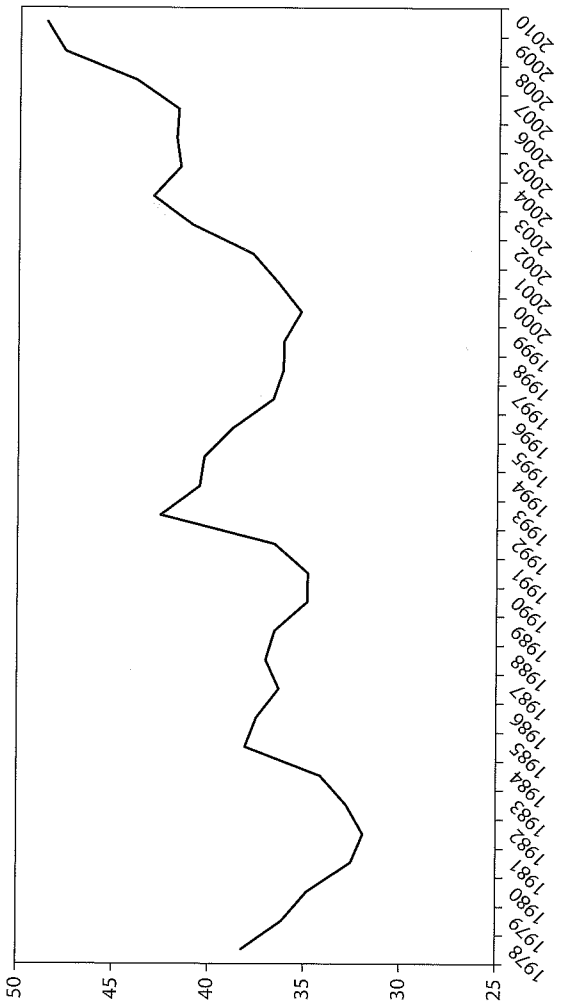
In any economy, output growth is the sum of the change in the three basic components of GDP: consumption (both private and government), investment, and net exports of goods and services. Analyzing the relative importance of these three components helps us understand the sources of growth in an economy.

Expanding investment has been a major and increasingly important driver of growth in China. Figure 2.1 shows investment averaged 36 percent of GDP in the first decade or so of economic reform, a share that is high relative to developing countries generally but comparable to China's East Asian neighbors when their investment shares of GDP were at their highest (Lardy 2006). China's average investment rate rose somewhat in the 1990s compared with the 1980s but is still roughly in line with historic high levels seen in newly industrializing economies. But since 2003 investment has consistently exceeded 40 percent of GDP, a level well above even that of China's East Asian neighbors during their periods of highest investment (National Bureau of Statistics of China 2010f, 55). Rising investment has been fueled by a rise in the national saving rate, which reached an unprecedented level of more than 50 percent of GDP in 2006–10.[7] Investment in 2003–10 accounted for an average of 54 percent of China's economic growth, an exceptionally high share by international standards (National Bureau of Statistics of China 2010f, 57).

6. See section entitled "Shares in National Income" in appendix A.

7. By definition, the national saving rate is equal to investment as a share of GDP plus the current account as a percent of GDP. In China, these were 42 and 9 percent of GDP, respectively, in 2006.

Figure 2.1 Investment as a share of China's GDP, 1978–2010



Sources: National Bureau of Statistics of China (2010f, 55); ISI Emerging Markets, CEIC Database.

The growth of both household and government consumption has been rapid in absolute terms throughout the reform period. But in most years, household consumption growth has lagged the underlying growth of the economy, a lag that has become particularly noticeable since about 2002. As shown in figure 2.2, household consumption averaged slightly more than half of GDP in the 1980s. This share fell to an average of 46 percent in the 1990s. Then starting in 2003, household consumption as a share of GDP fell sharply, accounting for only 35 percent of GDP in both 2008 and 2009 (National Bureau of Statistics of China 2010f, 55–56). Preliminary data show a further decline to 34 percent occurred in 2010.[8]

As shown in figure 2.3, there appears to be no strong long-term trend in government consumption as a share of GDP, which has averaged around 14 percent throughout the reform period. But government consumption has declined in recent years, from a peak of 16 percent of GDP in 2001 to less than 13 percent by 2009 (National Bureau of Statistics of China 2010f, 55–56). Preliminary data show an uptick of a few tenths of a percentage point in 2010.[9]

As a result of these trends in household and government consumption, the relative importance of total consumption as a source of growth diminished substantially during the past two decades, particularly when compared with that of investment. In the first half of the 1980s, consumption growth accounted for almost four-fifths of China's economic expansion, whereas from 2003 through 2010 this share averaged barely two-fifths (National Bureau of Statistics of China 2010f, 57).

Beginning in 2005 and continuing through 2008 the growth of net exports of goods and services also became, for the first time in almost a decade, a major source of economic growth. As shown in figure 2.4, compared with $40 billion, or 2.5 percent of GDP, in 2004, net exports of goods and services in 2005 more than doubled to exceed $100 billion, or 5.5 percent of GDP. They more than doubled again in the ensuing two years, reaching $235 billion by 2007, or 8.8 percent of GDP. As a consequence, the contribution of net exports to economic growth increased dramatically, from an average of less than 5 percent (0.35 percentage points of GDP growth) in the four years 2001 through 2004 to an average of almost 20 percent (1.98 percentage points of GDP growth) in 2005–08 (National Bureau of Statistics of China 2010f, 57).

