

Chinese Economic Development Trends

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Outline

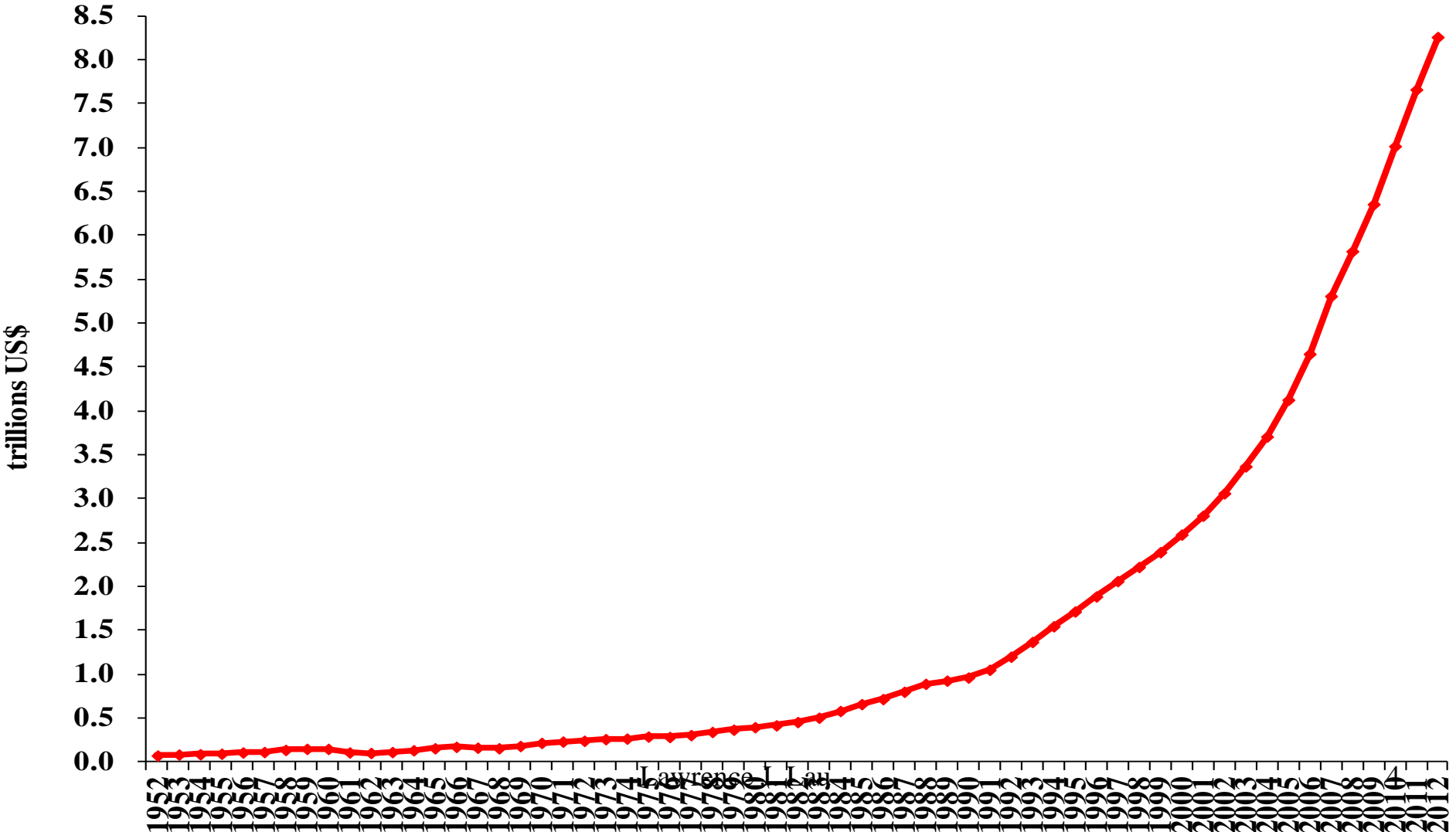
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- ◆ The Economic Fundamentals of the Chinese Economy
- ◆ The Macroeconomic Outlook
- ◆ The Relative Unimportance of International Trade
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- ◆ Projections of the Future
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Introduction

- ◆ China has made tremendous progress in its economic development since it began its economic reform and opened to the World in 1978. China is currently the fastest growing economy in the World—averaging 9.8% per annum over the past 35 years. It is historically unprecedented for an economy to grow at such a high rate over such a long period of time.
- ◆ Between 1978 and 2012, Chinese real GDP grew more than 24 times, from US\$341 billion to nearly US\$8.262 trillion (2012 prices), to become the second largest economy in the World, after the U.S.
- ◆ By comparison, the U.S. GDP (approx. US\$15.676 trillion) was less than 2 times Chinese GDP in 2012.

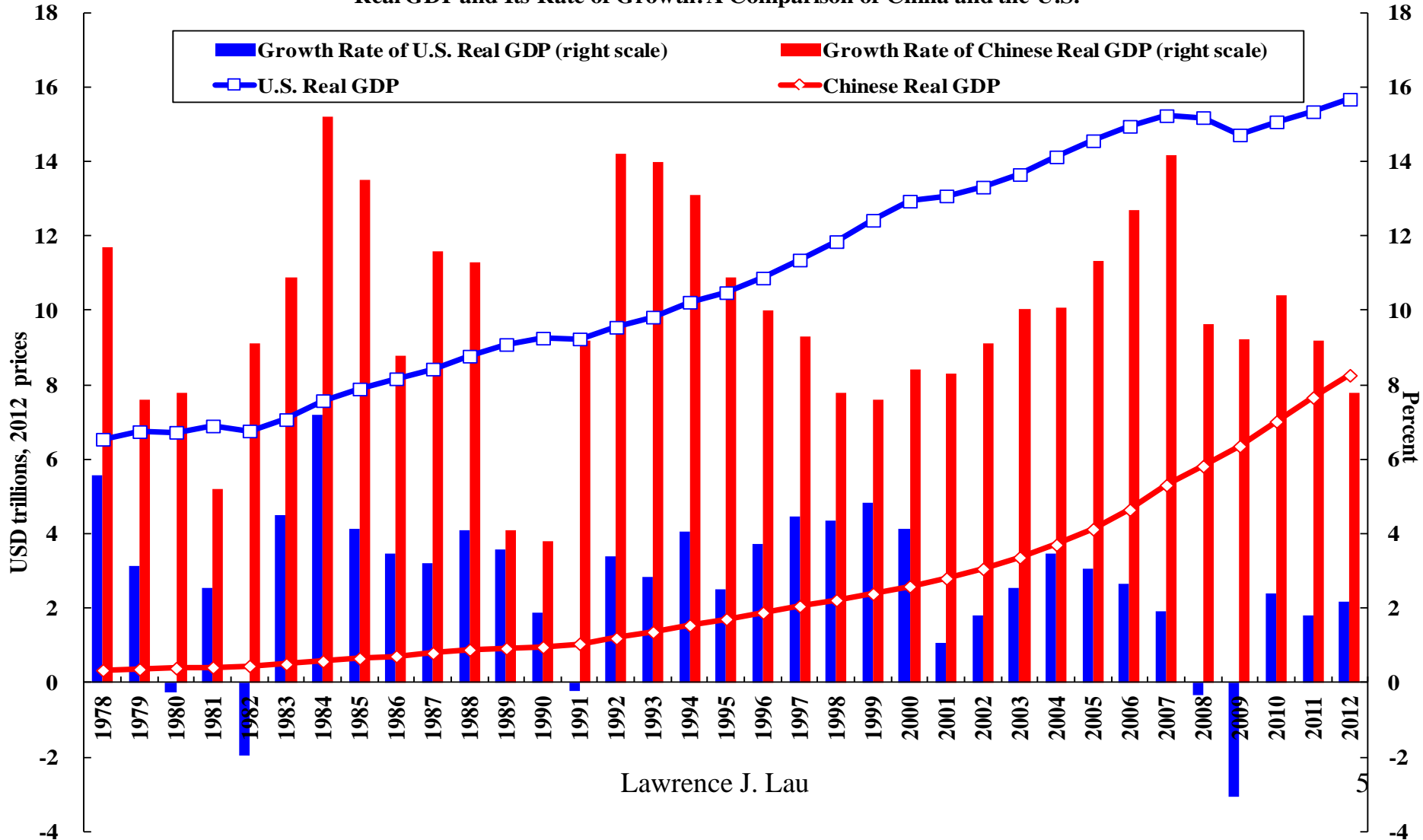
Chinese Real GDP in US\$ Since 1952 (2012 Prices)

Chinese Real GDP since 1952, in 2012 prices



Real GDP and Its Rate of Growth: A Comparison of China and the U.S. (2012\$)

Real GDP and Its Rate of Growth: A Comparison of China and the U.S.

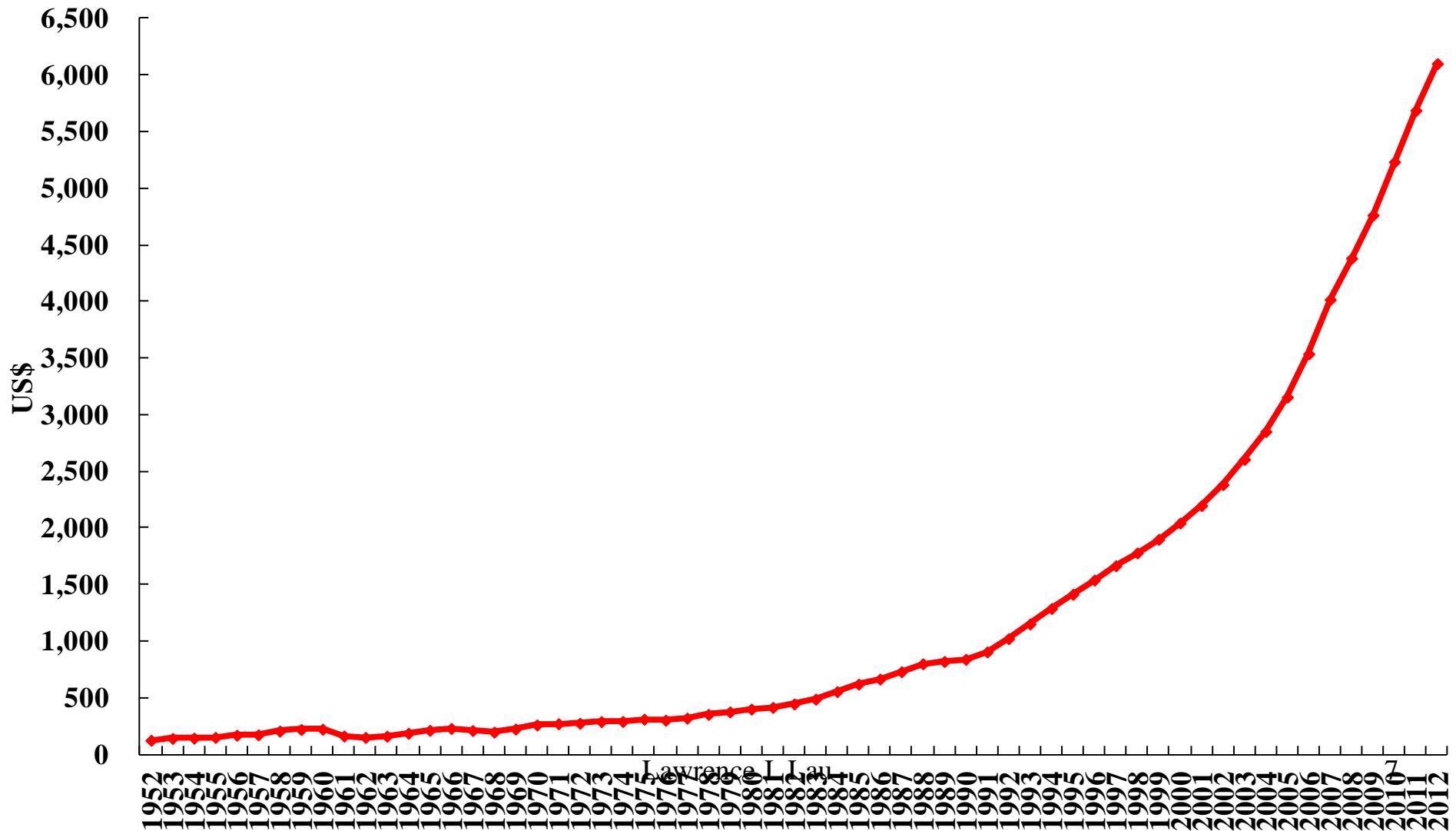


Introduction

- ◆ Despite its rapid growth, in terms of its real GDP per capita, China is still a developing economy.
- ◆ Between 1978 and 2012, Chinese real GDP per capita grew 16 times, from US\$354 to US\$6,101.9 (in 2012 prices).
- ◆ By comparison, the U.S. GDP per capita of approximately US\$49,879, was 8.2 times Chinese GDP per capita in 2012.

