What Makes China Grow?

Lawrence J. Lau

Ralph and Claire Landau Professor of Economics, The Chinese University of Hong Kong
and
Kwoh-Ting Li Professor in Economic Development, Emeritus, Stanford University

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Tel: +852 3943 1611; Fax: +852 2603 5230
Email: lawrence@lawrencejlau.hk; WebPages: www.igef.cuhk.edu.hk/ljl

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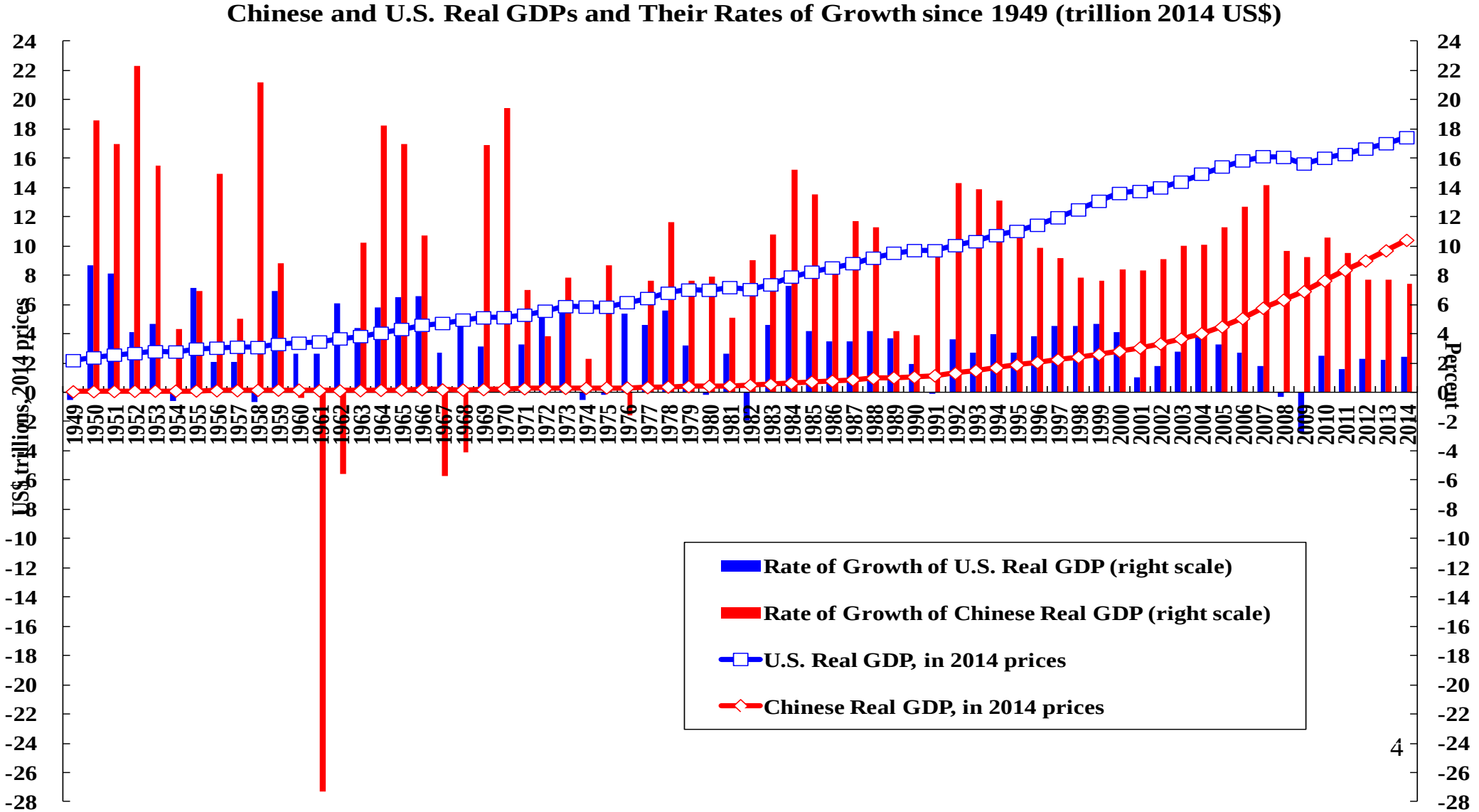
Introduction

- China has made tremendous progress in its economic development since it began its economic reform and opened to the World in 1978. It is currently the fastest growing economy in the World—averaging 9.7% per annum over the past 36 years. It is historically unprecedented for an economy to grow at such a high rate over such a long period of time. However, the Chinese economy has begun to slow down, to an annual rate of growth of around 7%, in a process of transition to a "New Normal".
- Why has China been able to grow at such a high rate and for such a long period of time? What makes China grow? Will China be able to continue to grow at such a high rate in the future?

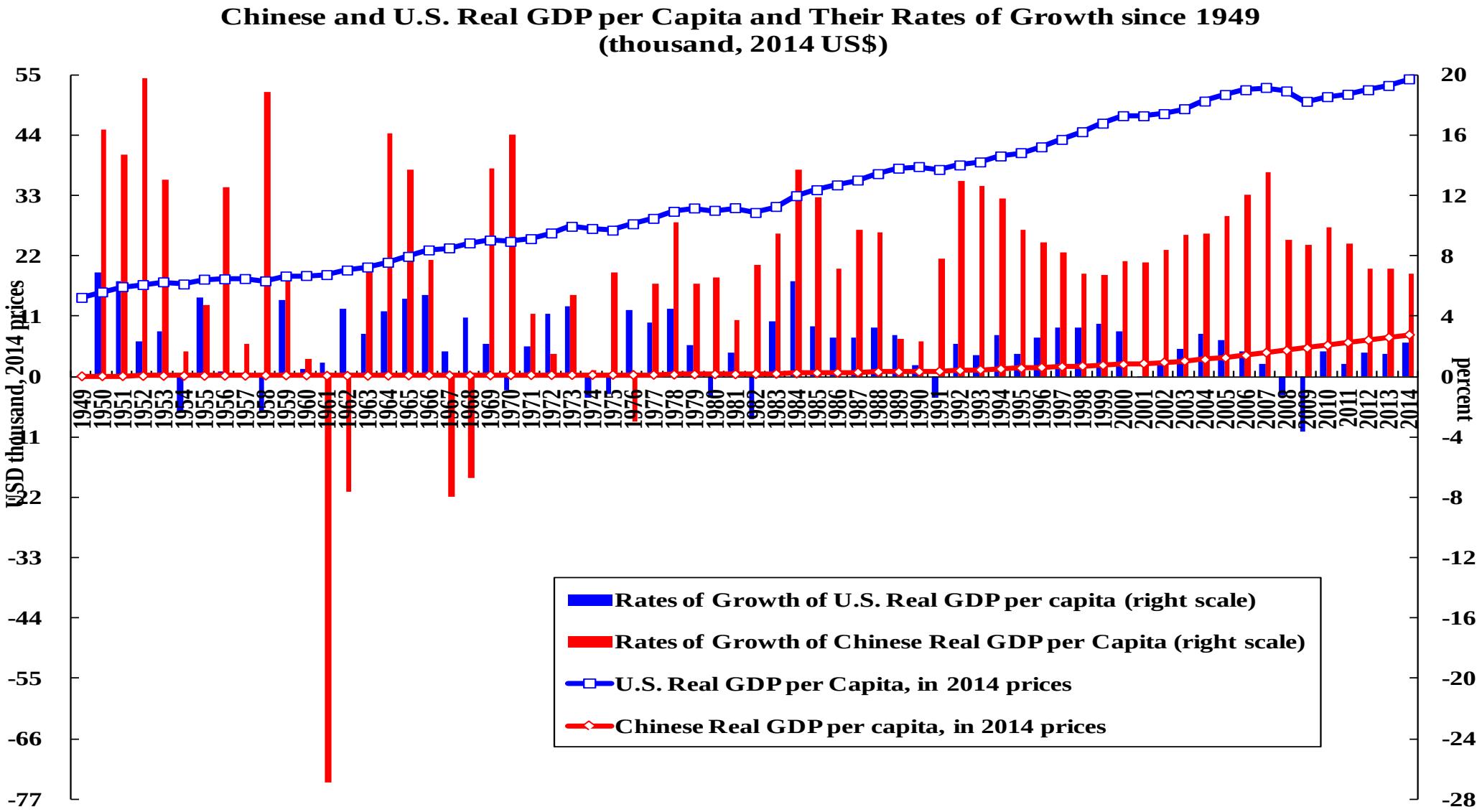
Introduction

- It is useful to compare the growth of Chinese and U.S. real GDP in both aggregate and per capita terms (see the following charts). The red and blue lines represent the levels of real GDP and real GDP per capita of China and the U.S. respectively. The red and blue columns represent the annual rates of growth of China and the U.S. respectively.
- Between 1978 and 2014, Chinese real GDP from US369 billion to US$10.4 trillion (in 2014 prices), to become the second largest economy in the World, after the U.S. By comparison, the U.S. GDP of approximately US$17.4 trillion was a little less than 1.7 times Chinese GDP in 2014.
- However, despite its rapid economic growth in the aggregate, in terms of its real GDP per capita, China is still very much a developing economy.
- In 1978, the Chinese real GDP per capita was US$383 (in 2014 prices) compared to the US$30,472 of the U.S. By 2014, the Chinese real GDP per capita had grown to US$7,604, still less than one-seventh of the U.S. GDP per capita of US$54,575.