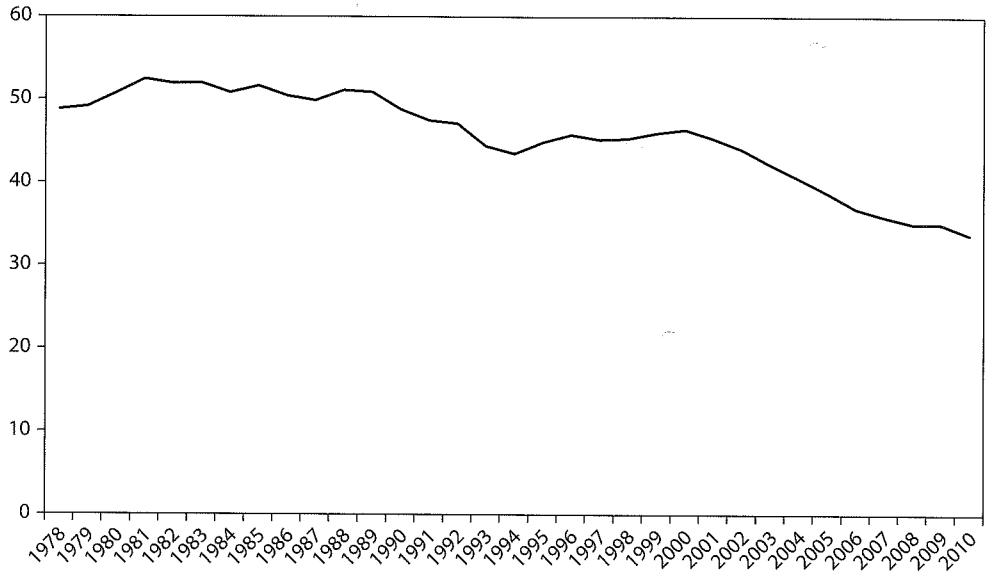
These metrics suggest that China's economy became highly imbalanced starting about 2003. The share of investment in GDP and investment's contribution to economic growth have been quite elevated since 2003. Similarly, China's external surplus during 2005–08 was extremely large, and net exports made an unusually high contribution to China's growth during those years. But the global recession, which led to the sharpest downturn in global trade in

8. ISI Emerging Markets, CEIC Database.

9. ISI Emerging Markets, CEIC Database.

Figure 2.2 Household consumption as a share of GDP, 1978–2010

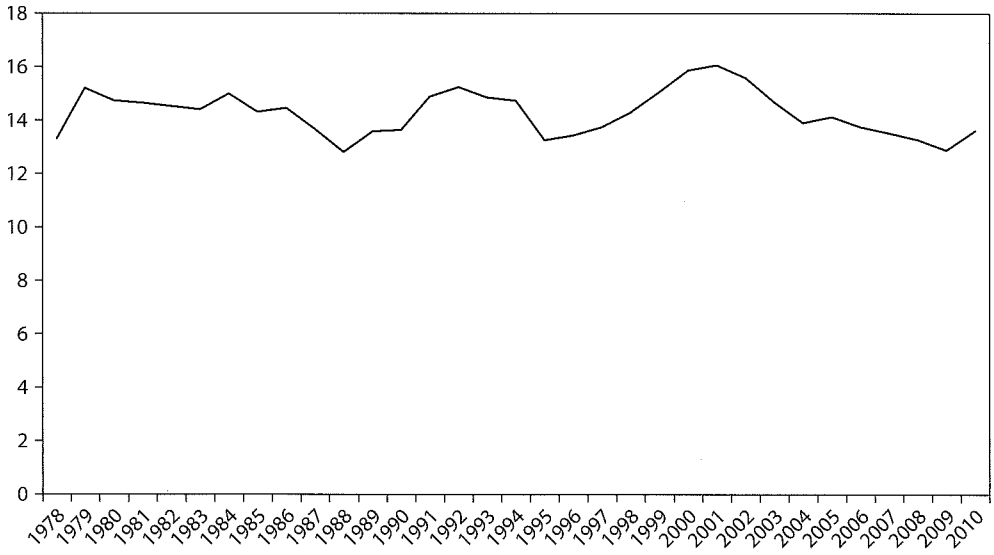
percent



Sources: National Bureau of Statistics of China (2010f, 55–56); ISI Emerging Markets, CEIC Database.

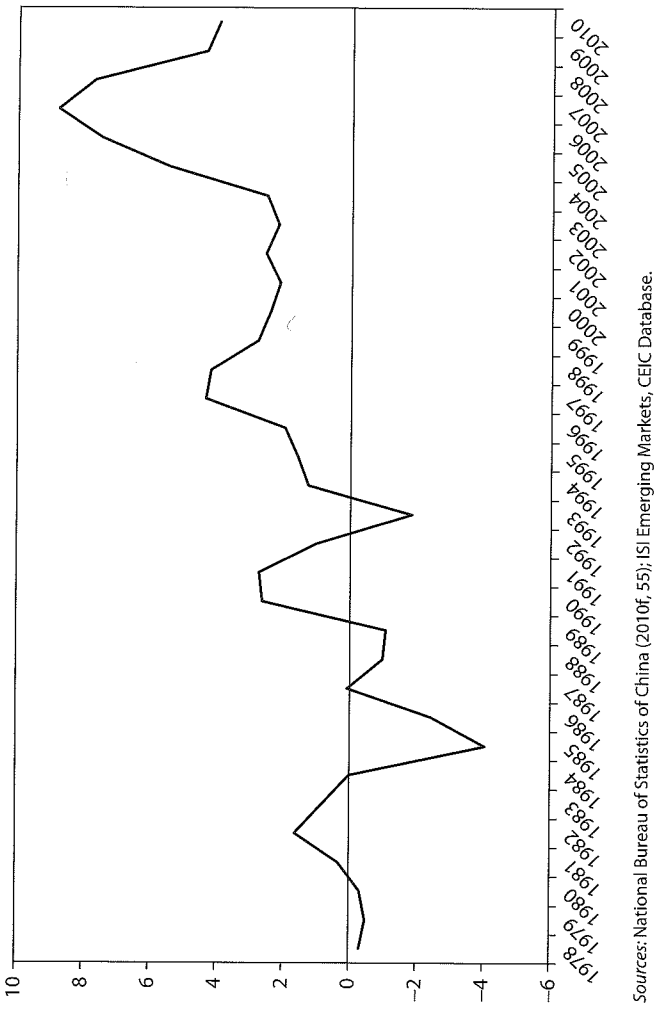
Figure 2.3 Government consumption as a share of GDP, 1978–2010

percent



Sources: National Bureau of Statistics of China (2010f, 55–56); ISI Emerging Markets, CEIC Database.