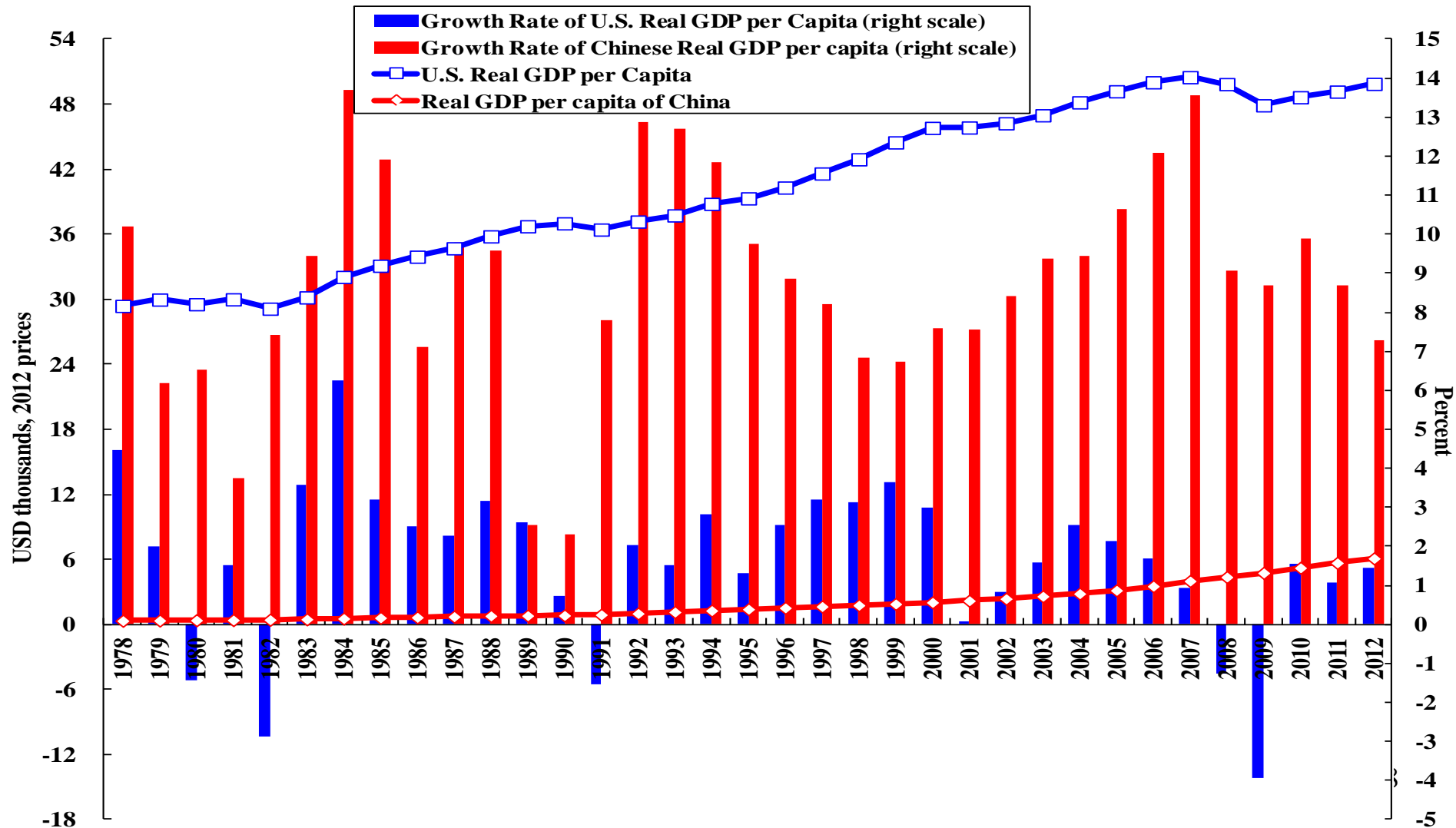
Real Chinese GDP per Capita in US\$ Since 1952 (2012 Prices)

Real Chinese GDP per Capita since 1952, in 2012 prices



Real Chinese and U.S. GDP per Capita in US\$ Since 1952 (2012 Prices)

Real GDP per Capita and Its Rate of Growth: A Comparison of China and the U.S.



Introduction

- ◆ While many problems have arisen in the Chinese economy within the past decade—for example, increasing income disparity (both inter-regional and intra-regional), uneven access to basic education and health care, environmental degradation, inadequate infrastructure and corruption—it is fair to say that every Chinese citizen has benefitted from the economic reform and opening since 1978, albeit to varying degrees, and few want to return to the central planning days.

Introduction

- ◆ In the following table, the key performance indicators of the Chinese economy before and after the initiation of the economic reform and opening policy in 1978 are compared. It is readily apparent that there has been a huge improvement in every aspect of the economy—rates of growth of GDP, consumption, and international trade, on both an aggregate and per capita basis—except the average rate of inflation, which has become considerably higher in the period since 1978.
- ◆ One important factor for the improvement of the per capita performance indicators is the “one-child policy” which applies to the 94% Han majority in China adopted in 1979.

Key Performance Indicators Before and After Chinese Economic Reform

	Growth Rates	
	percent per annum	
	Period I	Period II
	1952-1978	1978-2012
Real GDP	6.15	9.83
Real GDP per Capita	4.06	8.73
Real Consumption	5.05	9.17
Real Consumption per Capita	2.99	8.08
Exports	9.99	17.03
Imports	9.14	16.24
Inflation Rates (GDP deflator)	0.50	5.35

Introduction

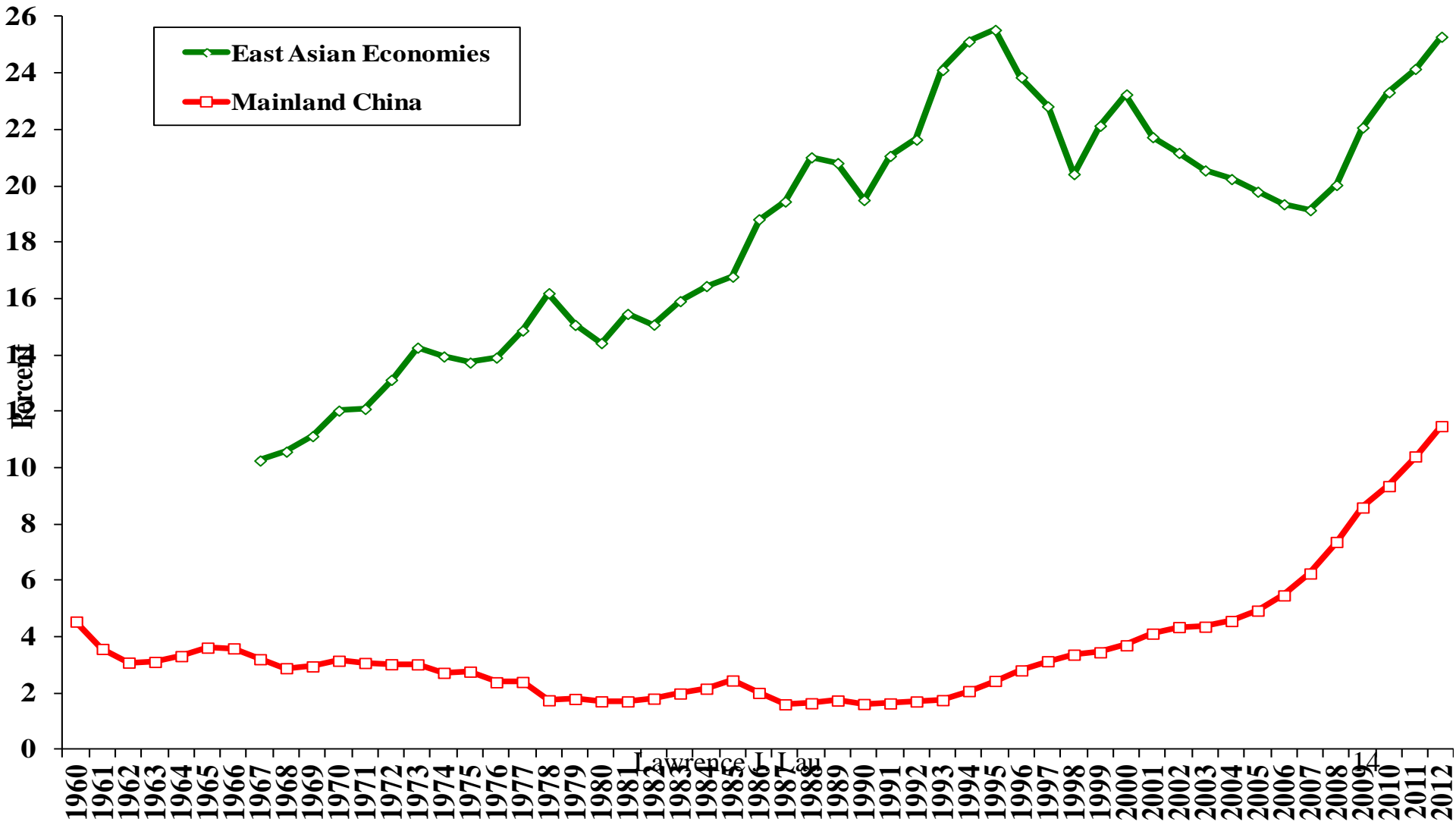
- ◆ The Chinese Government leaders have also amply demonstrated their ability to confront important challenges and solve difficult problems over the past 34 years, surviving various economic and financial crises such as the 1997-1998 East Asian currency crisis, the 2007-2009 global financial crisis, the European sovereign debt crisis and more recently the anticipated tapering and winding down of QE3.
- ◆ China is one of the very few socialist countries that have managed to make a smooth transition from a centrally planned to a market economy without a massive decline in real GDP. It is a model for other transition economies such as Vietnam and potential transition economies such as Cuba, Laos, and North Korea.

The Shifting Centre of Gravity of the World Economy

- ◆ Through the past three decades, the centre of gravity of the World economy has been gradually shifting from the United States and Europe to Asia, including both East Asia and South Asia.
- ◆ The East Asian economies have become partially de-coupled from the rest of the World economy, as evidenced by the strong performance of China, India and other East Asian economies except Japan during the 2007-2009 global financial crisis as well as the European sovereign debt crisis.
- ◆ However, the Chinese economy is not large enough to turn the World around. The idea of a G-2 group of countries consisting of only China and the United States leading the World economy is premature.

China and East Asia's Share of World GDP, 1960-present (Current Prices)

China's and East Asia's Share of World GDP, 1960-present



The Economic Fundamentals

- ◆ The quantity of output of an economy depends on the quantities of inputs, as well as the efficiency with which inputs are transformed into output, in other words, the ability to increase output without increasing inputs.
- ◆ Long-term economic growth of a country therefore depends on the rates of growth of its primary inputs—(tangible or physical) capital and labour—and on human capital and technical progress (also known as the growth of total factor productivity), that is, the ability to increase the efficiency with which inputs are transformed into output.

The Economic Fundamentals

- ◆ The rate of growth of tangible capital depends on the rate of investment on structure, equipment and basic infrastructure, which in turn depends on the availability of national savings. Foreign aid, foreign investment and foreign loans can sometimes augment domestic savings, especially at an early stage of economic development. However, the lack of sustainability of imported foreign resources over time can be a problem.
- ◆ The rate of technical progress depends on investment in intangible capital (principally human capital and R&D capital).

The Economic Fundamentals

- ◆ The most important source of Chinese economic growth since 1978 has been the growth of inputs, principally tangible capital (structures, equipment, and basic infrastructure) and not technical progress. This experience is not unlike those of other East Asian economies such as South Korea and Taiwan and even Japan at a similarly early stage of economic development.
- ◆ The growth of tangible capital accounts for the bulk (more than 80%) of the measured economic growth in China. The tangible capital stock has been growing at approximately 15% per year.
- ◆ However, unlike the experience of the other East Asian economies, economies of scale have also played an important role in Chinese economic growth because of the huge size of the Chinese domestic market.