Chinese and U.S. Real GDPs and Their Rates of Growth since 1949 (2014 US$)



Chinese and U.S. Real GDPs per Capita and Their Rates of Growth since 1949 (2014 US$)



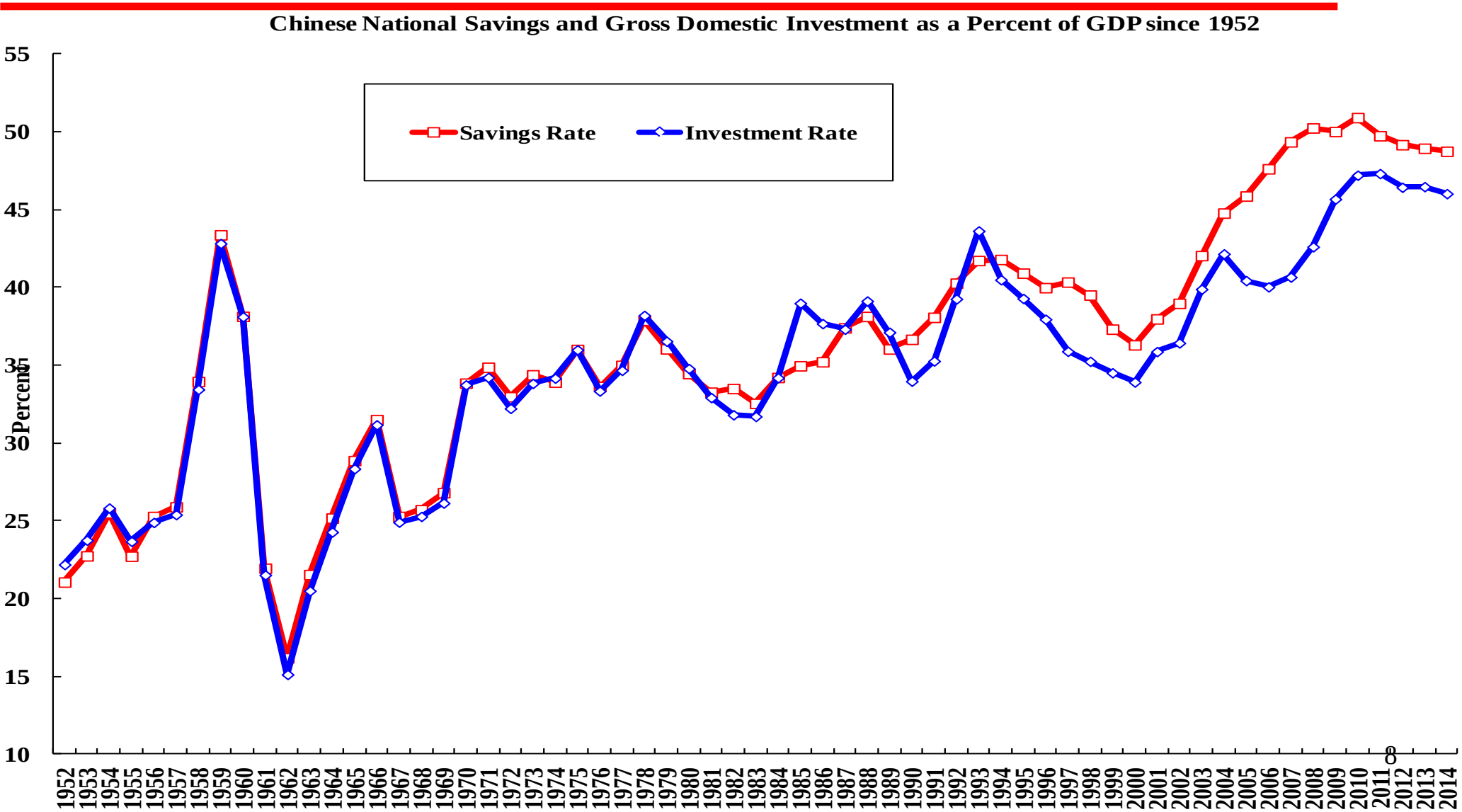
The Chinese Economic Fundamentals

- Long-term economic growth of a country depends on the rates of growth of its primary inputs—capital (tangible or physical) and labor—and on technical progress (equivalently, the growth of total factor productivity)—that is, the ability to increase output without increasing inputs.
- The rate of growth of tangible or physical capital depends on the rate of investment on structure, equipment and basic infrastructure, which in turn depends on the availability of national savings.
- The rate of technical progress depends on investment in intangible capital (including human capital and Research and Development (R&D) capital).

The Chinese Economic Fundamentals: Capital

- Chinese economic growth since 1978 has been underpinned by a consistently high domestic investment rate, enabled by a national savings rate above 35% except for a brief start-up period in the early 1950s. The Chinese saving rate rose to around 40% in the early 1990s and has at times approached or even exceeded 50% in more recent years.
- The high Chinese saving rate means that the Chinese economy can finance all of its domestic investment needs from its own domestic savings alone, without having to depend on the more fickle foreign capital inflows (including foreign direct investment, foreign portfolio investment, foreign aid, or foreign loans).
- In particular, it does not need to borrow abroad and bear the potential risks of a large, short-term and often interruptible foreign-currency denominated debt. The Chinese economy is therefore also more immune from external disturbances than other economies.
- Thus, the Chinese economy is assured of a high rate of growth of the tangible capital stock.

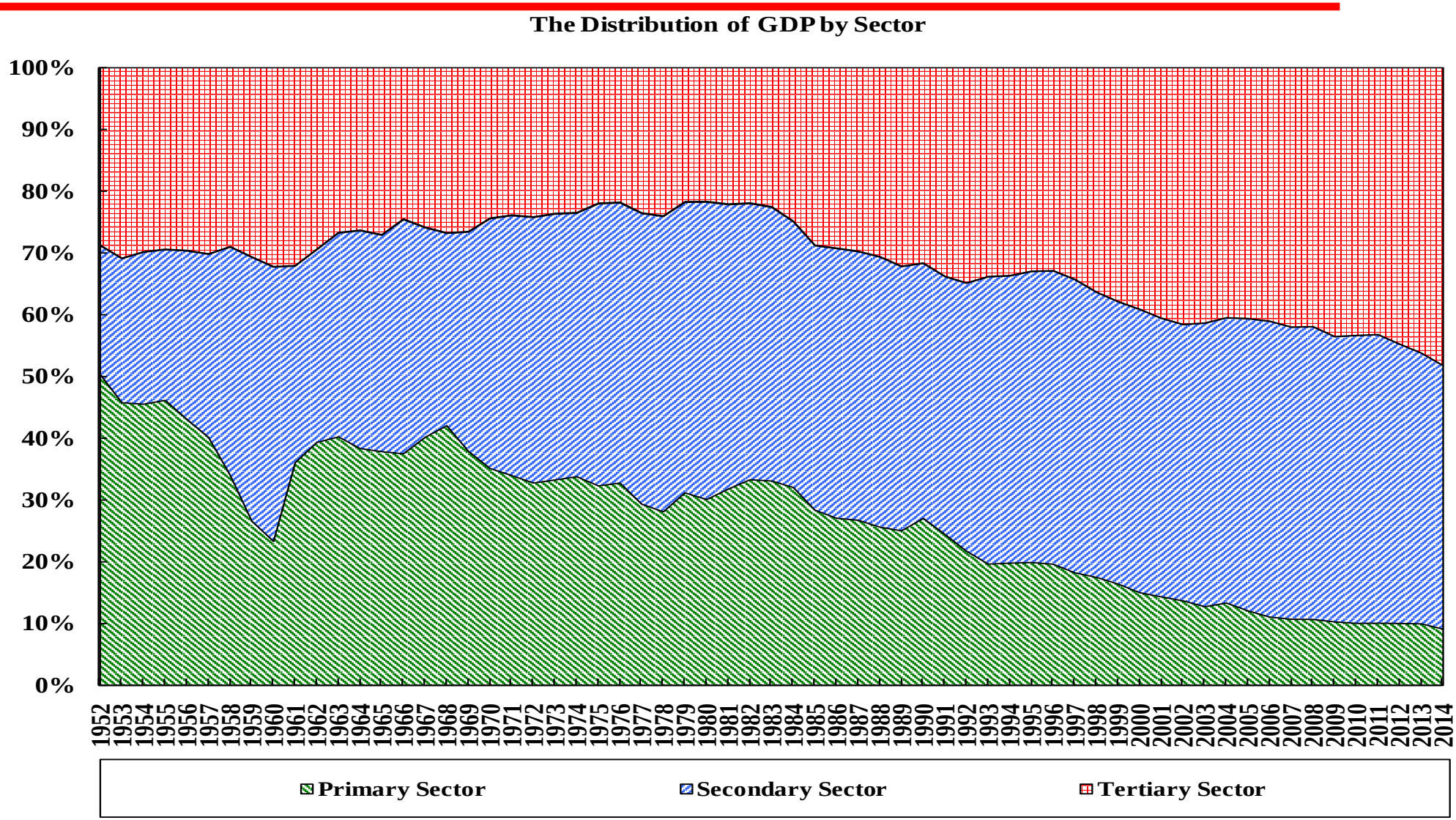
Chinese National Saving and Gross Domestic Investment as Percents of GDP



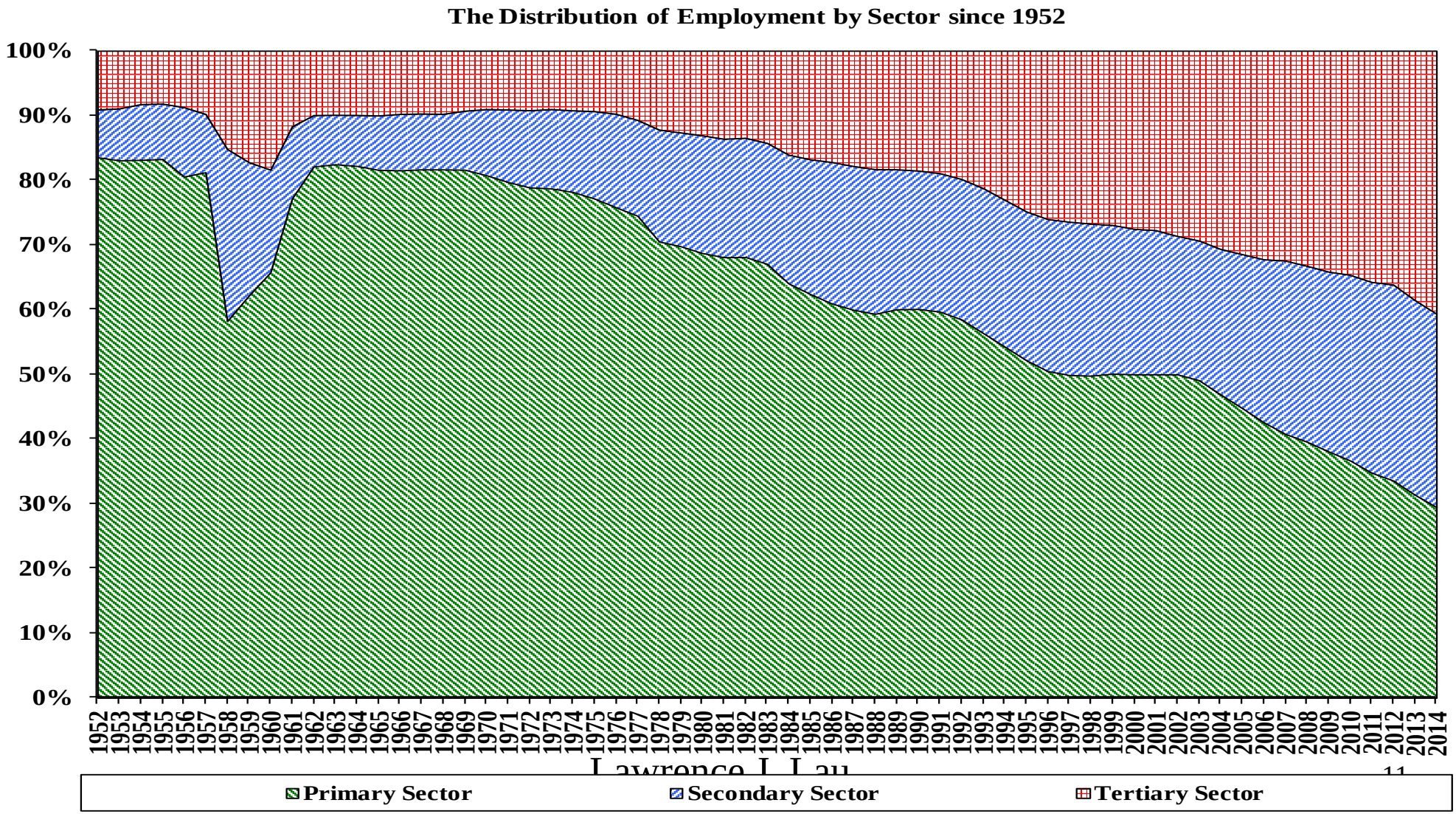
The Chinese Economic Fundamentals: Labor