Figure 2.4 Net exports of goods and services as a share of GDP, 1978–2010



Sources: National Bureau of Statistics of China (2010f, 55); ISI Emerging Markets, CEIC Database.

60 years, brought an end to the outsized contribution of net exports to China's growth in 2009.

But the clearest indicator of imbalance in China's economy that emerges from the expenditure approach is the extremely low share of private consumption in GDP. The 34 to 35 percent share of 2008–10 is far and away the lowest share of any major economy in the world. The United States, where household consumption accounted for 70 percent of GDP just prior to the onset of the global financial crisis, was an outlier in the other direction.[10] More typical consumption shares in developed and emerging-market economies are reflected in the 63 percent consumption share in the United Kingdom and the 56 percent share in India, both in 2007.[11]

In the United States the lowest share of private consumption in GDP in the modern era was 50 percent in 1943–44, during World War II.[12] But that was an extremely unusual time in economic terms. Most of the capacity of US firms to produce automobiles, trucks, and other consumer durables had been converted to wartime production of aircraft, tanks, and other military equipment, severely limiting the availability of consumer durables. Most nondurable goods, such as gasoline, food, and clothing, were rationed starting in 1942. Thus the supply of consumer goods, both durables and nondurables, was extremely limited. On the demand side, households, encouraged by patriotic campaigns, purchased large numbers of war bonds, reducing the income available to them for consumption spending. By the end of the war Americans had purchased $186 billion in ten-year war bonds that paid well below market rates of interest. Thus the war bond program both increased household savings as a share of disposable income and reduced household income growth below the trajectory it otherwise would have achieved. After reaching an average of 25 percent of disposable income in 1942–44, the household saving rate fell back into the middle single digits within a few years after the conclusion of the war, roughly where it had been prior to the onset of the Depression.

Implications of China's Expenditure Imbalances

Before analyzing the implications of these imbalances it is important to note an important caveat. Official data on GDP by expenditure published by the National Bureau of Statistics probably underestimate housing services by a few

10. US data are available at US Department of Commerce, Bureau of Economic Analysis, National Income and Product Accounts Tables, www.bea.gov (accessed on September 12, 2011).

11. UK data are from UK Statistics Authority, National Statistics, "UK Output, Income and Expenditure—Q4 2007," available at www.statistics.gov.uk (accessed on September 12, 2011). Indian data are from Press Information Bureau, Government of India, "Press Note: Quick Estimates of National Income, Consumption Expenditure, Saving, and Capital Formation, 2006–07," January 31, 2008, available at http://mospi.nic.in (accessed on September 12, 2011).

12. Bureau of Economic Analysis, Table 2.1, Personal Income and Its Disposition, available at www.bea.gov/national/nipaweb/SelectTable (accessed on January 20, 2010).

percentage points of GDP.[13] Since housing services is a component of private household consumption, the underestimation implies that official data also underestimate the consumption share of GDP. But, even after any reasonable upward adjustment, the consumption share of GDP in China would still be very low in comparative terms.[14]

The main implication of the expenditure perspective is that China's imbalanced growth has led to suppressed levels of household expenditure and correspondingly lower levels of household welfare. Between 2002 and 2008 GDP measured in nominal prices grew at an annual rate of 17.3 percent per year. During the same period household consumption, also measured in current prices, grew at an annual rate of 13.2 percent (National Bureau of Statistics of China 2010f, 55–56). If household consumption had grown as rapidly after 2002 as GDP, household consumption by 2008 would have been one-quarter higher than was actually achieved.[15] So the main implication from the expenditure perspective is that imbalanced growth has suppressed Chinese household consumption by a fifth compared with what would have been achieved via a more balanced growth strategy.[16]

The Production Approach

The imbalanced character of China's economic growth is also evident in the structure of production. The evolution of the shares of agriculture, industry, and services in China's GDP is shown in figure 2.5. When economic reform began in China in 1978 the share of agriculture in total output was about 30 percent. Through the mid-1980s agricultural output surged as the rural communal production structure was dismantled and political constraints on marketing and other distortions of the Cultural Revolution era were lifted (Lardy 1978). As a result the growth of agriculture no longer lagged that of other sectors, and its share in GDP remained at just under a third. But, as the easy output gains in agricultural growth were exhausted by mid-decade,

13. See appendix A for a more detailed analysis.

14. If housing services are underestimated, that means both GDP and consumption are underestimated. So if the magnitude of housing services in 2009 was revised upward by 3 percentage points of GDP, the consumption share of GDP would be revised upward by only about 2 percentage points, from 35.1 to 37.0 percent (37.0 = (35.1 + 3)/103). It would take an upward revision of housing services by 30 percentage points of GDP to make the household consumption share of GDP equal to 50 percent, the share last recorded in 1989. This demonstrates that the undercount of housing services can't possibly be more than a minor contributor to China's extraordinarily low share of private consumption in GDP.

15. As can be seen in figure 2.2 the decline in the consumption share of GDP between 2002 and 2008 was almost linear. Thus it is the case that under the alternative scenario consumption in every year during that period would have been one-quarter higher than was actually achieved.