The Economic Fundamentals

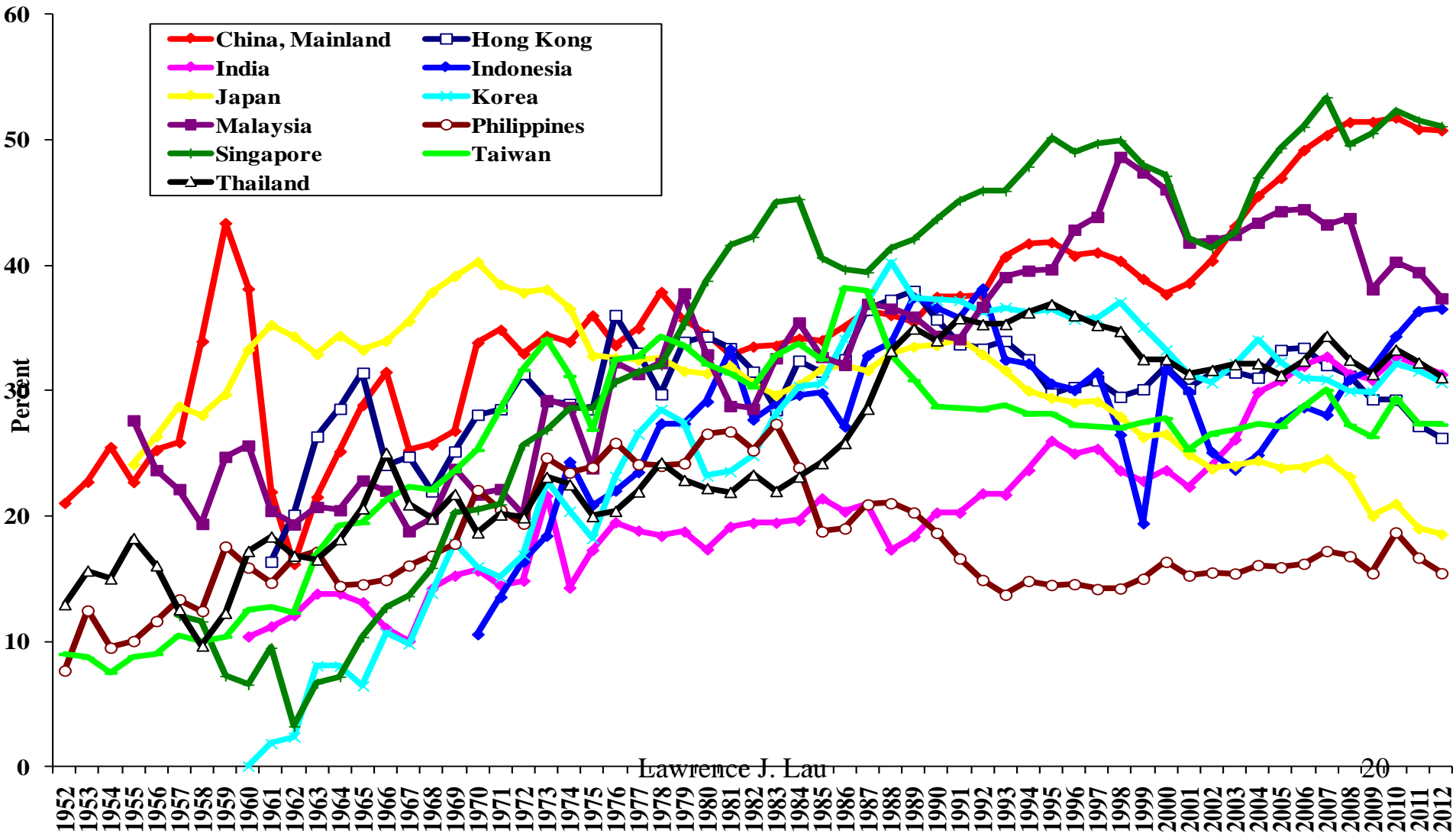
- ◆ Chinese economic growth since 1978 has been underpinned by three factors:
- ◆ (1) A consistently high national saving rate on the order of 30% and above except for a brief start-up period. It has stayed around 40% since the early 1990s and has at times approached or even exceeded 50% in more recent years. This means, among other things, that the Chinese economy can finance all of its domestic investment needs from its own domestic savings alone, thus assuring a high rate of growth of the tangible capital stock without having to depend on the more fickle foreign capital inflows (including foreign portfolio investment, foreign direct investment or foreign loans).

The Economic Fundamentals

- ◆ (2) An unlimited supply of surplus labour—there is no shortage of and no upward pressure on the real wage rate of unskilled, entry-level labour. And
- ◆ (3) A huge domestic market of 1.34 billion consumers with pent-up demand for housing and transportation and other consumer goods and services (e.g., education and health care), enabling the realisation of significant economies of scale in production and in investment in intangible capital, including innovation and goodwill (e.g., brand building), based entirely on domestic demand. This is an advantage not available to the other East Asian economies.

saving rates of Selected Asian Economies (1952-present)

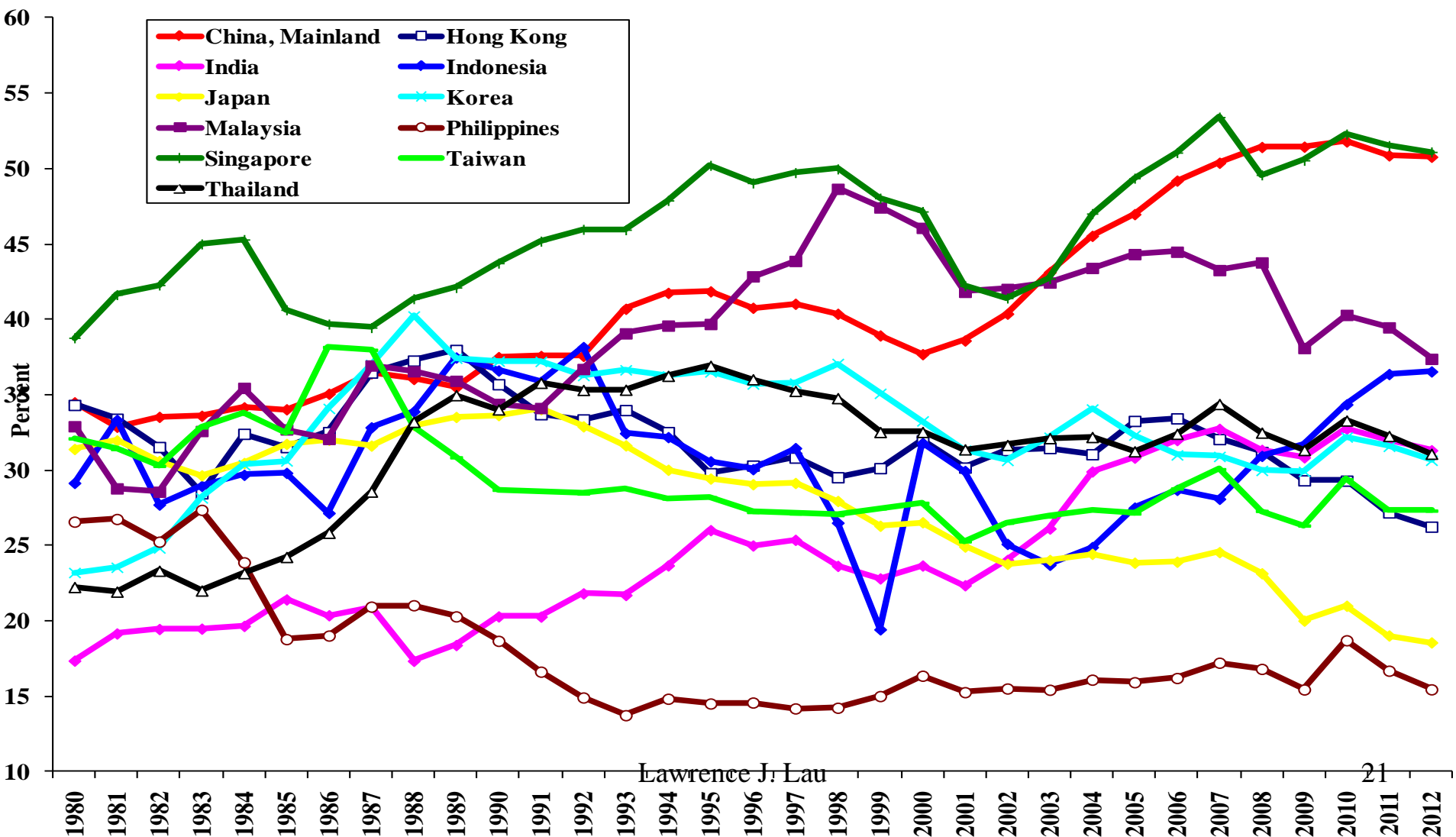
Savings Rates of Selected East Asian Economies



Lawrence J. Lau

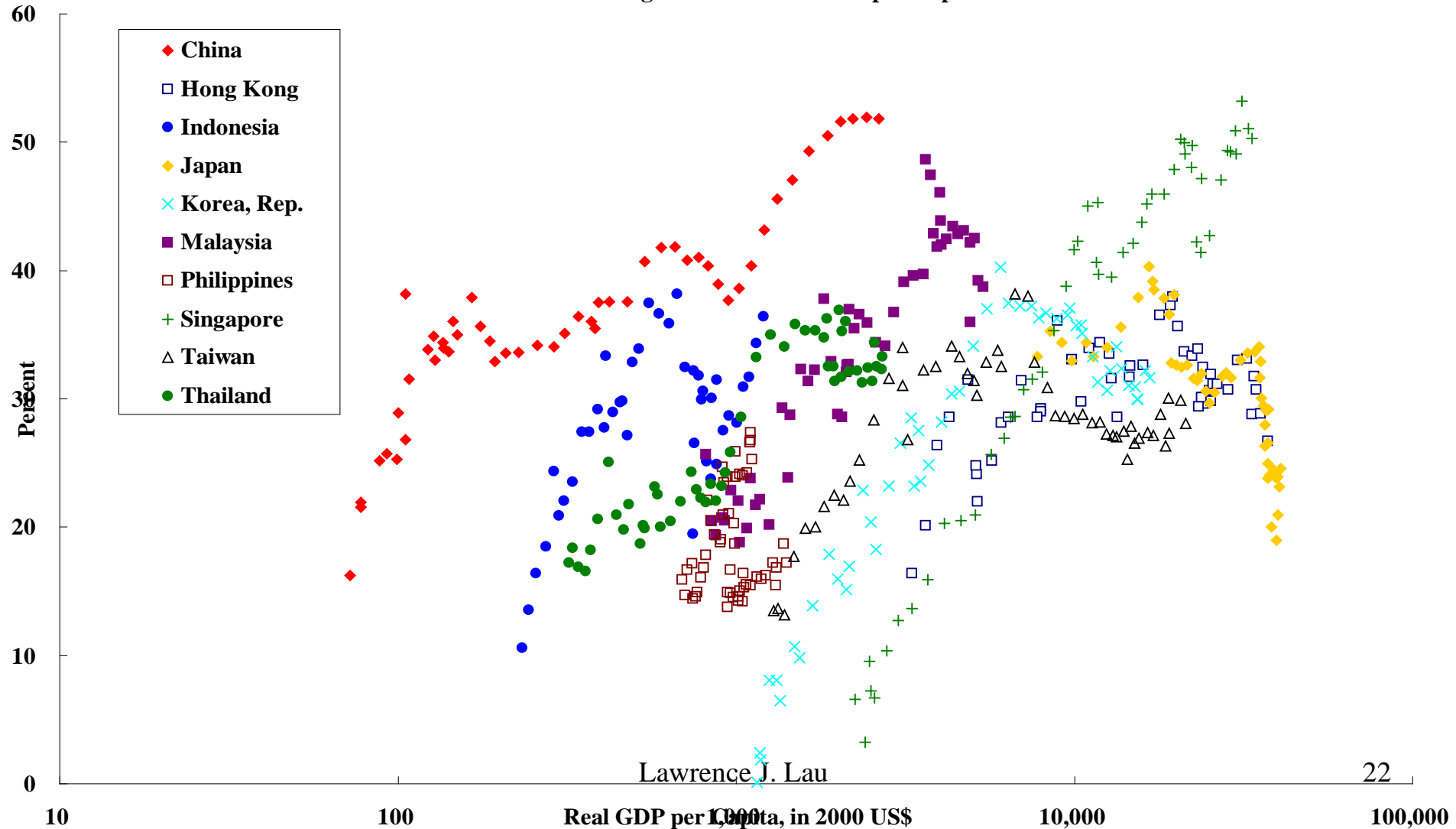
saving rates of Selected Asian Economies (1980-present)