- China, like Japan, Taiwan, and South Korea in their respective early stages of economic development, has an unlimited supply of surplus labor—there is therefore no shortage of and no upward pressure on the real wage rate of unskilled, entry-level labor over an extended period of time.
- The distribution of Chinese GDP by production-originating sectors in 2014 was approximately: Primary (agriculture), 9.2%; Secondary (manufacturing, mining and construction), 42.6%; and Tertiary (services), 48.2%. (Note that mining is normally included in the primary sector in most other economies.)
- The distribution of employment by sector in 2014 was: Primary, 29.5%; Secondary, 29.9%; and Tertiary, 40.6%.
- The agricultural sector employed 29.5% of the Chinese labor force but produced only 9.2% of the Chinese GDP in 2014. Thus labor can be productively transferred to the other two sectors where labor productivities and wage rates are higher as long as complementary capital and demand are available.

The Distribution of Chinese GDP by Sector Since 1952



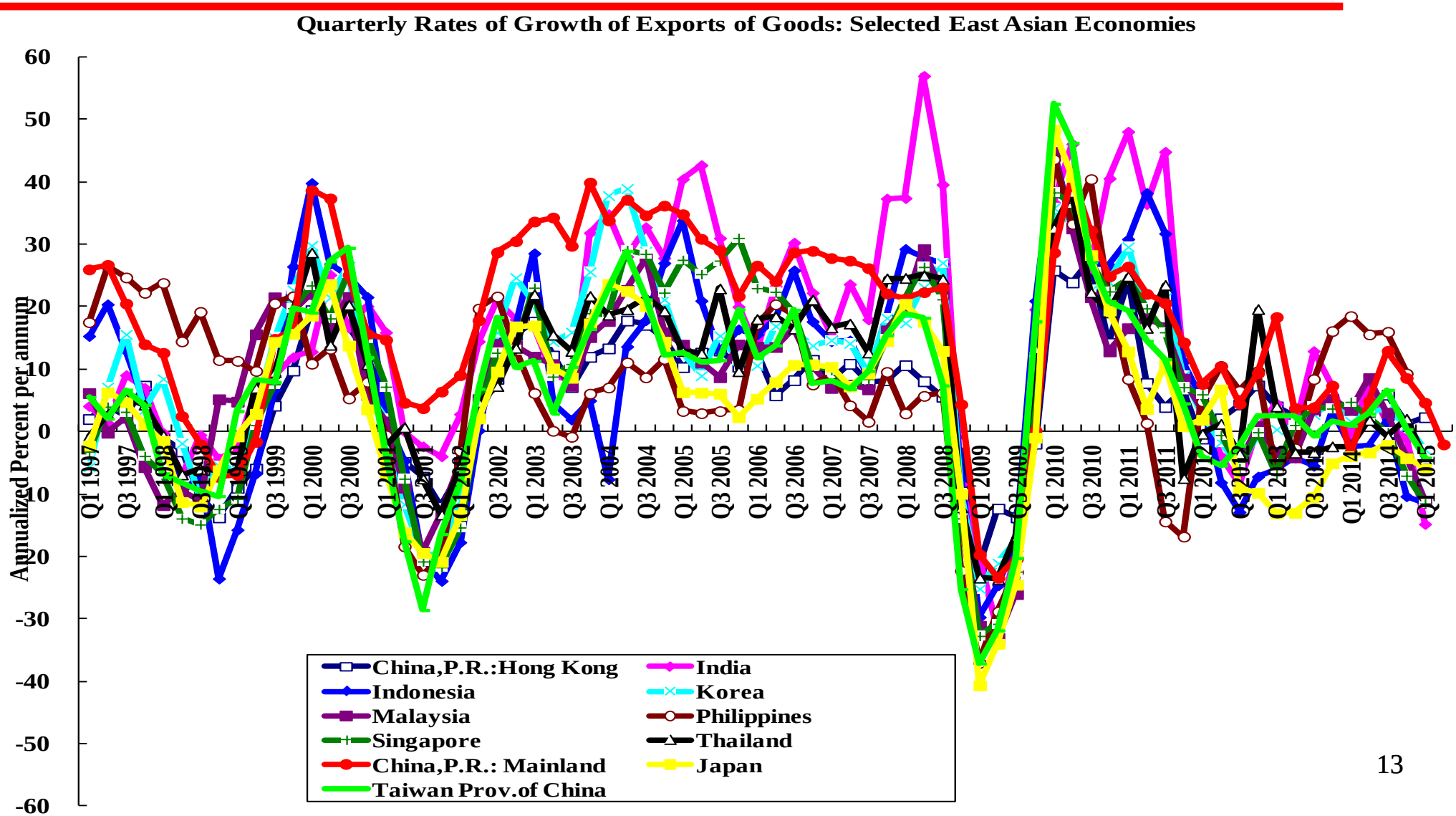
The Distribution of Chinese Employment by Sector Since 1952



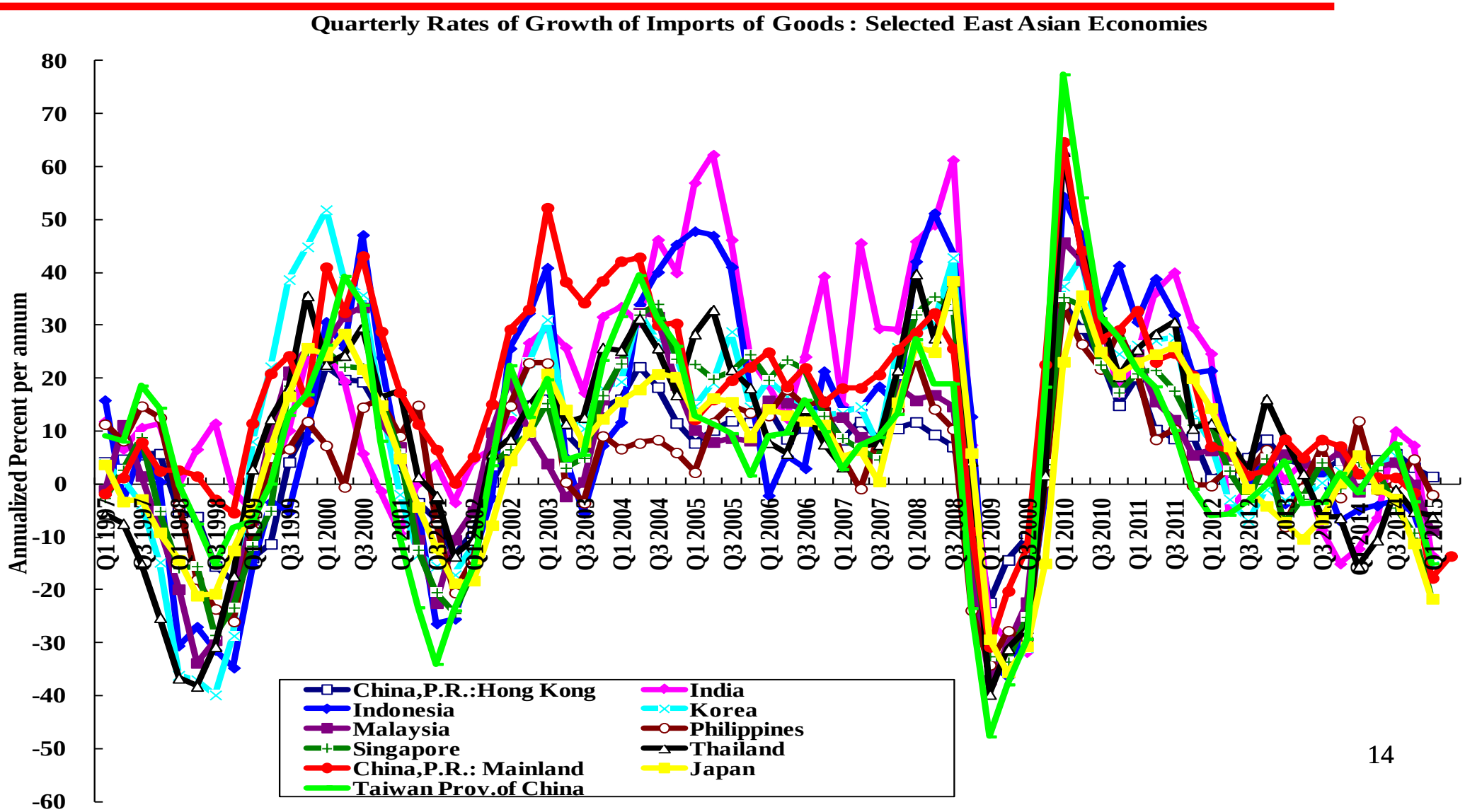
The Chinese Economic Fundamentals: The Size of the Domestic Economy

- The huge domestic market of 1.37 billion consumers with pent-up demand for housing and transportation and other consumer goods and services (e.g., education, health care, and more recently, elderly care), enables the realization of significant economies of scale in production, based entirely on the domestic market in China.
- The huge domestic market also greatly enhances the productivity of intangible capital (e.g., R&D capital and goodwill including brand building) by allowing the fixed costs of the R&D for a new product or process or advertising and promotion in brand building to be more easily amortised and recovered.
- Another important implication of the size of the domestic economy is the relatively low external dependence. Thus, while the rates of growth of Chinese exports and imports fluctuate like any other economy, the rate of growth of Chinese real GDP has been relatively much more stable (see the following charts).