16. The implicit assumption is that the growth of GDP would not have been slower under a more balanced growth strategy.

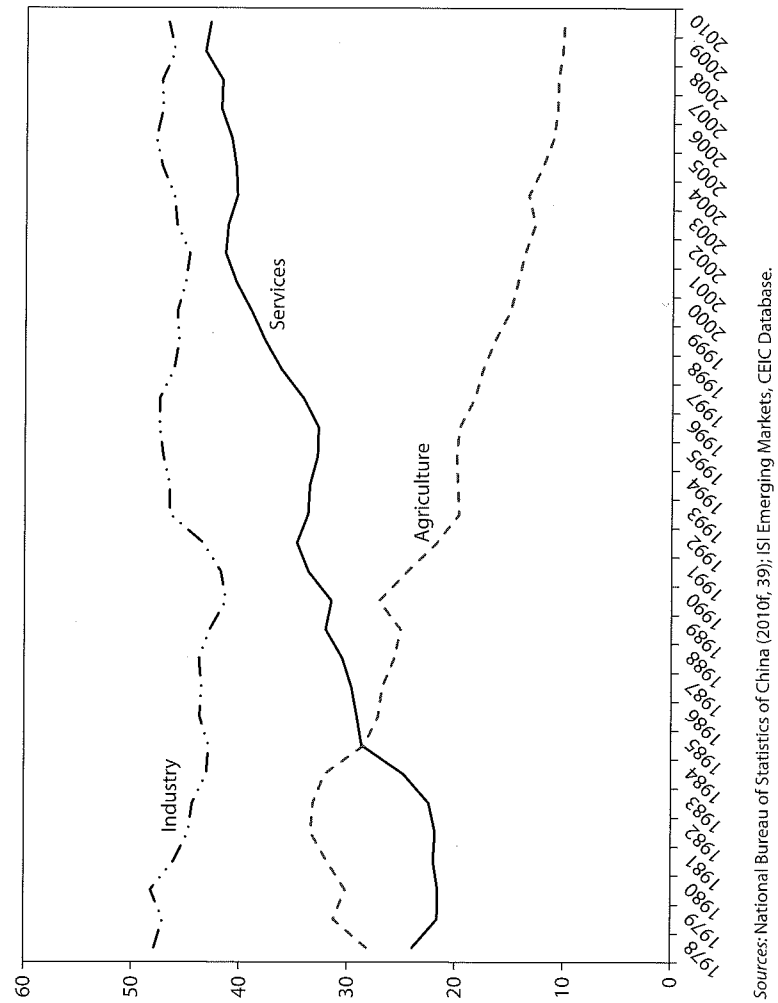


Figure 2.5 Agriculture, industry, and services as a share of GDP, 1978–2010

Sources: National Bureau of Statistics of China (2010f, 39); ISI Emerging Markets, CEIC Database.

agricultural expansion lagged and the share of agriculture in GDP began a gradual decline, reducing its share to just 10 percent by 2010 (National Bureau of Statistics of China 2011c). This path of decline in the share of agriculture in China's economy is typical as a developing economy reaches higher and higher levels of per capita GDP.

However, the evolution of the shares of industry and services in China has not been so typical.[17] China's industrial sector is larger than would be expected in a country at China's level of economic development, while its services sector is unusually small. The relatively high share of industry reflects the emphasis on manufacturing development that characterized the era of economic planning from the 1950s until the beginning of the reform period. Thus on the eve of reform in 1978 the industry share of GDP was 48 percent. Services, as in other planned, socialist economies, were undervalued, and their share of GDP on the eve of reform was quite depressed at just under one-quarter.

As market forces became more important in the 1980s and the 1990s, the share of services in the economy grew while the share of industry shrank. The services share of GDP reached a peak of 41.5 percent by 2002; industry's share gained in the first half of the 1990s and then ebbed for the balance of the decade and the first two years of the 2000s. The share of agriculture, as already noted, began a long-term steady decline after the mid-1980s.

However, in the 2000s the growth pattern changed in certain critical respects. Most importantly the services share of GDP, after steadily advancing for two decades, essentially stagnated. Its 43.0 percent share in 2010 was only 1.5 percentage points above that in 2002. Thus in the 2000s China was a conspicuous exception to the commonly observed pattern among low- and middle-income economies, in which a rising share of services in total output coincides with sustained growth. A second change was that the manufacturing share of GDP rose after 2002 reaching a peak of 48 percent in 2006, the same highly elevated level prevailing in 1978 on the eve of reform. By 2010 its share had declined by only a fraction to 47 percent.

Given these developments in the 2000s it is not surprising to find that China is an outlier in three respects compared with other countries at similar levels of per capita income. First, China's share of services in GDP is quite low. The average share of services in GDP in 2008 in other emerging markets at comparable levels of per capita GDP was 54 percent, compared with 41.8 percent for China.[18] Second, the share of employment in services in China is "significantly below the level suggested by international experiences, after taking into account China's state of development and other fundamentals" (Guo and N'Diaye 2011, 112). Third, the share of GDP originating in manufacturing is half again as high as other countries at comparable levels of development.[19]

17. The Chinese data on industry in this chapter, except in note 19, are inclusive of manufacturing, mining, utilities, and construction.

18. The comparison is with the average share of services in GDP in all middle-income countries as measured by purchasing power parity per capita income. Data on shares of GDP in countries at comparable levels of development are from World Bank, *World Development Indicators*, available at http://databank.worldbank.org (accessed on May 8, 2011).

Implications of Production Imbalances

The key implication is that there must be some underlying distortion or distortions causing China's pattern of production to diverge so substantially from expectations. Two potential distortions might explain the unusual pattern of change in the structure of output in China after 2002. First, as will be discussed further in chapter 3, China's exchange rate became increasingly undervalued after February 2002. From the mid-1990s to mid-2005 the Chinese currency was pegged to the US dollar. In the first half of this period, through 2001, the dollar appreciated on a trade-weighted basis and thus the renminbi also appreciated in effective terms, by about 3.5 percent per year. During these years there was no trend in China's current account surplus, which averaged a relatively modest surplus of about 2 percent of GDP.