Savings Rates of Selected Asian Economies



The saving rate and Real GDP per Capita: East Asian Economies

National Savings Rate and Real GDP per Capita

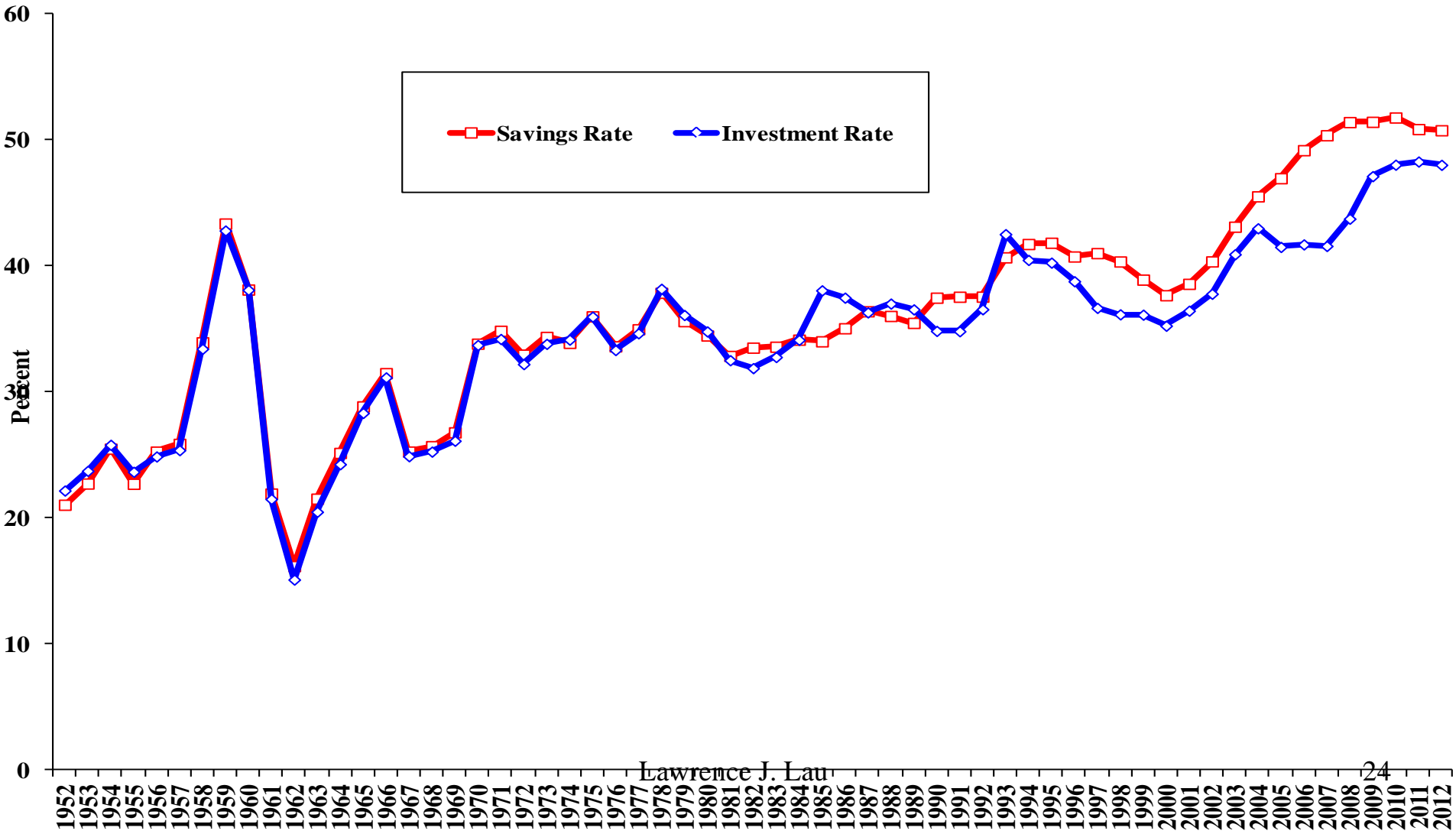


The Economic Fundamentals

- ◆ China both saves too much and invests too much. However, the excessive savings and excessive investments were in approximate balance and hence there was little or no excess savings to be exported. China did not have a significant trade surplus vis-a-vis the World until 2005, even though it had had a large trade surplus vis-a-vis the United States.
- ◆ Since 2008, the Chinese savings-investment gap has once again narrowed, resulting in a large reduction in the Chinese trade surplus relative to its GDP. The Chinese trade surplus has declined to 2% of its GDP by the end of 2011 and is expected to decline further during the next couple of years, reaching essentially balanced international trade by perhaps 2015.

Chinese National Savings and Gross Domestic Investment as Percents of GDP

Chinese National Savings and Gross Domestic Investment as a Percent of GDP since 1952



The Economic Fundamentals

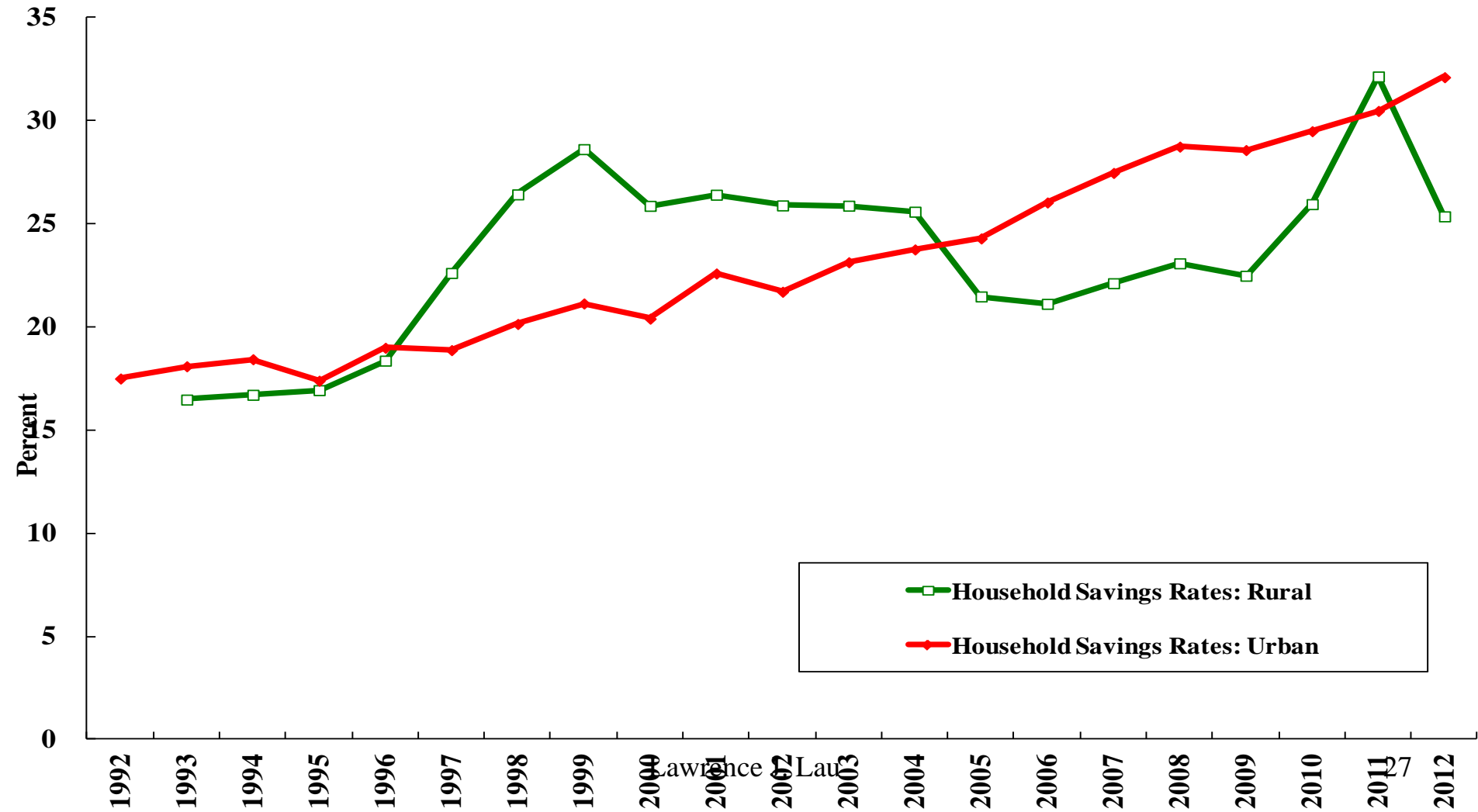
- ◆ However, the high Chinese national saving rate is not due to an exceptionally high household saving rate. In fact, the Chinese household saving rate is not significantly different from those of ethnically Chinese households in Hong Kong and Taiwan, both market economies and where the social safety nets are not completely adequate, particularly in Hong Kong. The high Chinese national saving rate is due to:
- ◆ (1) the lagged adjustment of household consumption to increases in household income because of the rapidity of the increases in the latter. It takes time for the growth of consumption to catch up to the growth of income. Thus, a high household saving rate is only transitory; it will settle down and stabilise as the rate of growth of household income reaches steady-state.

The Economic Fundamentals

- ◆ (2) the much lower share of GDP received by households as income; in particular, the share of labor is low in China, currently less than 50% of GDP, compared to approximately 70% in the developed economies of the World. The households' share of national income is not much higher than 50%. Even if the households consume all of their income and do not save at all, household or personal consumption cannot be much more than 50% of GDP. The Chinese household saving rate is currently approximately 30%.

Saving Rates of Urban and Rural Households

Savings Rates of Chinese Urban and Rural Households



Saving Rates and per Capita Real Incomes of Urban and Rural Households

The Economic Fundamentals

- ◆ (3) the much higher Chinese corporate saving rates— Chinese enterprises, state-owned as well as non-state-owned, typically reinvest their earnings and distribute little or no cash dividends to their shareholders. (For privately owned enterprises, this is done in part to avoid personal income taxation as cash dividends are taxed at a flat 20% rate.) Thus, the enterprise saving rate out of enterprise income (after taxes) is almost 100%.
- ◆ The high Chinese national saving rate is thus the result of a weighted average between the household saving rate and the high enterprise saving rate (with the government saving rate—the budget surplus (deficit) as a percentage of GDP—being relatively insignificant until more recently).