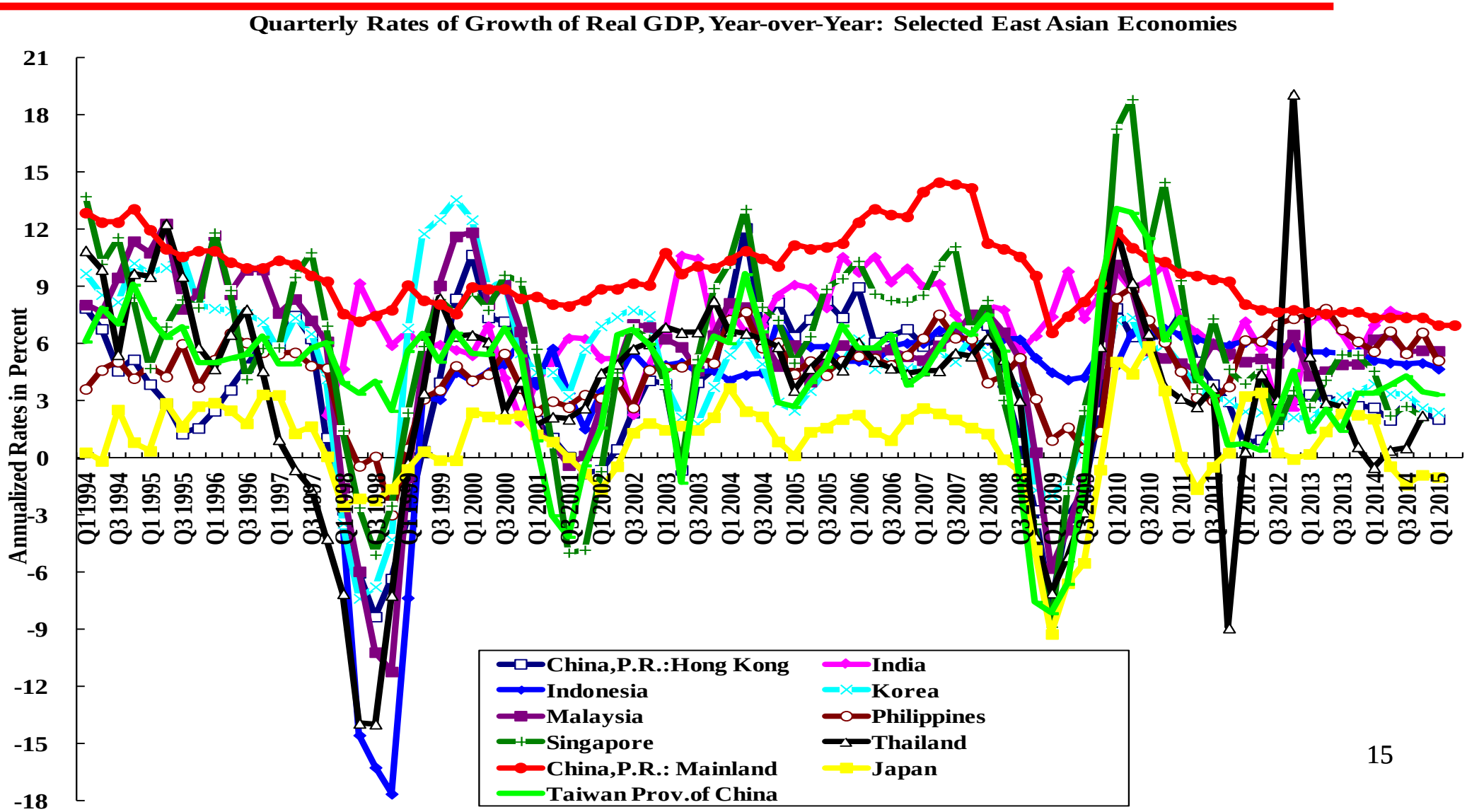
Quarterly Rates of Growth of Exports of Goods: Selected Asian Economies



Quarterly Rates of Growth of Imports of Goods: Selected Asian Economies



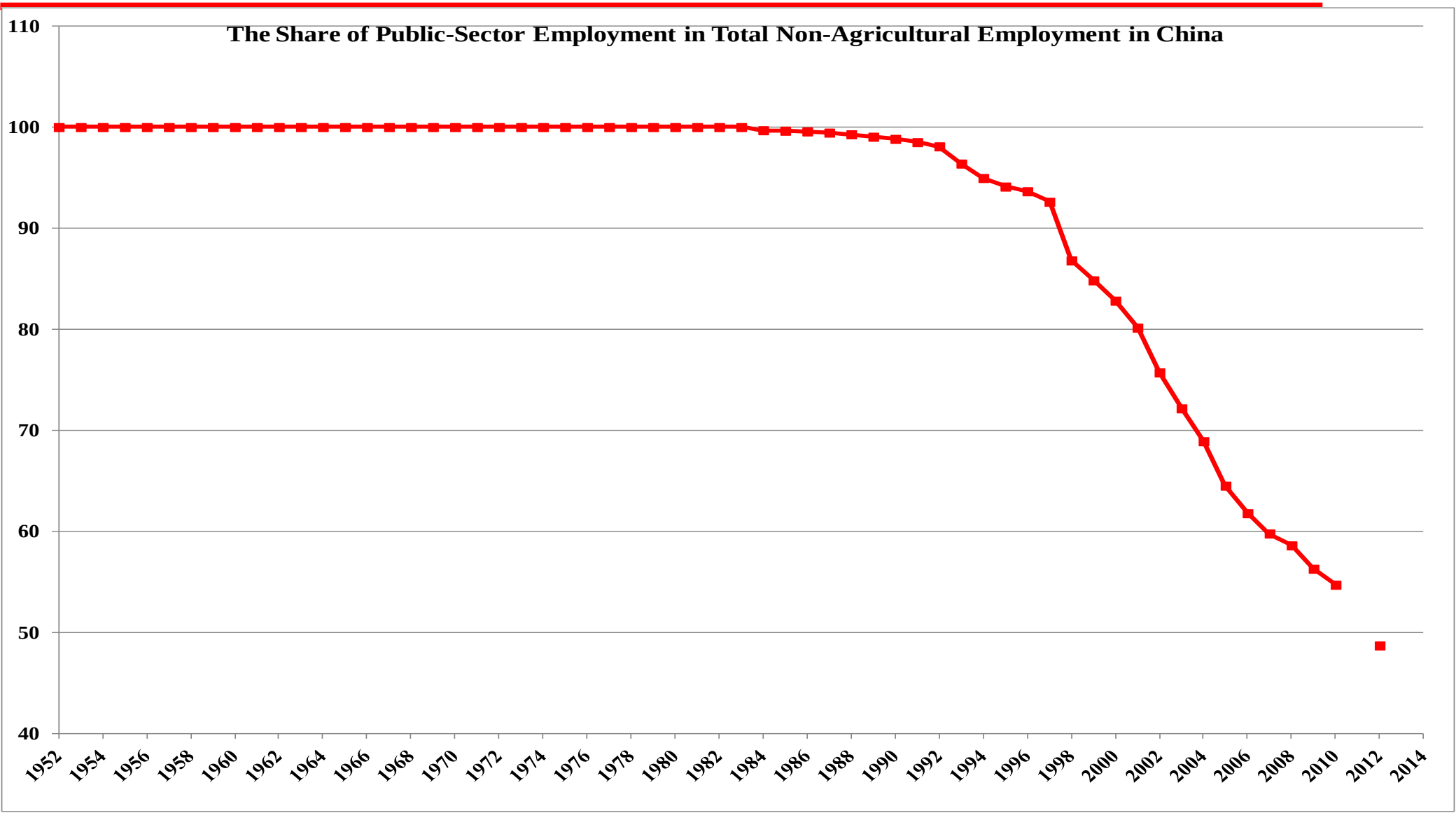
Quarterly Rates of Growth of Real GDP, Y-o-Y: Selected Asian Economies



The Monopsonistic Labor Market in China

- Before the economic reform of 1978, the Chinese Government was the sole employer for all workers in China and could set the wage rates for all workers in the urban areas. As the sole employer, the Chinese government could exercise its monopsonistic power and pursued a low (and egalitarian) wage policy, resulting in a low share of labor in GDP of around 40%.
- The low-wage policy reflected three considerations: First, it was designed to increase national savings through high enterprise profits so that the needed domestic investments could be financed. The objective of the low-wage policy is similar to the "price scissors" policy of maintaining a large gap between industrial prices and agricultural prices practiced in the former Soviet Union in the early Twentieth Century.
- Second, it helped to maximize employment, and in particular, the absorption of surplus labor from the agricultural sector.
- Third, it was compatible with the ideological preference for thrift and egalitarianism in the distribution of income.

The Share of Public Sector Employment in Total Non-Agricultural Employment in China