This combination—continuous appreciation of the renminbi and an external surplus that is both relatively small and shows no upward or downward trend—provides substantial support for the view that China has experienced substantially greater productivity growth in the production of tradable goods than in the production of nontradable goods, i.e., the Balassa-Samuelson effect. Conventionally calculated real exchange rates utilize broad price indices to adjust for relative changes in prices in different countries. But when the Balassa-Samuelson effect is present in the country for which the real exchange rate is being measured, these relative price adjustments will be somewhat misleading. For example, assume broadly measured price inflation in China is 2 percent while prices in its trading partners are rising by an average of 5 percent. To make the illustration simple, assume that the nominal value of the renminbi is stable vis-à-vis the currencies of all of China's trading partners. Then the inflation differential would imply that Chinese goods are becoming 3 percent per year cheaper relative to foreign goods, i.e., on a real basis the Chinese currency is depreciating by 3 percent per year. But if China's headline inflation rate of 2 percent is the result of 3 percent inflation for nontradables, such as services, while, because of high productivity growth in manufacturing, the prices of tradables are falling by 1 percent per year, then Chinese goods in international markets are becoming 6 percent per year cheaper relative to foreign goods. Thus the conventionally calculated real exchange rate based on broad price indices, which would show the renminbi in real terms depreciating

19. In China manufacturing accounted for 33 percent of GDP. The average for all middle-income countries as measured by purchasing power parity was 21.2 percent. This definition of manufacturing differs from the concept of industry reflected in figure 2.5 and used elsewhere in this chapter. It excludes construction as well as mining and utilities. Data for the average of countries at comparable levels of development are from World Bank, *World Development Indicators*, available at http://databank.worldbank.org (accessed on June 10, 2011).

at 3 percent per year, would substantially understate the pace at which Chinese goods were becoming more competitive in global markets.

The conclusion is that the rate of appreciation of the real, trade-weighted exchange rate of the renminbi of about 3.5 percent roughly offsets the extent to which China's differential productivity growth in the production of tradable goods exceeded that of its trading partners. Absent this real trade-weighted appreciation of the renminbi, Chinese goods would have become increasingly competitive in global markets and China's external surplus would have exhibited a significant rise. Thus, as will be argued in chapter 3, the real effective exchange rate of the renminbi from the mid-1990s through 2001 should be regarded as an equilibrium exchange rate.

But after February 2002 the US dollar began a long period of sustained depreciation on a real, trade-weighted basis. Because China maintained its fixed exchange rate to the dollar, the renminbi also depreciated on a real, trade-weighted basis and its current account began to rise steadily, reaching an unprecedented (for a large economy) peak surplus of 10.1 percent of GDP in 2007. An undervalued currency boosts the profits both of firms that produce exports and of firms that produce goods that compete with imports in the domestic market. Exporters receive more units of domestic currency for each dollar's worth of products sold in international markets so that, ceteris paribus, producers of export goods will have more funds left over, i.e., profits, after paying for their labor and other inputs. Thus an undervalued currency increases the profits associated with producing for the export market. Similarly, when a country's currency is undervalued, would-be importers of goods from abroad will have to pay more in terms of domestic currency for each dollar's worth of imports. This means undervaluation gives scope for domestic producers of goods that compete with imports to raise their prices, again increasing their profits. For this reason it is said that an undervalued currency tends to increase the profits in the tradable goods sector (i.e., firms producing exports and domestic goods that compete with imports).

This theoretical possibility seems to be strongly borne out in China's official data on industrial profits. China's industrial sector accounts for 95 percent of China's exports and 70 percent of domestic goods that compete with imports (National Bureau of Statistics of China 2010e, 67). Profits in manufacturing soared from RMB470 billion, or 4.2 percent of GDP, in 2002 to RMB3.45 trillion, or 10.1 percent of GDP, in 2009 (National Bureau of Statistics of China 2005, 493–94; 2009b, 38, 507).[20]

Because China is predominantly a market economy, in which profit-oriented firms respond strongly to economic incentives, the undervaluation of the renminbi and the resulting increase in the profitability of producing manufactures (generally tradable goods) contributed to an increase in the share of

20. These data are for industrial enterprises with annual sales over RMB5 million. Profits of industrial firms also rose from 1998 through 2001 but most of these gains are attributable to restructuring of state-owned firms, including the closure of many loss-making companies.

investment flowing into manufacturing and a decline in the share flowing to services (generally nontradable goods). As analyzed in chapter 5, between 2003 and 2010 the former share rose by 8 percentage points of GDP and the latter share declined by 6 percentage points of GDP.

In short, while it is natural to think of a country's exchange rate as a very important variable influencing trade flows, it is important to recognize that this is true only because the exchange rate is one of the most important prices influencing resource allocation in the domestic market. Through its effect on prices, an undervalued exchange rate artificially raises profitability in the tradable goods sector, which for China overwhelmingly means manufactured goods, and reduces profits in the nontradable goods sector, i.e., services.

Domestic factor prices are a second distortion contributing to the relative stagnation of the services sector and the continued highly elevated share of the manufacturing sector in China's economy. China has had an asymmetric market liberalization process in which the prices of almost all goods now are set by supply and demand in the market but the state has retained control of the pricing of a few key factors of production, such as capital, land, energy, and environmental charges. As will be discussed in chapter 3, since these factor inputs are used disproportionately in manufacturing and are generally underpriced, the state effectively bestows subsidies toward the production of tradable goods (Huang and Tao 2010). Thus the state's price policy further tilts investment toward manufacturing and away from services, contributing to the unusual production structure emerging in China in the 2000s.

Another key implication of the imbalanced production structure that emerged in China after 2002 was slowing growth of employment. The services sector is generally more labor intensive, whereas manufacturing is generally less labor intensive. As analyzed in chapter 3, as the services sector share of GDP stagnated after 2002, the growth of employment slowed. This effect is perhaps a contributor to one of the imbalances that emerges in the income approach, discussed in the next section.