The Economic Fundamentals

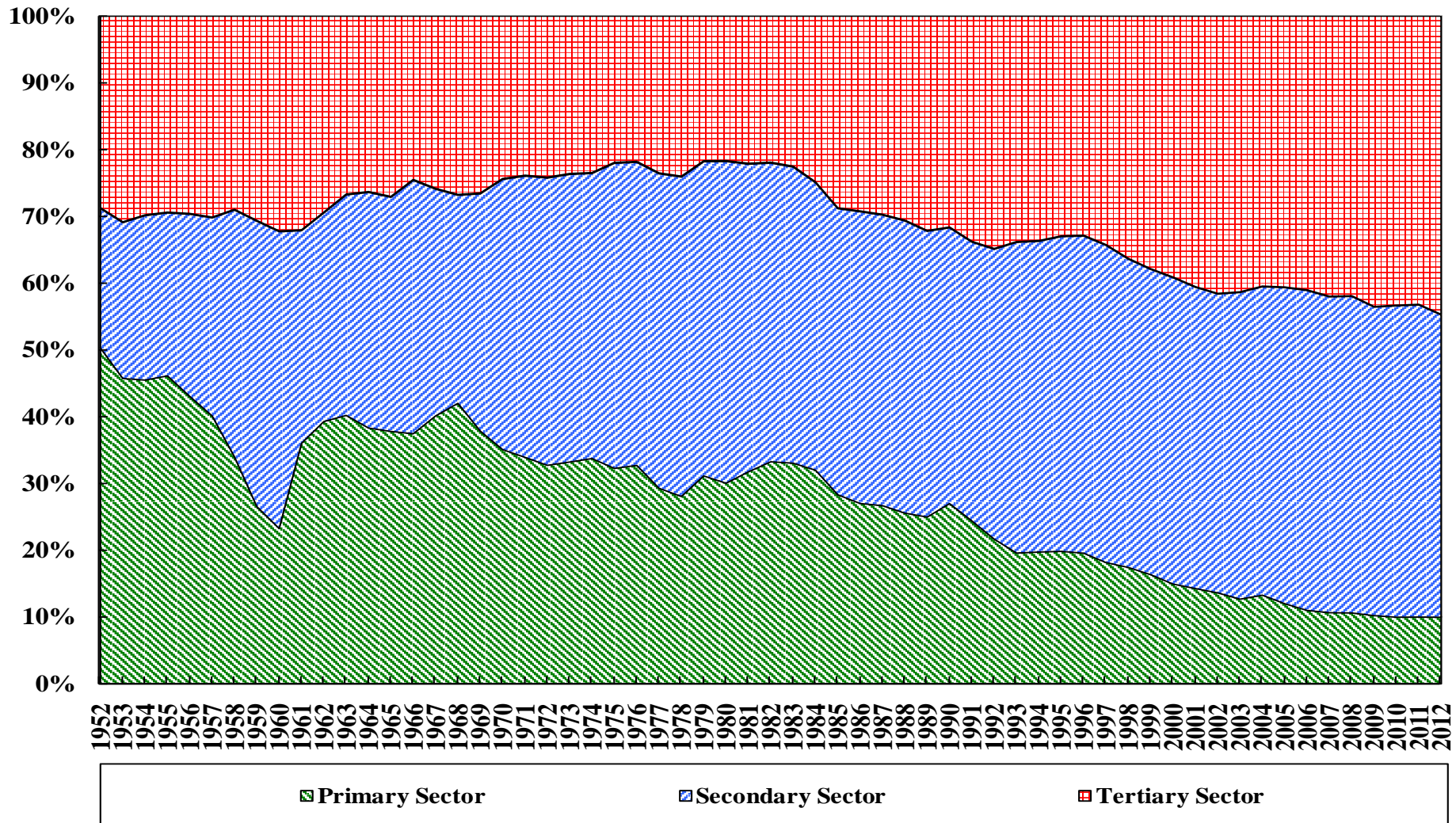
- ◆ China, like Japan, Taiwan, and South Korea in their early stages of economic development, has an abundant supply of surplus labour. This means China can grow without being constrained by the supply of labour or by rising real wage rates of unskilled, entry-level labour over an extended period of time.
- ◆ Investment in physical capital is very productive under conditions of surplus labour and as long as there is sufficient complementary domestic physical capital, the surplus labour will enable the output of the economy to grow rapidly.
- ◆ This is exactly what the late Prof. W. Arthur Lewis, Nobel Laureate in Economic Sciences, said in his famous paper on surplus labour published in 1954.

The Economic Fundamentals

- ◆ The distribution of Chinese GDP by originating sectors in 2012 was approximately: Primary (agriculture), 10.1%; Secondary (manufacturing, mining and construction), 45.3%; and Tertiary (services), 44.6%. (Note that mining is normally included in the primary sector in most other economies.)
- ◆ But the bulk of the labour force, more than 33.6%, is still employed in the primary sector, which in the case of China consists of only agriculture, waiting to be transferred to the other two sectors which have higher productivities.
- ◆ As long as the percentage of labour force employed in the primary sector significantly exceeds the percentage of GDP originating from the primary sector, there is little or no upward pressure on the real wage rate of unskilled, entry-level labour in the secondary and tertiary sectors.

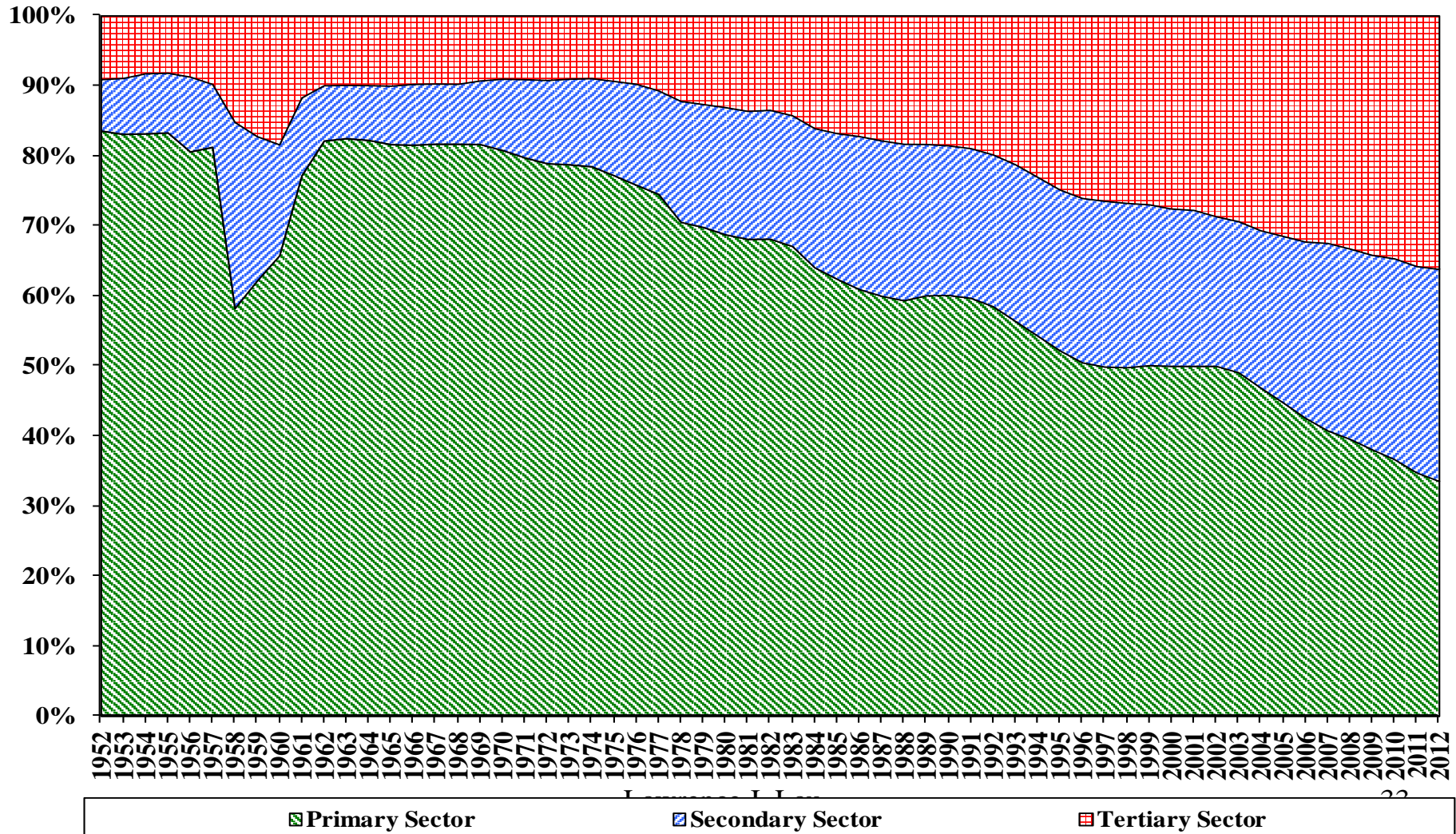
The Distribution of Chinese GDP by Sector Since 1952

The Distribution of GDP by Sector



The Distribution of Chinese Employment by Sector Since 1952

The Distribution of Employment by Sector since 1952



The Economic Fundamentals

- ◆ It took 34 years for the percentage of labour force employed in the Chinese primary sector to decline from 70.5% in 1978 to 33.6% in 2012, at the rate of approximately 1 percentage point per year.
- ◆ It will take approximately another 25 years or so for the percentage of labour force employed in the Chinese primary sector to decline from 33.6% to 10%, which is approximately the same as the percentage of Chinese GDP produced by the primary sector today. By that time, it is expected that the primary sector will account for no more than 5% of Chinese GDP.
- ◆ China will therefore continue to have surplus labour for another two or three decades. During this period, there will not be any shortage of unskilled, entry-level labour, even though there may be shortages of skilled or experienced labour in the secondary and tertiary sectors. (The loss of competitiveness in the exports of labour-intensive, light-manufactured goods was due primarily to the significant appreciation of the Renminbi since 2005.)

The Economic Fundamentals

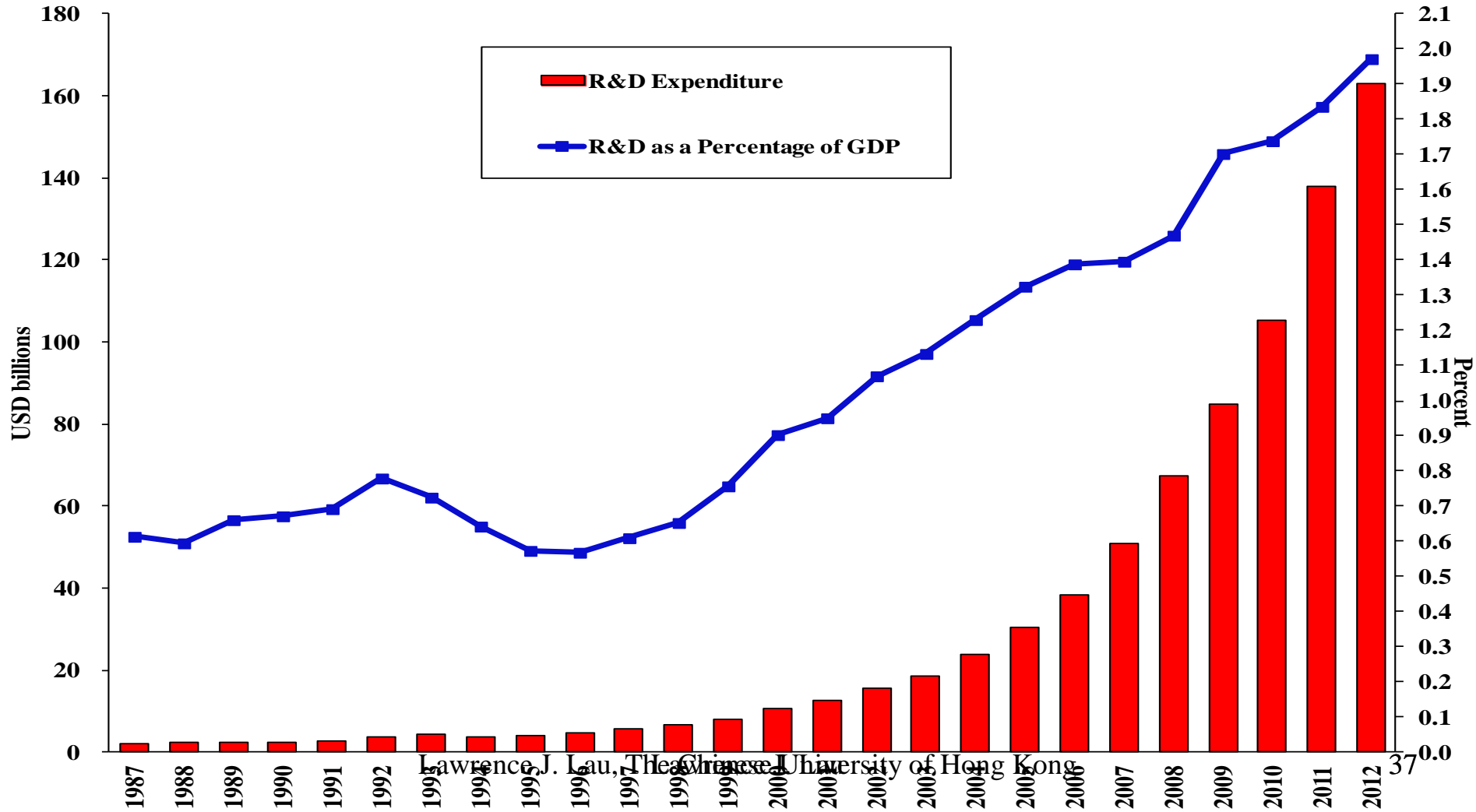
- ◆ While it is true that because of the “one-child” population policy, the Chinese working-age population may reach a peak within the next couple of years, this trend can be mitigated by a gradual lengthening of the retirement age (currently 60 for men and 55 for women) and by a modification of the “one-child” policy in the longer run.
- ◆ China also has a long tradition of emphasis on education and learning (human capital) and will be increasing its investment in human capital. The enrollment rate of tertiary education has been rising rapidly and stands at more than 25 percent today. It is expected to rise further over the next three decades as private tertiary educational institutions become more numerous in response to demand and facilitated by government policy.
- ◆ China also has an abundance of scientific and technical manpower the cost of which is a fraction of the cost in developed economies.