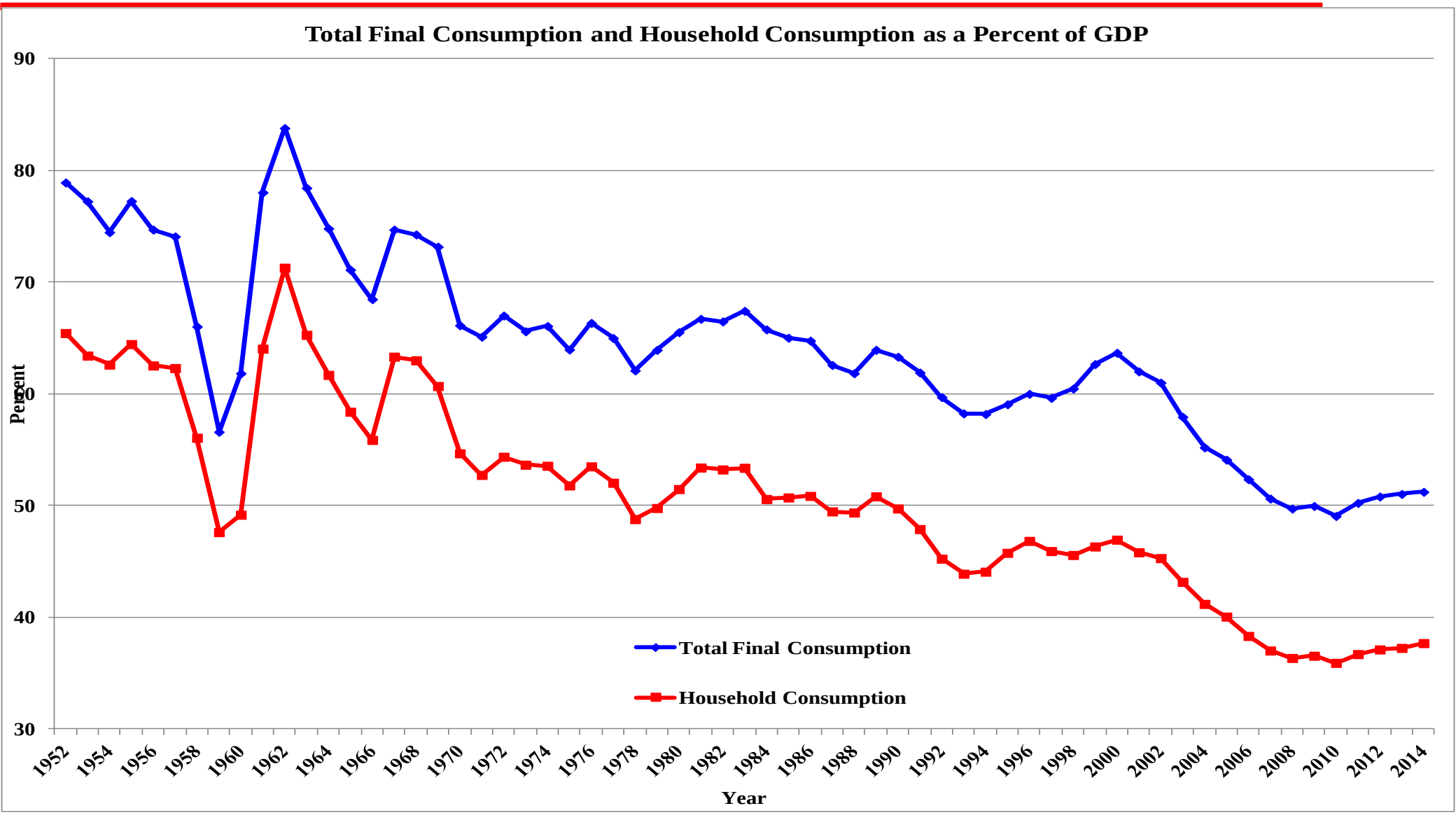
The Monopsonistic Labor Market in China

- Note that if the government is the sole employer, the wage and individual income tax policies can be de facto integrated—no separate individual income tax is necessary. A low-wage policy has a similar economic effect as a high-wage and high-tax policy but is politically easier to adopt and implement.
- Even as recently as 2010, the share of public sector employment, which includes the employees of central and local governments and their affiliated units, state-owned enterprises, educational and health care institutions, was still over 50% of all urban employment. The government could therefore exercise a decisive influence on not only the wage rates of the public-sector employees, but also the level of wages as a whole. A government job is still the preferred choice for many Chinese workers today because of the job and income security and the fringe benefits that it offers.

The Monopsonistic Labor Market in China

- This low-wage policy has had two effects: first, it has kept the labor share (and the household share) of GDP low; and secondly, it has created large profits for state-owned (and other) enterprises.
- The disposable household income share of GDP in China was around 50% in 2014, much lower than the corresponding share in a developed economy, where it would typically be around 60%, and than those of other economies with a comparable real GDP per capita.
- The share of labor is likely lower, as the household disposable income includes net proprietor's income, ne asset income and net transfers (which amounted to 43% of the total household disposable income) but excludes direct taxes and other mandatory charges such as social security contributions.
- As Chinese households have less disposable income to spend, China also has a lower household consumption to GDP ratio, approximately 37.7 percent in 2014, than most other economies with a comparable real GDP per capita.

Total Chinese Final and Household Consumption as a Percent of Its GDP



The Sources of Chinese Economic Growth

Rate of Growth of Real Output (1978-2014)	9.72%
Rates of Growth of Inputs (1978-2013)	
Tangible or Physical Capital	10.83%
Labor	1.88%

The Sources of Chinese Economic Growth

- The realization of the surplus potential output from the initial economic slack resulting from mandatory central planning;
- The growth of tangible capital and labor inputs;
- The growth of the intangible inputs such as human capital and R&D capital;
- Technical progress (growth of total factor productivity (TFP));
- The realization of the economies of scale; and
- Of course, the low costs of transition from a centrally planned to a market economy also helped.

The Sources of Chinese Economic Growth: The Realization of the Surplus Potential Output

- Lawrence J. Lau and Huanhuan Zheng (2015), in their working paper, "How Much Slack Was There in the Chinese Economy Prior to Its Economic Reform of 1978?", find that the pre-existing slack in the Chinese economy before it undertook its economic reform and opened to the World would amount to 50% of the actual output in 1978.
- On the assumption that the Chinese real GDP in 1978 was 50% higher than it actually was, the implied average annual rate of growth of the Chinese economy between 1978 and 2014 would have been 8.49% instead of 9.72%. Thus, the reduction of the economic slack that existed before 1978 would account for approximately 1.23 percentage points of the economic growth over the past 36 years, or approximately 12.5 percent of the post-1978 economic growth. The remaining economic growth of 8.49% per annum can be attributed to the growth of the primary inputs, technical progress or growth of total factor productivity, and economies of scale.

The Sources of Chinese Economic Growth: The Effects of Economies of Scale

- However, a meta-production function approach, first introduced by Lau and Yotopoulos (1989) and extended by Boskin and Lau (1992), can be used to identify and separate the effects of economies of scale and technical progress.
- Michael J. Boskin, Haiqiu Guo and Lawrence J. Lau (2015), in their forthcoming study, "Technical Progress and G-7 Economic Growth", find the degree of local returns to scale of the U.S. to be 1.20 in 1960 and 1.11 in 2007. The average returns to scale over this period would be 1.155, somewhat larger than Denison's assumption.
- Assuming that this estimate of the returns to scale also applies to the Chinese economy on average, it would mean that over a 36-year period, from 1978 to 2014, the average rate of growth would have been 8.36% if there were only constant returns to scale, instead of the actual 9.72%. This difference would have accounted for 36.1% of the Chinese real GDP in 2014.
- It also means that out of the rate of growth of 9.72%, economies of scale accounts for 1.36 percentage points, or 13.99 percent of the measured economic growth over this period.

The Sources of Chinese Economic Growth: The Monopsonistic Labor Market

- The actual share of labor in GDP in China is low relative to other economies. It can be estimated to be around 45%. However, it is believed that the production elasticity of labor is probably higher, somewhere between 0.55 and 0.6. Labor is just systematically underpaid—the state still employs directly or indirectly more than 50% of the urban labor force as of 2010.
- Since there exist increasing returns to scale, capital, as the residual claimant, is not necessarily paid its marginal product; but because labor is actually underpaid, capital can be either underpaid or overpaid relative to its marginal product.
- With returns to scale assumed to be 1.155, and the production elasticity of labor estimated as between 0.55 and 0.6, the production elasticity of capital may be estimated as 0.555 and 0.605. Thus, the relative weights of capital and labor are between 0.48 versus 0.52, almost equal. We shall use 0.5 for the purpose of this exercise.

The Sources of Chinese Economic Growth: Increasing Returns to Scale Case

Competitive Labor Market Case		
Sources of Chinese Economic Growth, 1978-2014	**Percentage Points**	**Percent**
Elimination of Pre-Existing Economic Slack	1.23	12.65
Growth of Tangible Capital	6.61	68.01
Growth of Employment	0.73	7.54
Technical Progress	-0.21	-2.19
Economies of Scale	1.36	13.99
Total	9.72	100.00

Monopsonistic Labor Market Case		
Sources of Chinese Economic Growth, 1978-2014	**Percentage Points**	**Percent**
Elimination of Pre-Existing Economic Slack	1.23	12.65
Growth of Tangible Capital	5.42	55.71
Growth of Employment	0.94	9.67
Technical Progress	0.78	7.97
Economies of Scale	1.36	13.99
Total	9.72	100.00

The Sources of Chinese Economic Growth: Summary

- We note that the elimination of the pre-existing economic slack and economies of scale account for respectively 1.23 and 1.36 percentage points, or a total of 2.59 percentage points of the Chinese economic growth of 9.72% between 1978 and 2014.
- If we subtract 2.59% from 9.72%, we obtain 7.13%. This average annual rate of growth has been achieved by quite a few other economies in the past.
- In more conventional growth accounting, the effect of the elimination of the pre-existing economic slack would have been captured as technical progress or the growth of total factor productivity.
- Similarly, the effects of economies of scale would also have been attributed to technical progress or the growth of total factor productivity.

The Role of Expectations

- The run-up in the price of Chinese residential real estate between October 2012 and October 2013 was an example of self-fulfilling expectations. The more recent Chinese stock price run-up between November 2014 and July 2015 may also be considered as another such example. But self-fulfilling expectations do not always have to be bullish. If all investors believe that the price of residential real estate is likely to be stable, and act accordingly, that is, they do not try to over-bid one another since they can always buy a property later, then the price of residential real estate will indeed be stable.
- This was what occurred in Singapore, where the government was believed by the public to adjust the rate of release of new lots for residential construction upwards and downwards in the same direction as the price of residential real estate, for the longest time until more recently.

The Role of Expectations

- However, the prices of assets cannot continue to go up forever. All asset price bubbles are sustained by new investors with new buying power coming into the market. At some point, the available potential new buying power will be exhausted with the price levels significantly exceeding what can reasonably be supported by the underlying economic fundamentals. When that happens, the asset prices will begin to fall and fall precipitously. So ultimately, the rosy expectations may fail to be fulfilled. And this will lead to a collective downward revision of the expectations.
- Another way in which self-fulfilling expectations can be changed is through the signaling by a credible authority. For example, a government with credibility can use its pronouncement of policy changes and actual actions as instruments for changing the macroeconomic expectations of the public about the future of the economy.