The Income Approach

The third approach to measuring economic imbalances is to examine the shares of national income accruing to households, corporations, and the government. Two types of data derived from China's national income accounts shed light on this division.

The first is data on employee compensation, the operating surplus of enterprises, depreciation of fixed assets, and net taxes on production. Employee compensation is the share of output accruing to labor; the operating surplus and depreciation combined make up the share of output accruing to corporations; and net taxes are the share of output accruing to the government. These data, which are available for 1993–2009, show that labor compensation was a fairly constant 50 percent of national income in the 1990s but subsequently

fell slightly, to 47 percent, by 2009.[21] The share of national income accruing to the government in the form of net taxes rose from 12 percent in 1993 to 15 percent in 2009, while the share accruing to corporations fell very slightly, from 39 percent in 1993 to 38 percent in 2009.[22]

It is important to note that this summary is based on a revision in the treatment of the income of the self-employed, discussed in detail in appendix A to this book. Prior to the revision the data showed that there had been a decline in the labor share of income of 10 percentage points of GDP and a 7 percentage point increase in the share accruing to the corporate sector (Ma and Yi 2010, 16–17). The revisions did not significantly affect the share of income accruing to the government.

Similar trends in the share of output accruing to labor, corporations, and the government are reflected in the flow of funds data, which also are derived from the national income accounts but which use a somewhat different income classification scheme. These data are available for the years 1992 through 2008 and, as summarized in table 2.1, show labor compensation declining by 5 percentage points. But the flow of funds also provides other information that allows one to trace the adjustments necessary to get from labor compensation to disposable income, which is simply labor compensation plus property income and net transfers less taxes levied on households. An important starting point to understanding the evolution of household consumption as a share of GDP is disposable income. As reflected in figure 2.6, household disposable income, which stood at 67 percent of GDP in 1992, had fallen to only 58 percent of GDP by 2008, with most of the decline taking place in the 2000s rather than in the 1990s.

Disaggregating the components of disposable income allows us to explain why its share of national income fell so dramatically. A little more than half of the decline can be explained by the fall in the wage share of GDP, as reflected in the flow of funds accounts. About a fifth of the decline is due to a fall in property income (overwhelmingly interest income) as a share of GDP. And another fifth is due to decline in net transfer payments to households as a share of GDP.[23]

Implications of the Income Imbalance

The main implication of the imbalances revealed by the income approach is that the decline in consumption as a share of GDP revealed in the expenditure approach to imbalances is primarily due to falling household disposable income

21. Employee compensation includes wages and benefits, including employers' contributions to social insurance funds, and the operating surplus of self-employed individuals.

22. Net taxes are taxes on production less subsidies on production. The share of national income accruing to corporations includes both the operating surpluses of firms and depreciation of fixed assets.

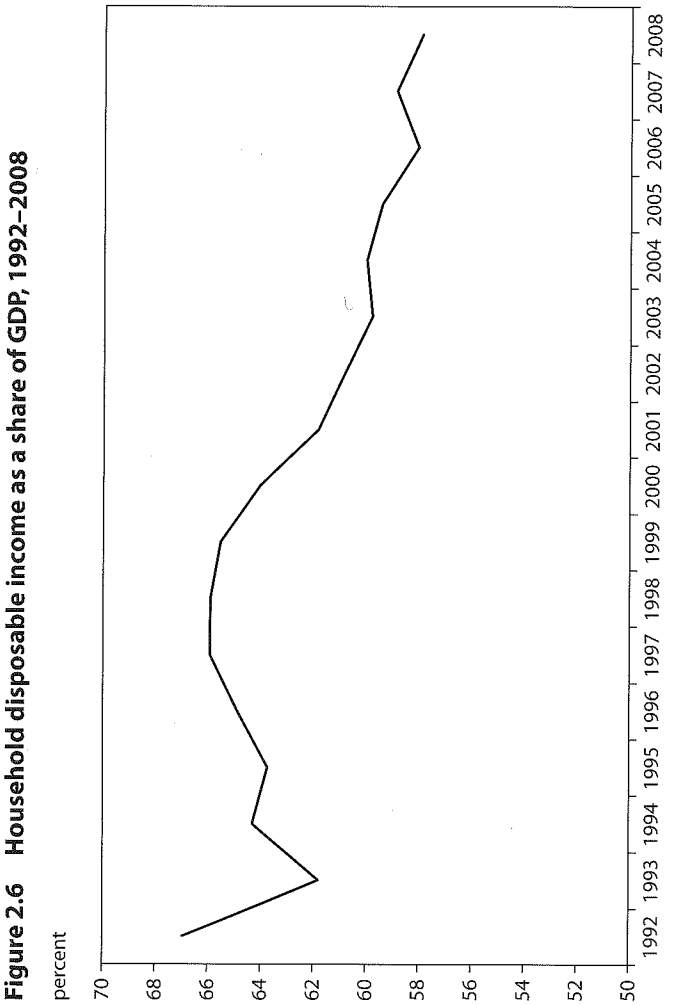
23. A minuscule 2 percent of the decline was due to a slight increase in taxes levied on households.

Table 2.1 Flow of funds summary, 1992–2008 (percent of GDP)

Year	Labor compensation	Production taxes paid by households	Household property income	Net government transfers to households	Household disposable income	Household consumption	Household savings
1992	61.8	1.5	4.3	2.4	66.9	47.2	19.8
2008	56.8	1.7	2.4	0.5	57.9	35.1	22.8
Change	−5.0	0.2	−1.9	−1.9	−9.0	−12.0	3.0
Memo items:							
Share of decline in the consumption share due to:							
(a) Decline in disposable income: 75 percent							
(b) Rise in household savings: 25 percent							
Share of decline in disposable income due to:							
(a) Fall in labor compensation: 56 percent							
(b) Rising taxes: 2 percent							
(c) Declining property income: 21 percent							
(d) Declining government transfers: 21 percent							

Sources: National Bureau of Statistics of China (2010f, 74–83); ISI Emerging Markets, CEIC Database.