The Economic Fundamentals

- ◆ Sustained investment in research and development (R&D) is essential for technical progress in an economy. China has also begun to invest heavily in R&D in recent years—its R&D expenditure has been rising rapidly, both in absolute value, and as a percentage of GDP, but still lags behind the developed economies as well as the newly industrialised economies of East Asia. (The Chinese R&D Expenditure/GDP ratio is targeted to reach 2.2% in 2015, still below the historical average of 2.5% for the U.S.)
- ◆ By comparison, both Japan and South Korea invest more than 3% of their GDPs in R&D annually.

China's R&D Expenditure and Its Share of Chinese GDP

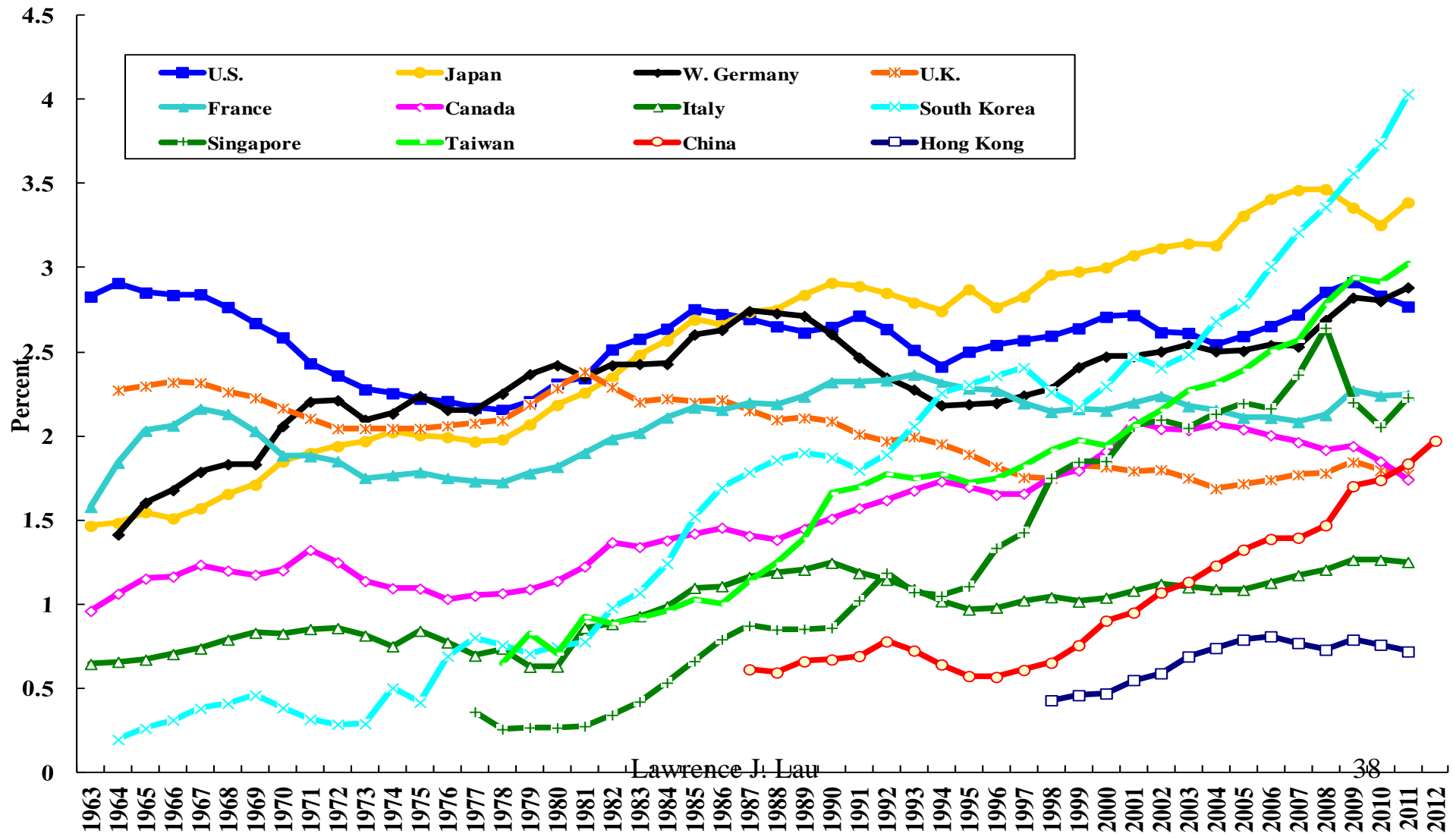
China's R&D Expenditure and Its Share of GDP



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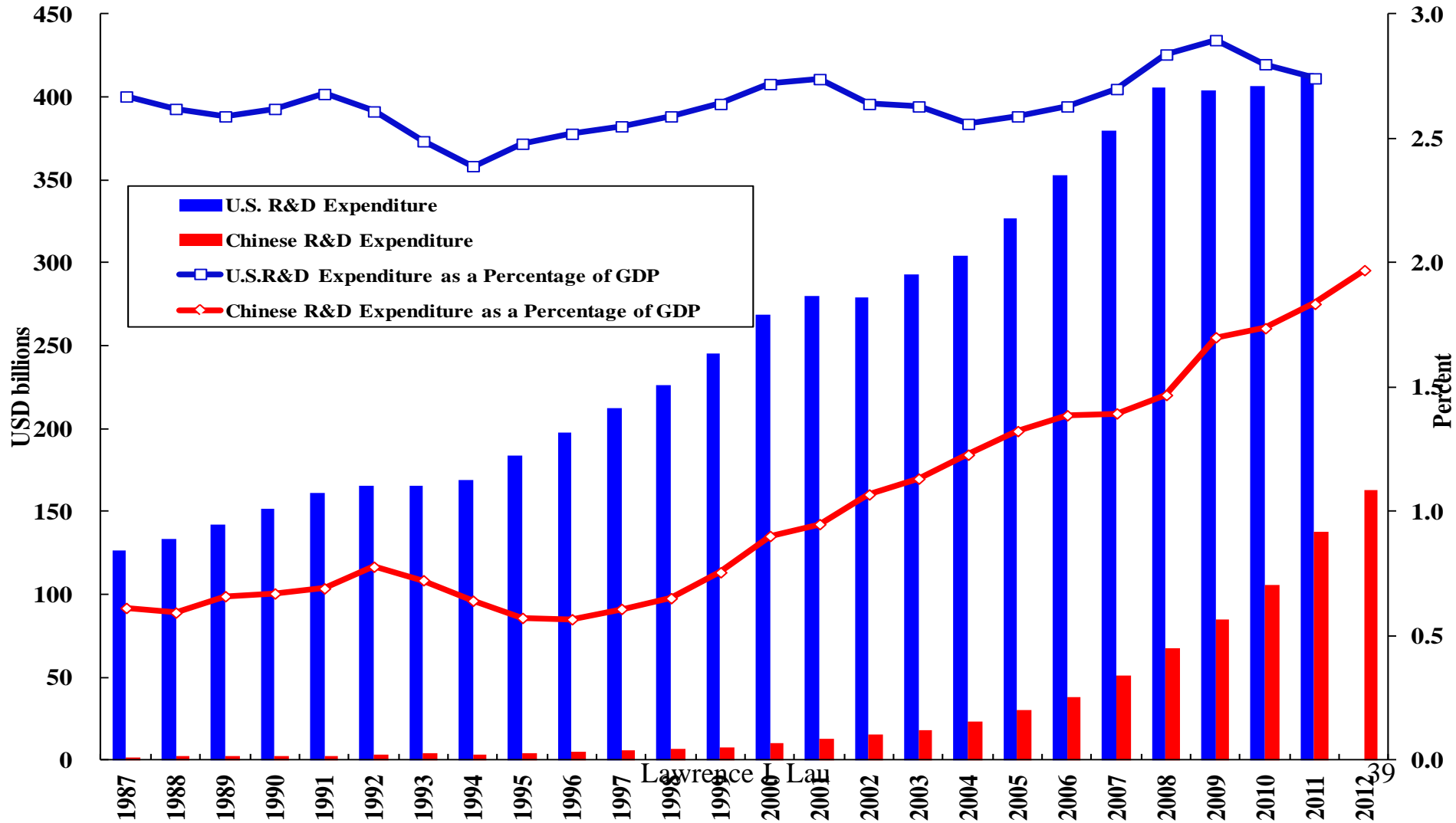
R&D Expenditures as a Ratio of GDP: G-7 Countries, 4 East Asian NIES & China

R&D Expenditures as a Percentage of GDP: G-7 Countries, 4 East Asian NIEs and China



R&D Expenditure and Its Share of GDP: A Comparison of China and the U.S.

R&D Expenditure and Its Share of GDP, A Comparison of China and the U.S.



The Economic Fundamentals

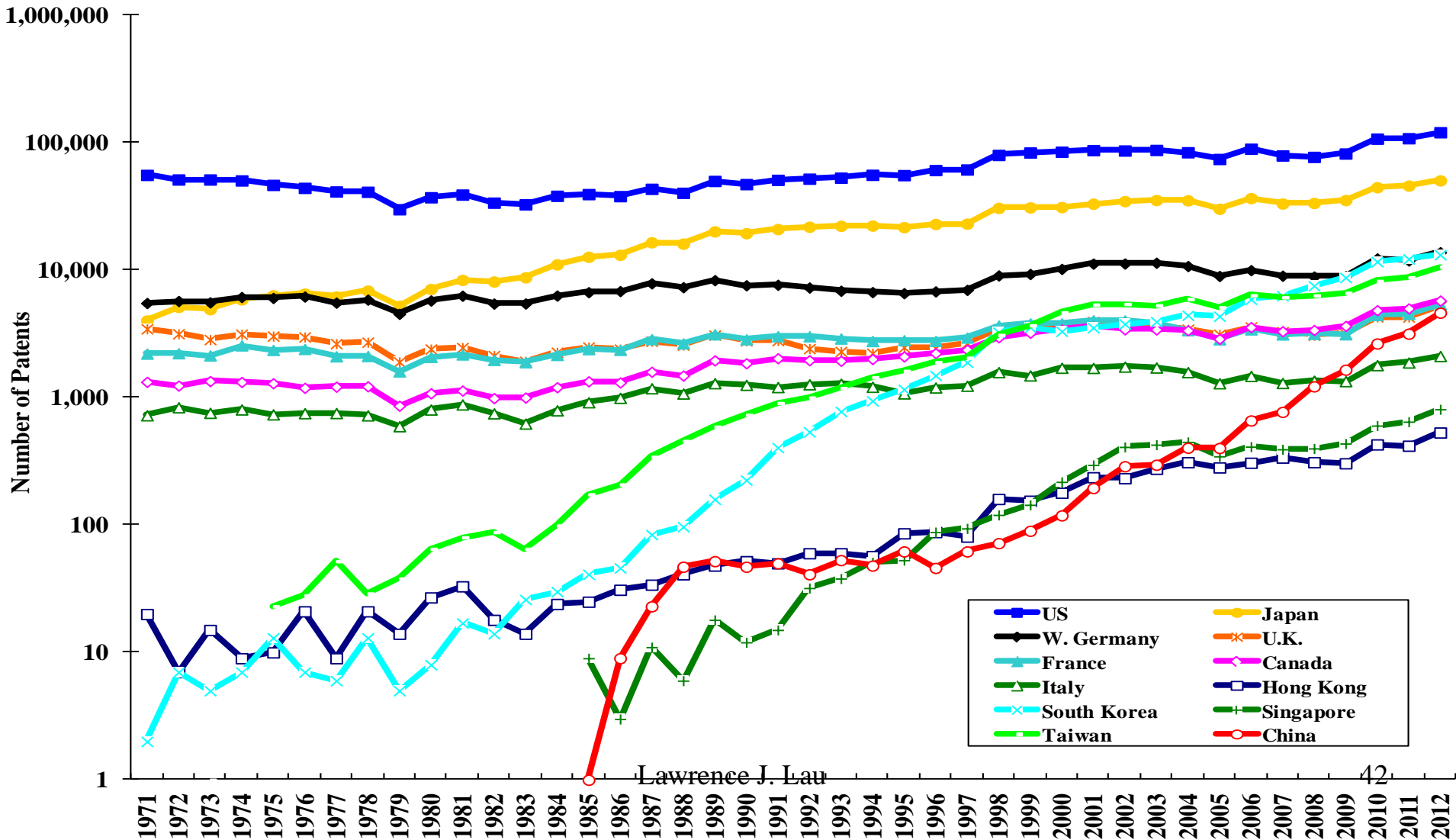
- ◆ One indicator of the potential for technical progress (national innovative capacity) is the number of patents created each year. In the following chart, the number of patents granted in the United States each year to the nationals of different countries, including the U.S. itself, over time is presented. The U.S. is the undisputed champion over the past forty years, with 121,026 patents granted in 2012, followed by Japan, with 50,677. (Since these are patents granted in the U.S., the U.S. may have a home advantage; however, for all the other countries, the comparison across them should be fair.)