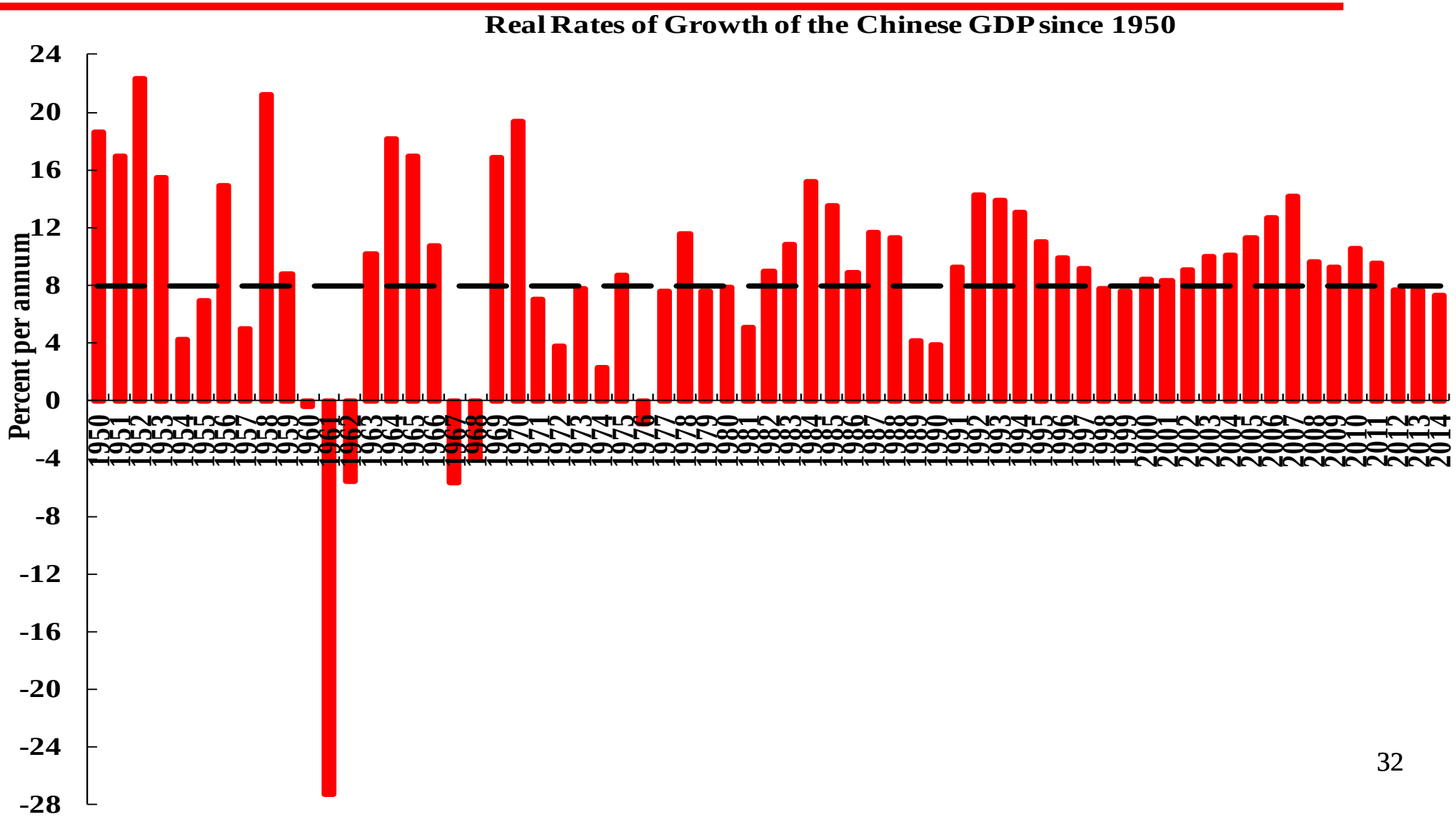
The Role of Expectations

- Keynesian counter-cyclical fiscal policies often work because they have the ability to change expectations.
- In a country such as China, expectations are often formed not only from directly experienced market outcomes but also from the pronouncements and actions of its senior government leaders. The government, because of the many potential instruments at its disposal, is widely believed to have the power to turn around the economy. Often the expectations work on the economy through their effects on new fixed asset investment.
- The following examples show that the Chinese Government has the ability to change negative expectations credibly through its pronouncements and actions.

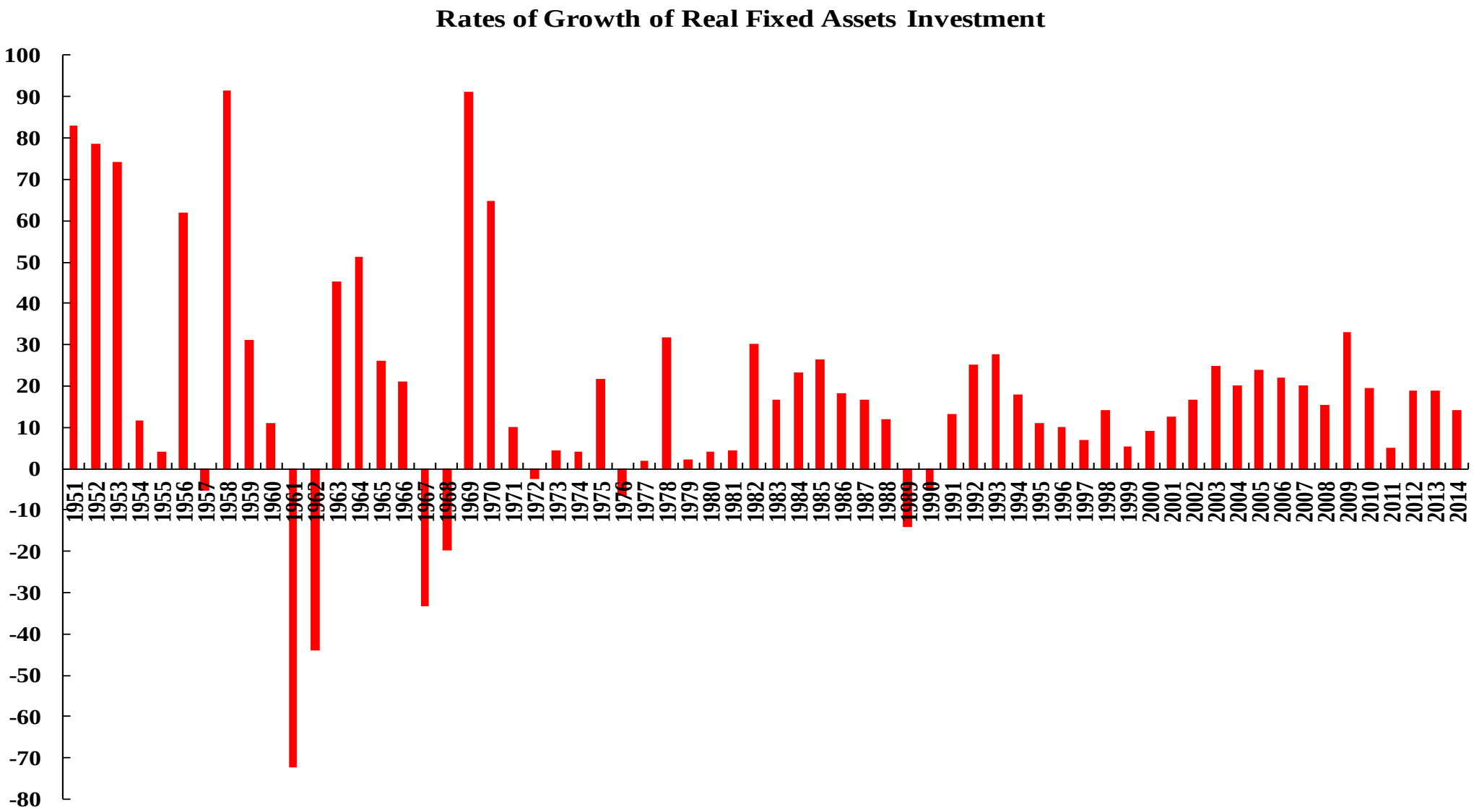
The Role of Expectations

- In 1989, in the aftermath of the June 4 incident, the Chinese economy became quite depressed, in part because of foreign sanctions, but mostly because of generally negative expectations about the future on the parts of enterprises and households. As a result, enterprises did not invest and households did not consume. 1990 and 1991 were similarly slow years, despite an abundance of liquidity.
- The rates of growth of real GDP in 1989 and 1990 were the lowest since economic reform began in 1978. And the rates of growth of fixed asset investment in 1989 and 1990 were negative. These were the only years with a negative rates of growth of fixed asset investment since 1978.

Annual Rates of Growth of Chinese Real GDP



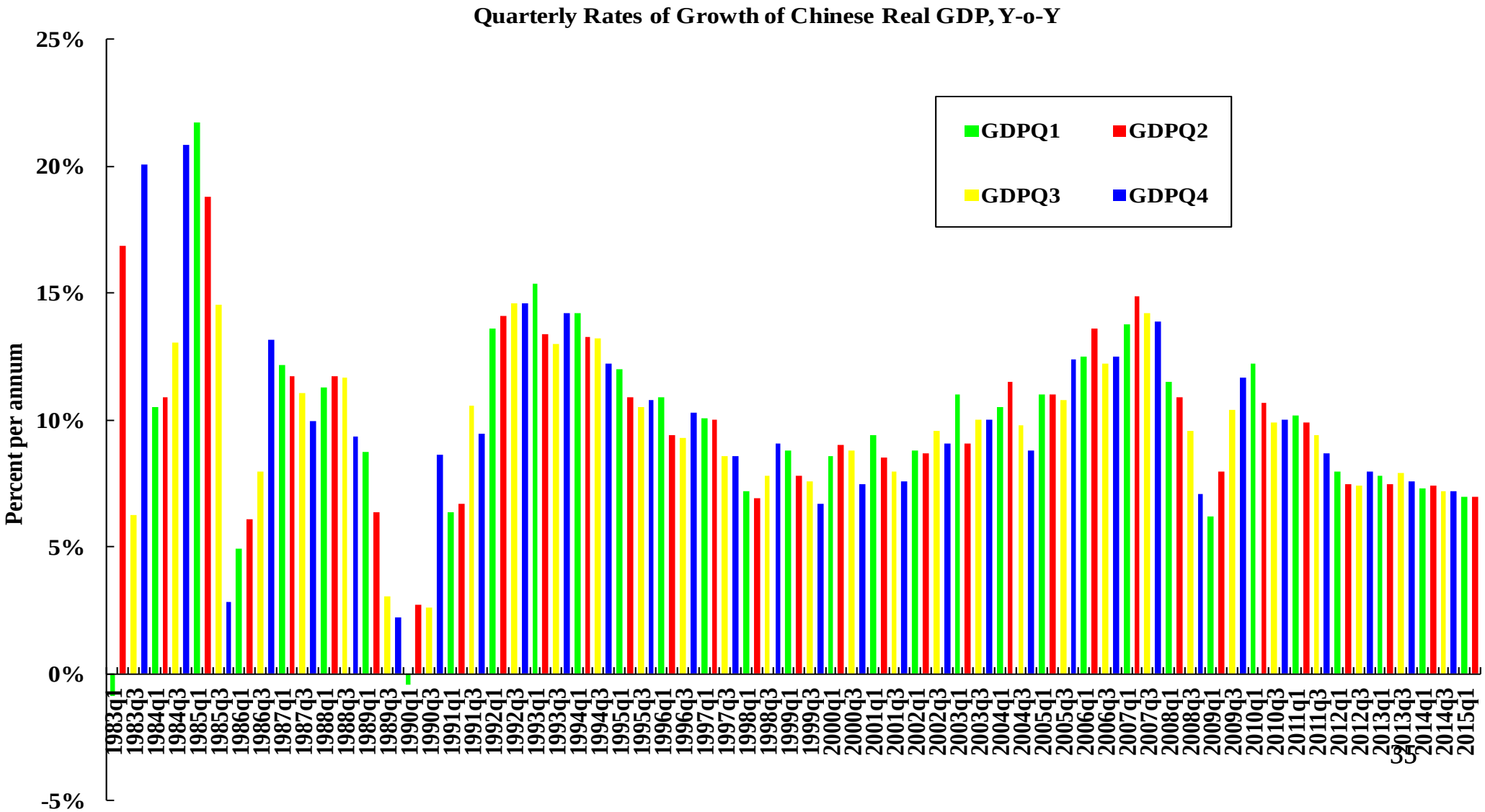
Annual Rates of Growth of Chinese Fixed Assets Investment



The Role of Expectations

- Then in early 1992, Mr. Deng Xiaoping undertook his famous southern inspection tour. Everywhere he went, he urged the people to seize the moment and grasp the opportunities. His words changed expectations in the entire country almost overnight. Enterprises began investing and households began consuming once again. As a result, the rest of 1992, as well as 1993 and 1994, were boom years with double-digit rates of economic growth (and relatively high rates of inflation) and high rates of growth of fixed asset investment.