Figure 2.6 Household disposable income as a share of GDP, 1992–2008



Sources: National Bureau of Statistics of China (2010f, 74–83); ISI Emerging Markets, CEIC Database.

as a share of GDP rather than rising household savings from disposable income. The former factor accounts for about three-quarters of the fall in the consumption share of GDP, the latter factor for only about one-quarter of the fall.

A second implication is that it will be important to understand why interest income fell so sharply over a period when the stock of household savings relative to GDP was increasing. This issue is taken up in chapter 3.

Similarly, the data also imply that to understand the decline in consumption as a share of GDP, we need to understand why net transfer payments to households have fallen by about 2 percentage points of GDP. Particularly in light of the emphasis of President Hu Jintao and Premier Wen Jiabao on creating a "more harmonious society" characterized by reduced economic insecurity, it is worth noting that a substantial portion of the decline in net transfer payments occurred since they came into office.[24]

The Savings-Investment Approach

Analytically the best approach to explaining China's external imbalance is to look at the difference between national savings and investment. When national savings exceed (are less than) national investment a country will be running a current account surplus (deficit). Again the flow of funds provides the data that allow us to look at the evolution of both savings and investment for the three sectors of the economy—the government, corporations, and households. The averages of these data for 1998–2002 and 2007–08 are shown in table 2.2. During the first period China experienced what might be regarded as balanced growth: The exchange rate, measured on a real, effective basis, appreciated steadily and China's average external imbalance was modest (see figure 3.5 in chapter 3); central bank intervention in the foreign exchange market was modest, as reflected in a relatively slow growth of official reserves (see figure 3.4); investment as a share of GDP was high but not superelevated; household consumption as a share of GDP was stable; government consumption as a share of GDP was rising; and the services share of GDP was expanding. In the second period China's growth was quite imbalanced, reflecting developments starting in 2003: The real, trade-weighted value of the currency first depreciated sharply and then (beginning in mid-2005) appreciated gradually, but for the period as a whole (from early 2002 through the end of 2008) it was essentially unchanged, and the external imbalance rose to a record high; central bank intervention in the foreign exchange market was massive and official foreign exchange reserves rose to levels unprecedented for any country; investment rose to superelevated levels while consumption fell to depressed levels; and the share of the services sector stagnated.

24. Hu Jintao appears to have first used the phrase "harmonious society" in the fall of 2004. Hu Jintao, speech at the Meeting Celebrating the 55th Anniversary of the Founding of the Chinese People's Political Consultative Conference, September 22, 2004, available at www.people.com.cn (accessed on September 12, 2011).

Table 2.2 Savings and investment balance by component, 1998–2002 and 2007–08 (percent of GDP)

Component	1998–2002	2007–08	Change
Gross capital formation	36.6	42.9	6.3
Households	8.0	8.7	0.7
Enterprises	25.5	29.6	4.1
Government	3.1	4.6	1.5
Gross domestic saving	38.1	52.8	14.7
Households	18.5	22.9	4.4
Enterprises	15.9	21.3	5.3
Government	3.7	8.6	4.9
Savings-investment balance	1.5	9.9	8.4
Households	10.5	14.2	3.7
Enterprises	−9.6	−8.3	1.2
Government	0.6	4.0	3.4

Source: ISI Emerging Markets, CEIC Database.

The data in table 2.2 show that by 2007–08 China's national saving rate reached the extraordinarily high average level of 53 percent of GDP, an increase of almost 15 percentage points compared with the average level of national savings during 1998–2002. Though already high by international standards in the period 1998–2002, investment rose by more than 6 percentage points by 2007–08. So the increase in the surplus of savings over investment rose by 8 percentage points. Thus China's current account surplus with the rest of the world rose by 8.4 percentage points of GDP, reaching an average of 9.9 percent of GDP in 2007–08.[25]

Equally important, table 2.2 allows us to examine more closely the sources of the increase in the national savings-investment imbalance between 1998–2002 and 2007–08. Household savings increased by more than 4 percentage points of GDP, while household investment rose by less than a point. So the household savings-investment imbalance increased by 3.7 percentage points of GDP and accounted for over two-fifths of the increase in the national savings-investment imbalance between the two periods. Corporate-sector savings rose sharply but investment rose almost as much. In the base period the corporate sector invested much more than it saved, so these changes meant the negative corporate savings-investment imbalance became slightly smaller between the two periods. Thus the corporate-sector savings-investment imbalance increased by only 1.2 percent of GDP and accounted for only about a seventh of the increase in the national savings-investment imbalance. Government savings increased sharply between the two periods, while investment rose much less. Thus the government savings-investment imbalance increased by 3.4 percent of GDP and accounted for two-fifths of the increased national imbalance between the two periods.

25. The officially reported current account surplus in 2007 and 2008 is 10.1 and 9.1 percent of GDP, respectively. Their average, 9.6 percent, is not exactly equal to the calculated Chinese surplus shown in table 2.2 because of various statistical discrepancies.

Implications of the Savings-Investment Approach

Several points emerge from the above analysis. First, China's extremely large savings-investment imbalance and external surplus in 2007–08 cannot be attributed primarily to the emergence of a large imbalance in a single sector of the economy. Rather every sector added to the savings-investment imbalance.

Second, this approach leads to conclusions that are quite different from analysis that focuses only on the changes in the saving rate in various sectors over time, ignoring what has happened to investment within the sectors. For example, the corporate sector is correctly identified in many studies as the major contributor to the long-term rise in China's national saving rate (Anderson 2006; Ma and Yi 2010, 11). But this is not the same as saying that the corporate sector is the major contributor to the large national savings-investment imbalance that emerged by 2007–08. Corporate savings did rise but, as shown in table 2.2, corporate investment also rose sharply, so the share of the increase in the national savings-investment imbalance originating in the corporate sector was very modest.