The Economic Fundamentals

- ◆ The number of patents granted to Chinese applicants each year has increased from 1 in 1985 to 4,637 in 2012.
- ◆ The economies of South Korea and Taiwan, granted 13,233 and 10,646 U.S. patents respectively in 2012, are still far ahead of Mainland China—they have been averaging approximately 10,000 patents a year each.

Patents Granted in the United States: G-7 Countries, 4 East Asian NIEs & China

Patents Granted Annually in the United States: G7 Countries, 4 East Asian NIEs and China

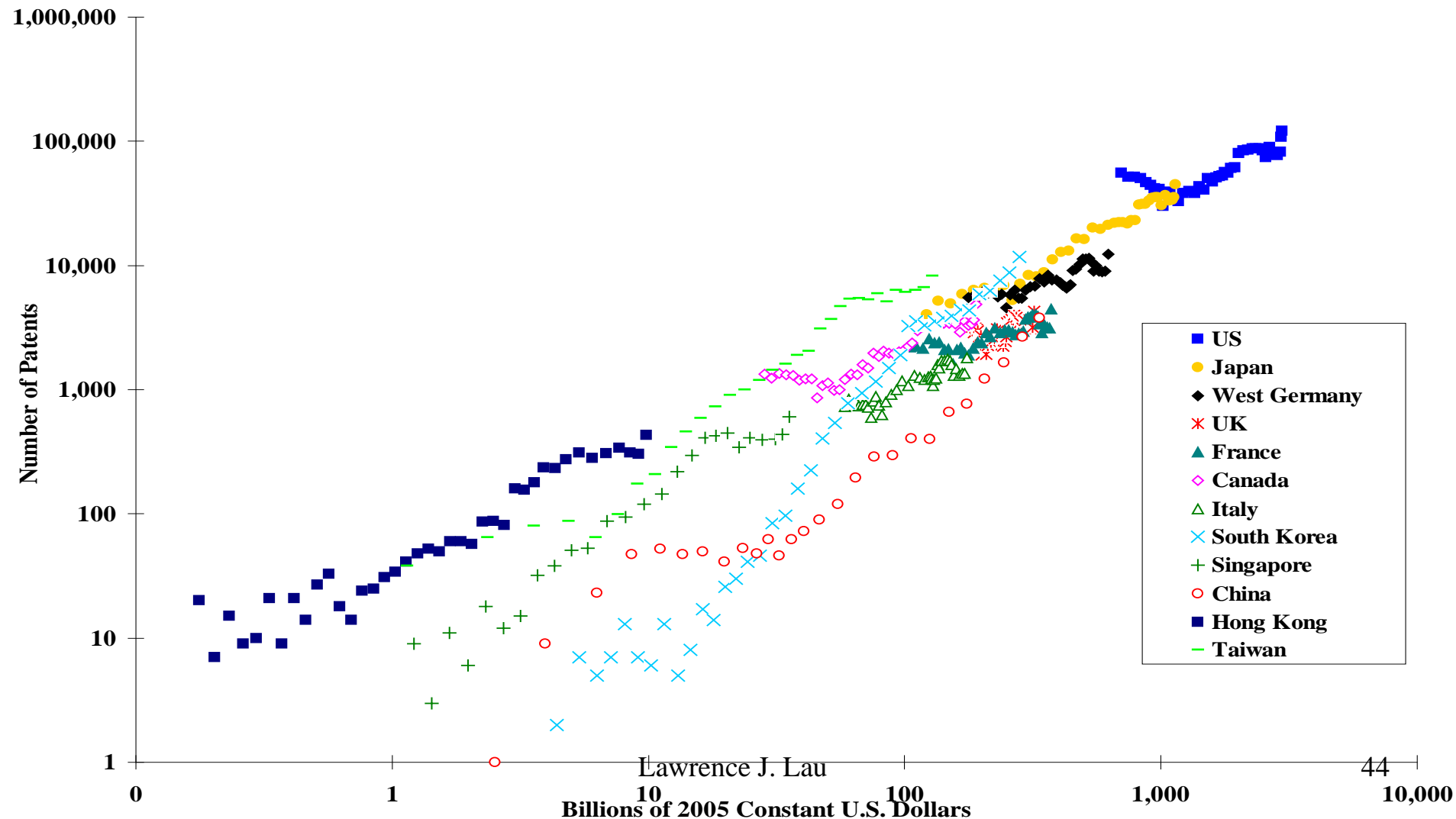


The Economic Fundamentals

- ◆ The stock of R&D capital, defined as the cumulative past real investment in R&D less depreciation of 10% per year, can be shown to have a direct causal relationship to the number of patents granted (see the following chart, in which the annual number of patents granted is plotted against the R&D capital stock of that year for each country).
- ◆ Because China has had both a much lower R&D expenditure to GDP ratio and a much lower GDP than the United States and other developed economies in the past, it will take more than a couple of decades before Chinese R&D capital can catch up to the level of U.S. R&D capital (and hence to the number of U.S. patents granted each year).

Patents Granted in the United States and R&D Capital Stocks, Selected Economies

The Number of U.S. Patents Granted Annually vs. R&D Capital Stocks



The Economic Fundamentals

- ◆ Chinese efficiency in the generation of patents in the U.S. also lags behind those of other economies in terms of the number of U.S. patents granted for a given level of the stock of R&D capital.
- ◆ For example, when Japan had the same level of R&D capital stock as China today, it was able to generate more than 8,100 patents, compared to China's 4,637 in 2012.
- ◆ More recently, Chinese efficiency has shown some improvement, having caught up to the level of France and the United Kingdom. However, it will clearly take a while before China can catch up to the U.S. level of the R&D capital stock as well as the U.S. efficiency in the generation of patents for a given R&D capital stock, and hence to the number of patents granted each year.

The Economic Fundamentals

- ◆ The huge potential domestic market of 1.34 billion consumers not only enables the realisation of economies of scale but also greatly enhances the productivity of intangible capital (e.g., R&D capital, goodwill). The fixed research and development costs of a new product or process can be easily amortised over a large market. The benefits of investment in goodwill, e.g., brand-building, are also much greater in a large market.
- ◆ The huge potential domestic market also enables active Chinese participation in the setting of product and technology standards and sharing of the benefits of such standard-setting.

The Economic Fundamentals

- ◆ Brand-building is a pre-requisite for Chinese enterprises to re-orient themselves to take advantage of the huge domestic market. It is true that brand-building requires resources, but it also enables the owners of brand names to have much more pricing power and higher profit margins than enterprises that do only OEM (original equipment manufacturing) business.

The Economic Fundamentals

- ◆ In addition to a high national saving rate, a large pool of surplus labour, a huge domestic market, and rising investment in intangible capital (human capital and R&D capital), the Chinese economy also has the advantage of relative backwardness:
- ◆ The ability to learn from the experiences of successes and failures of other economies;
- ◆ The ability to leap-frog stages of development (e.g., the telex machine, the VHS video players, the fixed landline telephones); and
- ◆ The possibility of creation without destruction (e.g., online virtual bookstores like Amazon.com do not have to destroy brick and mortar bookstores which do not exist in the first place).

The Metaphor of the “Wild Geese Flying Pattern”

- ◆ The metaphor of the "wild-geese-flying pattern" of East Asian economic development over time, introduced by Professor Kaname Akamatsu (1962) suggests that industrialisation will spread from economy to economy within East Asia as the initially fast-growing economies, beginning with Japan, run out of surplus labour and face labour shortages, rising real wage rates, and quota restrictions on their exports.
- ◆ Thus, East Asian industrialisation spread from Japan to first Hong Kong, and then Taiwan, and then South Korea, and then Southeast Asia (Thailand, Malaysia, Indonesia), and then to Guangdong, Shanghai, Jiangsu and Zhejiang in Mainland China. During this industrial migration, the large trading firms such as Mitsubishi, Mitsui, Marubeni and Sumitomo of Japan and Li and Fung of Hong Kong played an important role as financiers, intermediaries, quality assurers, and managers of logistics and supply chains.

The Metaphor of the “Wild Geese Flying Pattern”

- ◆ This metaphor applies not only to East Asia but also to China itself. Within China, industrialisation first started in the coastal provinces, regions and municipalities. It has begun to migrate and spread to other provinces, regions and municipalities in the interior—to Chongqing, Henan, Hunan, Jiangxi, Shaanxi and Sichuan. As the coastal provinces, regions and municipalities slow down in their economic growth, the central and western provinces, regions and municipalities will take their turn as the fastest growing areas in China. China as a whole will be able to maintain a relatively high rate of growth for many years to come.

The Metaphor of the “Wild Geese Flying Pattern”

- ◆ The economies of the Chinese coastal regions such as the Pearl River Delta (Guangdong Province) and the Yangzi River Delta (Jiangsu and Zhejiang Provinces and Shanghai Municipality) would have slowed down a long time ago had it not been for the couple of hundreds of million migrant labourers that flocked to these regions from the interior, constantly replenishing the supply of surplus labour there.

The Macroeconomic Outlook

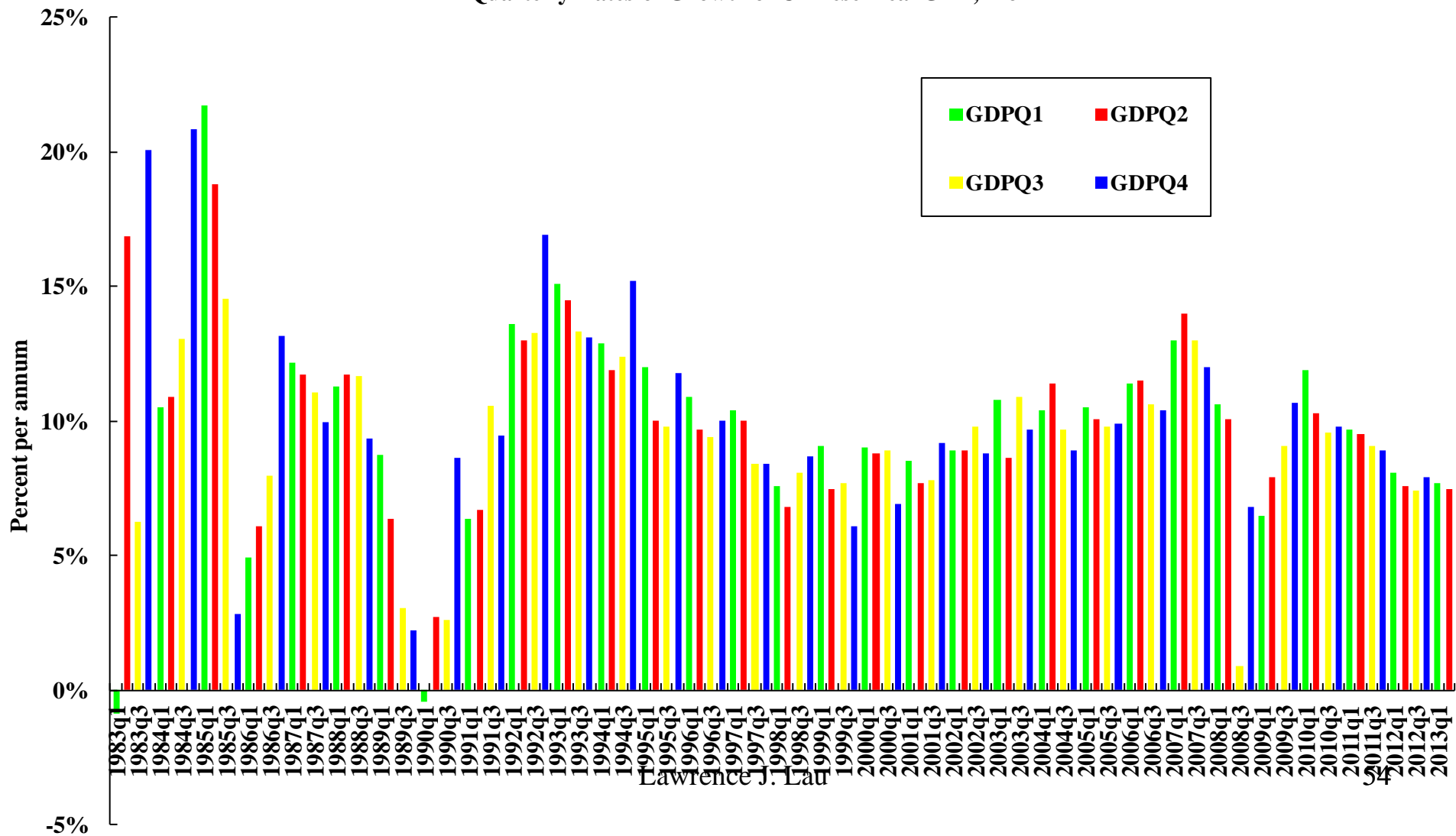
- ◆ The Chinese economy has survived the East Asian currency crisis of 1997-8, the global financial crisis of 2007-9 as well as the European sovereign debt crisis relatively unscathed.
- ◆ The 4-trillion Yuan economic stimulus package launched by the Chinese Government in November 2008, barely six weeks after the bankruptcy of Lehman Brothers, has been quite effective in sustaining the confidence and positive expectations of the future of Chinese enterprises and households to continue investing and consuming and thereby maintaining Chinese economic growth despite the economic turmoil in the United States and Europe.