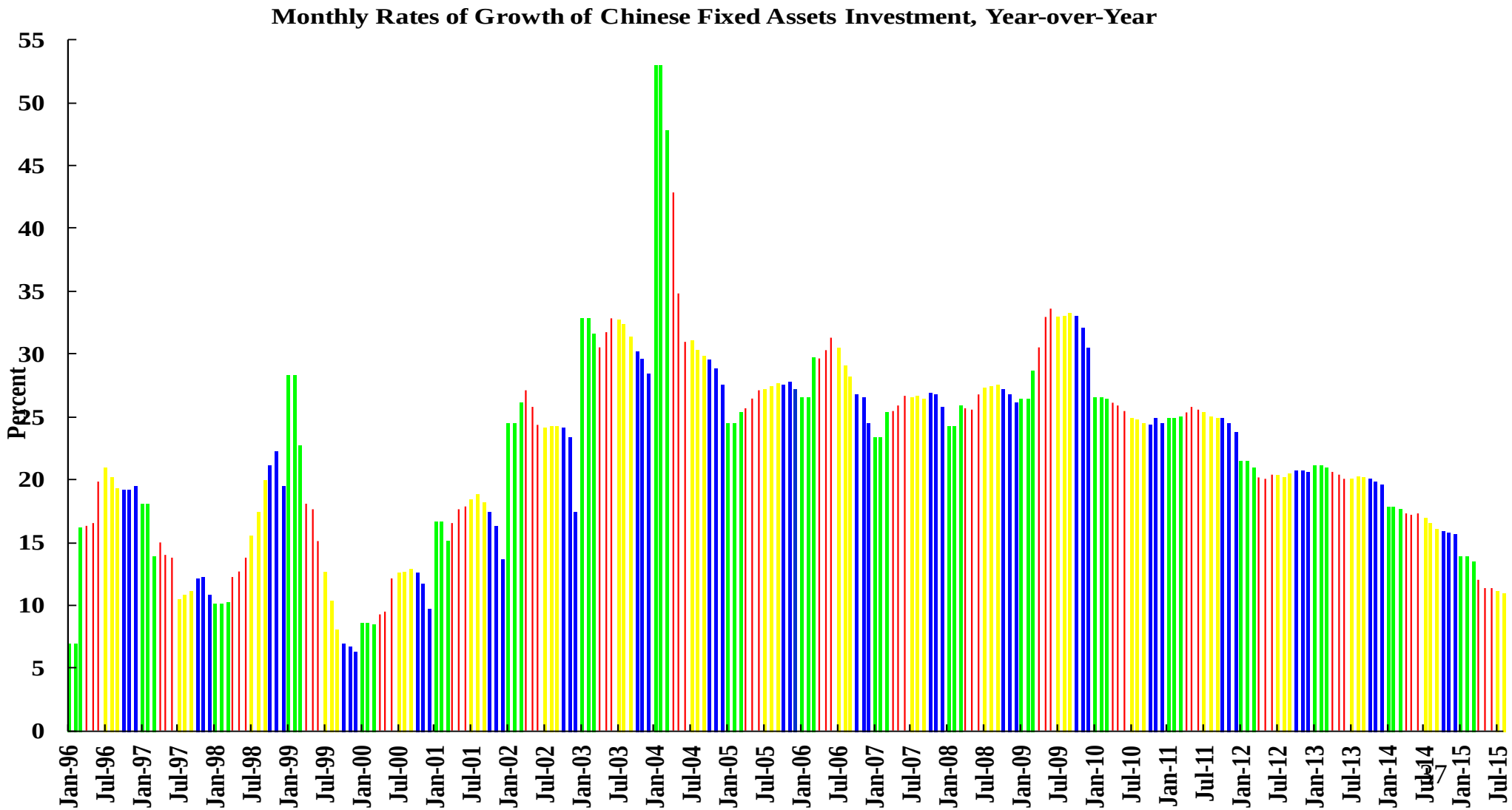
Quarterly Rates of Growth of Chinese Real GDP, Y-o-Y



The Role of Expectations

- In mid-1997, the East Asian Currency Crisis broke out, first in Thailand, and then in South Korea until it engulfed almost all of the East Asian economies, with the exception of Japan. Almost all of the East Asian currencies, with the exception of the Hong Kong Dollar, which was (and still is) pegged to the U.S. Dollar, devalued significantly.
- Premier ZHU Rongji of the People's Republic of China decided to hold the Renminbi/US$ exchange rate steady amidst the chaos of the East Asian currency crisis, and thus managed to maintain the confidence of the domestic investors and consumers about China's economic future, keeping the Chinese economy growing. In so doing, he also helped to stabilize the exchange rates of the other East Asian currencies and facilitated the recovery of the other East Asian economies. Had China also devalued at that time, it would have led to another cycle of competitive devaluation among the East Asian economies, with unimaginably negative economic and social consequences.

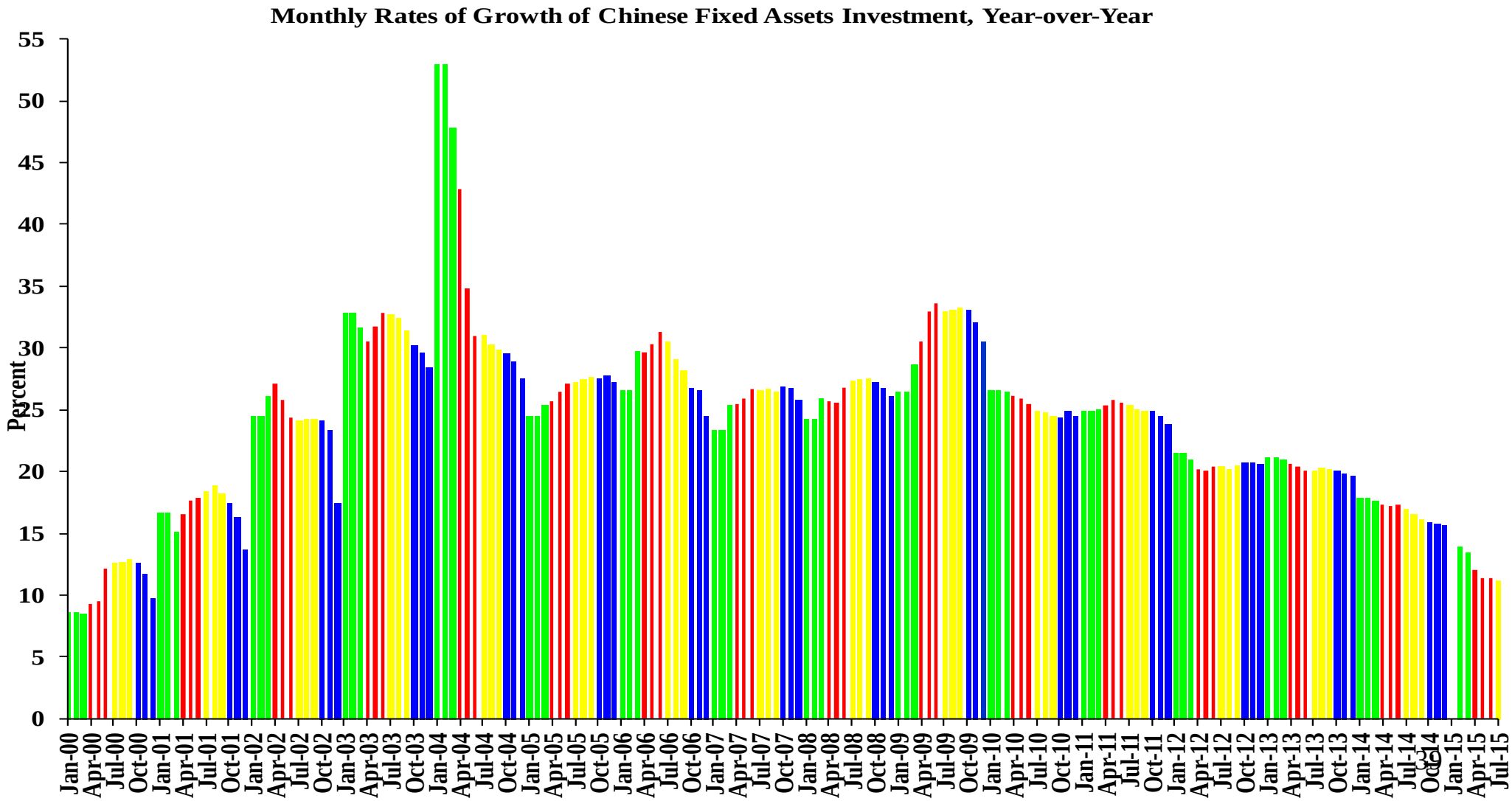
Monthly Rates of Growth of Chinese Fixed Assets Investment, Y-o-Y



The Role of Expectations

- In December 2001, China became a member of the World Trade Organisation (WTO) . The Chinese accession to the WTO also changed expectations, which also reflected the expected expiration of the Multi-Fibre Agreement which governed global trade in textiles in 2005. It had a significant effect on the rates of growth of both fixed asset investment and real GDP.
- In 2005, the Renminbi began to appreciate relative to the U.S. Dollar, which adversely affected the growth of exports, and the rate of growth of fixed asset investment fell back to more normal levels.