Third, it is somewhat surprising to find that, between the two periods, the government was almost as important a contributor to the rise in the national savings-investment imbalance as the household sector. Stephen Green (2009a, 2009b, 2009c) was the first to draw attention to the remarkable increase in government savings and the government's growing savings-investment imbalance. He points out that reported government budgetary revenues have grown more rapidly than GDP since the mid-1990s. And on-budget revenues understate the flow of resources to the government. Most importantly, the Chinese government budget revenue excludes income from land leases and sales, which amounted to RMB454 billion, or 1.7 percent of GDP, in 2007 but, as will be pointed out in chapter 4, exploded to reach RMB2.9 trillion, or 7.3 percent of GDP, in 2010 (National Bureau of Statistics of China 2010f, 80–81; Ministry of Finance 2011). Government budgetary revenues also exclude social insurance receipts, income from the national lottery, and many other sources.[26] All of these revenues, however, are included in the flow of funds data that underlie the data in table 2.2. These data show government revenues of all types rose by 3 percentage points of GDP between 1998–2002 and 2007–08.

On the other hand, government consumption expenditures declined by 2 percentage points of GDP over the same period. The difference between total revenues, including off-budget revenues, and government consumption is government savings, which rose by 5 percentage points of GDP. Increased

26. These receipts were to have been brought into the state budget in 2010, but the presentations by the minister of finance to the National People's Congress show these funds are being administered in separate channels from the budget.

government investment absorbed only a part of this rise in government savings, thus the emergence of a large savings-investment surplus on the part of the government. In part this surplus shows up in the form of the government's ever growing treasury deposits in the banking system. By the end of 2010 these deposits had reached RMB2.5 trillion, or 6.4 percent of GDP. The size of these deposits is initially somewhat surprising, since the government's official budget usually records a modest deficit financed by the issuance of treasury bonds.

But the treasury account includes the surplus social insurance funds administered by the Ministry of Human Resources and Social Security. These amounted to RMB2.3 trillion at year-end 2010 and thus accounted for 90 percent of year-end fiscal deposits (National Bureau of Statistics of China 2010f, 909).[27] This buildup of surplus social security funds largely reflects the government's effort to build up the social safety net, particularly the provision of pensions.[28] As will be analyzed in chapter 3, the number of workers covered by basic pension insurance has grown dramatically over the last decade.[29] On the other hand, the number of retirees drawing pensions has grown more slowly, since the number of retirees eligible for pensions today is a function of the more limited coverage of the basic pension insurance scheme in previous decades. Between 2002 and 2008 the number of workers covered by and thus paying into China's basic pension insurance scheme increased by 55 million, while the number of retirees drawing pensions rose by only 17 million (National Bureau of Statistics of China 2010f, 910). Thus the growth of employee and employer contributions to the national social security fund has tended to exceed the increase in payouts to retirees.[30]

However, most assessments of China's retirement program conclude that to date the buildup of the social insurance surplus is grossly inadequate to fund future retirements, particularly when the working-age population declines by 80 million between 2025 and 2035 (Jackson, Nakashima, and Howe 2009, 2).

27. Other pension assets are in the National Pension Fund, which is administered separately by the National Social Security Fund Council. By year-end 2010 the assets of the National Pension Fund were RMB856 billion. Only about 2 percent of these assets were held in the form of bank deposits. These funds too probably are also included in the fiscal deposits of the banking system. See National Social Security Fund Council (2011a).

28. The surplus in the basic pension insurance program accounts for two-thirds of the total surplus in China's social insurance funds.

29. In addition to the basic pension program there are separate pension schemes for the military, for civil servants working for government departments and agencies, and for state-run institutions such as schools, hospitals, and so forth. In 2007 12 million civil servants were drawing pensions, one-fourth the number drawing pensions from the basic pension scheme (Frazier 2010, 2).

30. But the difference was not as great as the increases in the number of workers covered and the number of retirees would suggest because the system remains largely pay as you go, meaning that most contributions are used to pay pensions of those already retired rather than used to build up surpluses to pay future retirees.

The central government has been allocating fiscal funds to support insolvent provincial-level pension schemes since the late 1990s and also has provided funds to the National Social Security Fund, established in 2002 as a fund of last resort (Frazier 2010, 59, 64). By 2010 fiscal contributions to the National Social Security Fund Council, which administers the National Social Security Fund, and to the Ministry of Human Resources and Social Security, which oversees the pension schemes at the local level, reached RMB63.4 billion and RMB156 billion, respectively (National Social Security Fund Council 2011b, Ministry of Finance 2011). The basic conclusion is that the government is certain to be a net saver going forward if for no other reason than to maintain the solvency of the social insurance funds.

All four approaches to examining the structure of the Chinese economy, as it emerged after 2003, confirm the judgment of Premier Wen that the economy is highly imbalanced and that growth is not sustainable on the current economic model. The expenditure approach shows that investment has been superelevated since 2003 while the share of consumption has fallen to unusually low levels. The production approach shows that the services share of output stagnated after 2002 and is now substantially below the level of other emerging markets at comparable levels of development, while the manufacturing sector, which is the source of almost all of China's exports and a very large share of the goods that compete with imports, accounts for an unusually large share of GDP. The income approach shows that household disposable income declined by almost 10 percentage points of GDP between 1992 and 2008 and explains about three-quarters of the decline in the consumption share of GDP. The other quarter is explained by the rise in the household rate of saving from disposable income. The analysis also shows that only half of the decline in disposable income as a share of GDP can be accounted for by a decline in the wage share of GDP; the combined decline in interest income and in net transfer payments from the government to households were equally important.

The four different approaches to examining the structure of China's economy provide the framework for examining policies to reduce economic imbalances, the subject of chapter 3.