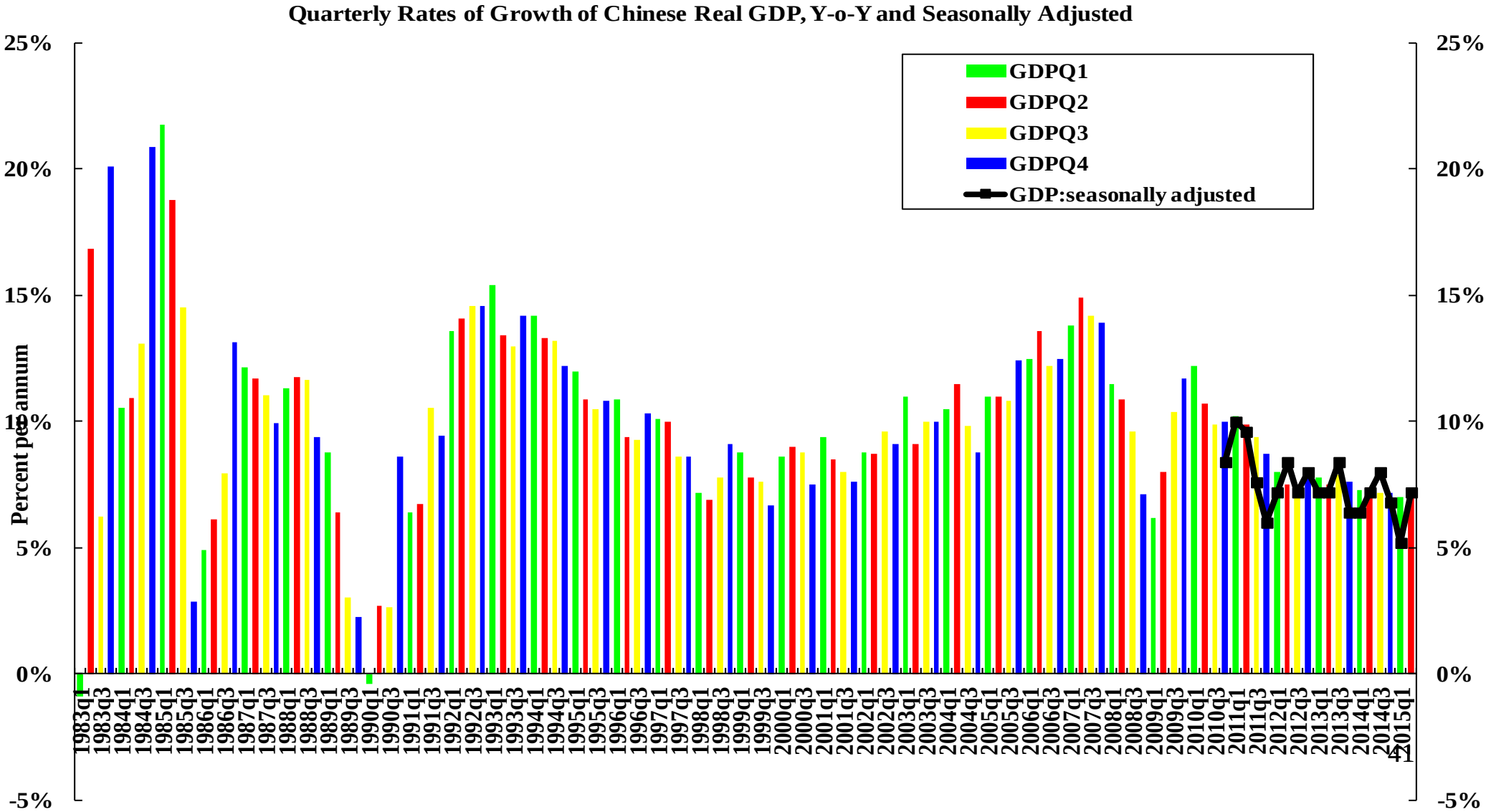
Monthly Rates of Growth of Chinese Fixed Assets Investment, Y-o-Y



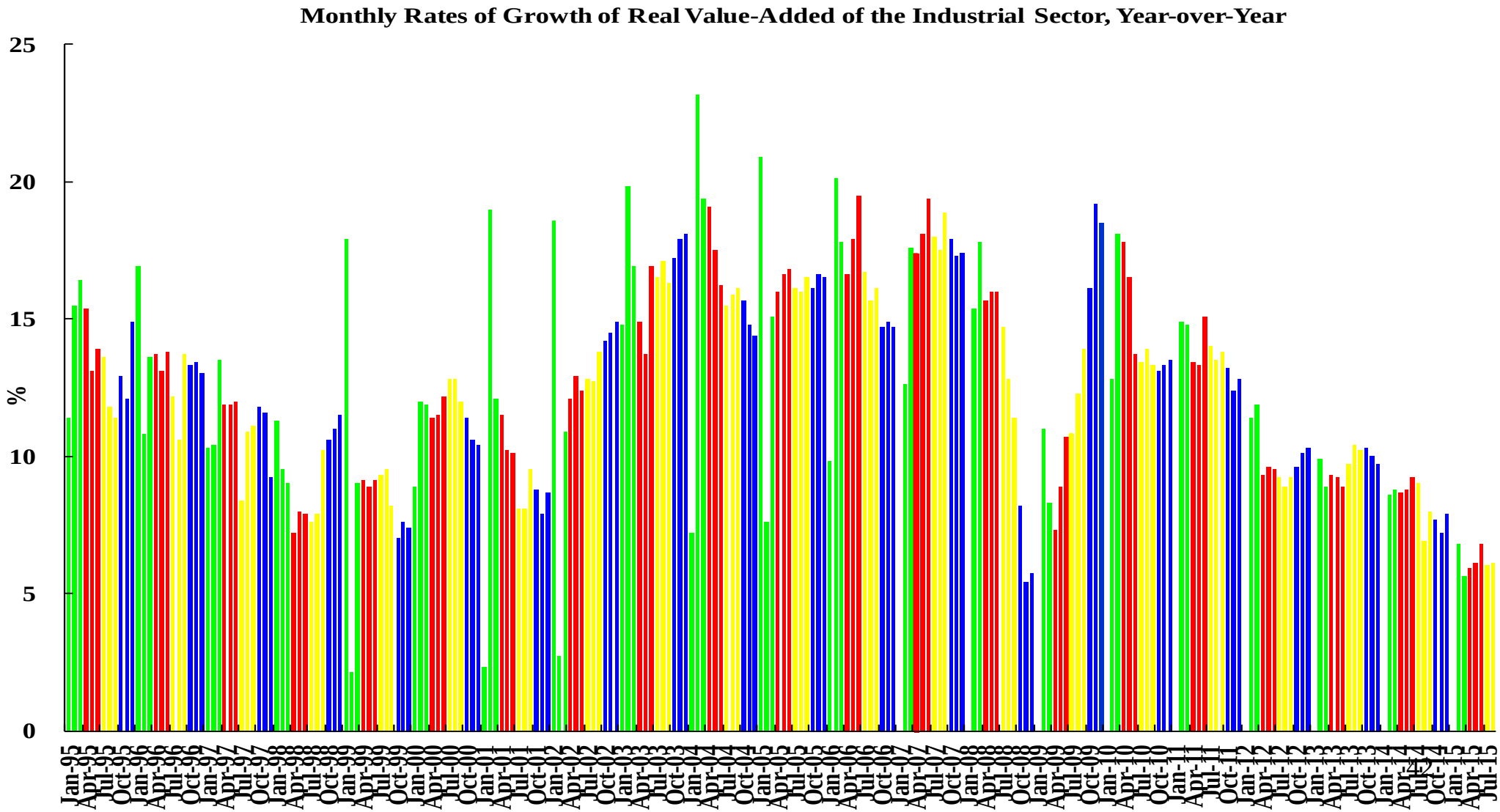
The Role of Expectations

- In 2008, in the immediate aftermath of the collapse of Lehman Brothers in the U.S., all credit dried up in the U.S. as well as the other developed economies. Overnight, importers in the U.S. and other developed economies could no longer place their import orders to China and other trading partner countries because their banks were not in a position to issue acceptable letters of credit. As a result, export orders received by Chinese enterprises declined by approximately fifty percent. There was real panic in the air.
- Fortunately, barely six weeks later, Chinese Premier WEN Jiabao unveiled the 4 trillion Yuan economic stimulus program, which once again managed to maintain the confidence of Chinese enterprises and households in their economy. Actually, the economic stimulus program did not really take effect until at least a year later, but the announcement of the program itself alone managed to restore positive expectations among the Chinese public.

Quarterly Rates of Growth of Chinese Real GDP, Y-o-Y and Seasonally Adjusted



Monthly Rates of Growth of Real Value-Added of Chinese Industry, Y-o-Y



The Role of Expectations

- In all of these cases, the Chinese government was able to turn around the very negative domestic expectations about the future of the Chinese economy into positive ones, and in so doing greatly reduced the uncertainty pertaining to the future and increased general business as well as consumer confidence.
- These changes in turn fueled investment booms that resulted in the subsequent economic growth.

The Role of Expectations

- However, with the bursting of the Chinese stock market bubble in July 2015 and the slight but unexpected devaluation of the Renminbi of approximately 4% in August 2015, the confidence of the Chinese enterprises and households has been somewhat shaken. At the same time, reacting to these developments in China, the World markets have also panicked and doomsayers have been coming out in droves, predicting the imminent collapse of the Chinese economy. Perhaps this is the time for the Chinese Government to take more decisive and visible actions to increase domestic aggregate demand so as to reduce uncertainty, shore up confidence and change expectations of the Chinese public about the future.

Concluding Remarks

- Chinese economic growth during the past 36 years can be attributed to the growth of tangible inputs—tangible capital and labor, and in particular, tangible capital—rather than the growth in intangible capital or technical progress, just as the past economic growth of other East Asian economies at a similar stage of economic development.
- The successful Chinese experience strongly reaffirms the fundamental importance of having and maintaining a high investment rate, enabled by a high national savings rate, and surplus labor. A low-wage policy was instrumental in a high national saving rate and a rapid rate of absorption of surplus labor.

Concluding Remarks

- In addition, the size of the Chinese domestic economy is a favourable factor allowing the ready realization of economies of scale and reducing vulnerability to external disturbances.
- The economic slack, inherent in any previously centrally planned economy, can be a significant source of economic growth upon transition to a market economy.
- Expectations will continue to play an important role in the Chinese economy. A strong Chinese central government with the unique power to mobilize domestic aggregate demand can credibly change expectations from negative to positive at critical junctures to keep the economy growing.