The Macroeconomic Outlook

- ◆ The Chinese economy grew 9.2% in 2009, 10.4% in 2010 and 9.2 % in 2011 even as the European and U.S. economies remained in recession.
- ◆ For 2012 as a whole, the rate of growth of real GDP was 7.8%.
- ◆ In 2013Q1, the rate of growth of real GDP was 7.7%, Y-o-Y and in 2013Q2, the rate of growth of real GDP was 7.5%, Y-o-Y.
- ◆ The official target average growth rate for the Twelfth Five-Year Plan (2011-2015) period is a relatively modest 7%. A real rate of growth of over 7% per annum is definitely achievable for 2013.

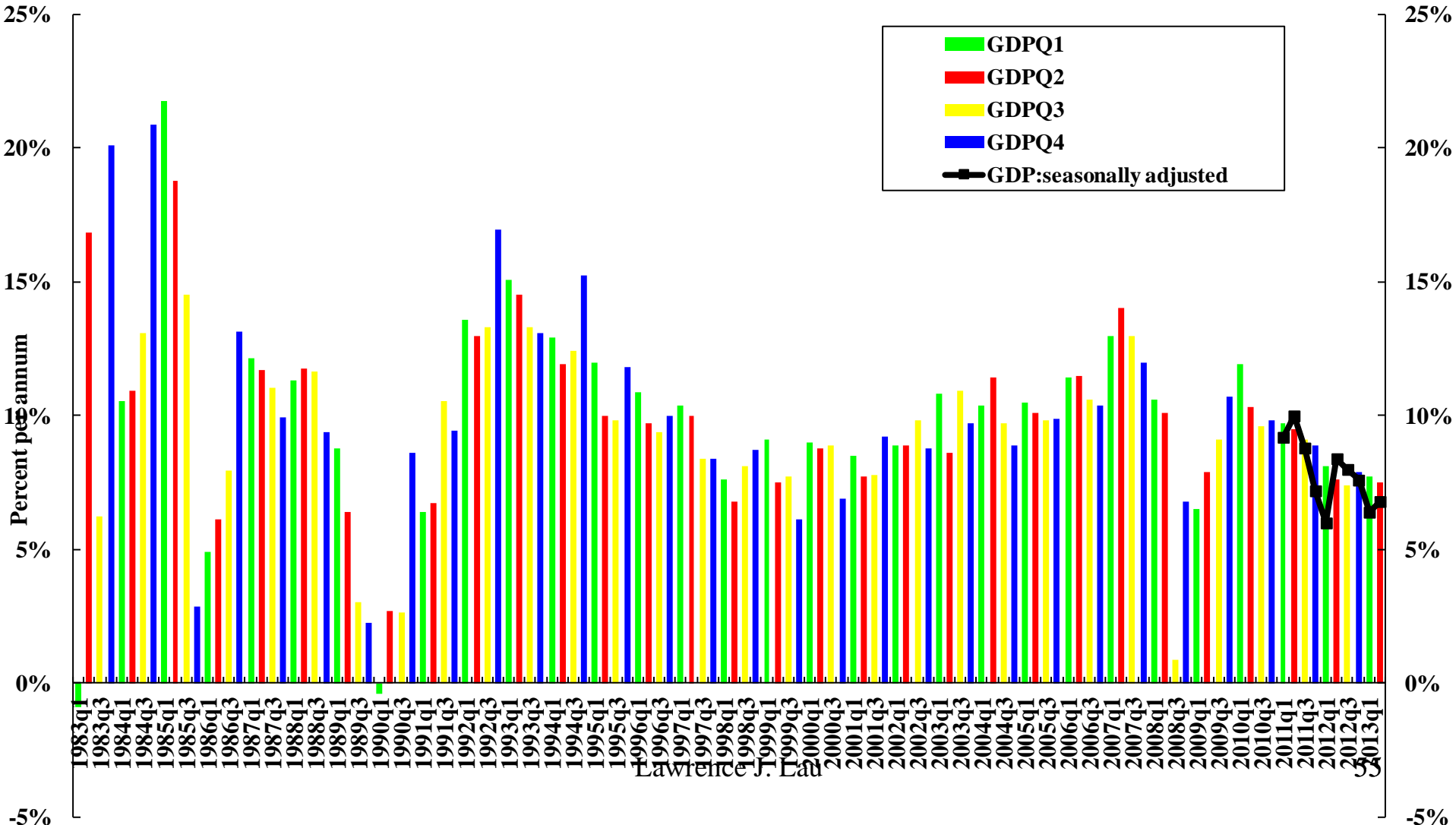
Quarterly Rates of Growth of Chinese Real GDP, Y-o-Y

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



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

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



The Macroeconomic Outlook

- ◆ The recent slowdown in the Chinese economy is due, in part, to the continued weakness in exports to the United States and Europe, and in part, to the change in the inventory behaviour of importers in the United States and Europe (attempting to minimise the holding of inventory), and in part to the uncertainty on the concrete economic development strategies of the new administration, which are expected to be unveiled at the Third Plenary Session of the Central Committee of the Chinese Communist Party which is to be held in November.

The Macroeconomic Outlook

- ◆ Total exports of goods in 2013M6 (June 2013) declined by 3.1% and imports declined 0.7% in U.S. Dollar terms. The trade surplus for the month narrowed to US\$27,13 billion, continuing a trend of decline. This is, however, not unexpected,
- ◆ Part of the decline in exports is due to the stepped up enforcement against fake or fictitious exports for the purpose of circumventing the capital controls. While the exports are fictitious, the payments for the exports are allowed into China as export proceeds under current accounts.
- ◆ Most of the activities occurred through Hong Kong. 2013H1 (first half) exports to Hong Kong increased by an incredible 42.7%, whereas in May and June the rates of increase were only 7.8% and -7% respectively, indicating that the massive increases in Chinese exports during the first few months of the year were probably bogus.

The Macroeconomic Outlook

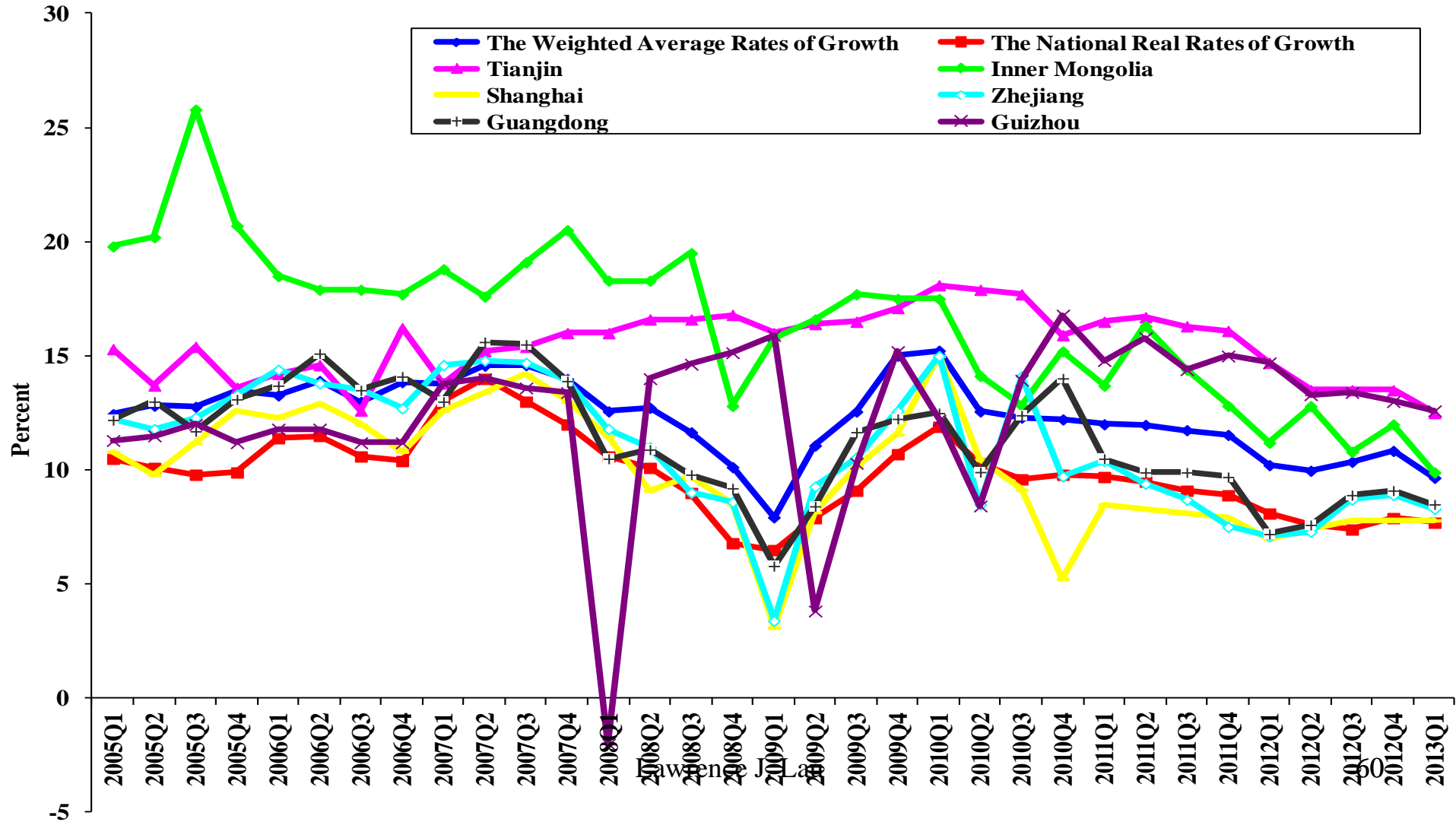
- ◆ While the real rate of growth of 2013H1 of 7.6% Y-o-Y may seem like a significant reduction from 7.9% in 2012, there are reasons to believe that the impact of the economic slowdown on Chinese employment is not that severe.
- ◆ For example, since it is almost impossible to separate out from the stated profit of real estate developers the land appreciation component (which is not GDP) and the value-added component (which is GDP), the rate of growth of GDP tends to be over-estimated when it is in part real estate driven. Thus, the effect of the recent slowdown which is coupled with a slowdown in the real estate sector is not as severe as the numbers themselves might indicate.

The Macroeconomic Outlook

- ◆ The outlook is that there will be a gradual slowdown in the real rate of growth of the economy in 2013, to perhaps between 7% and 7.5%, which is actually a positive development for the Chinese economy.
- ◆ 7% growth for the year 2013 is certainly achievable. In fact, the most recent downwardly revised predictions of Chinese economic growth for 2013 as a whole are still higher than 7%.

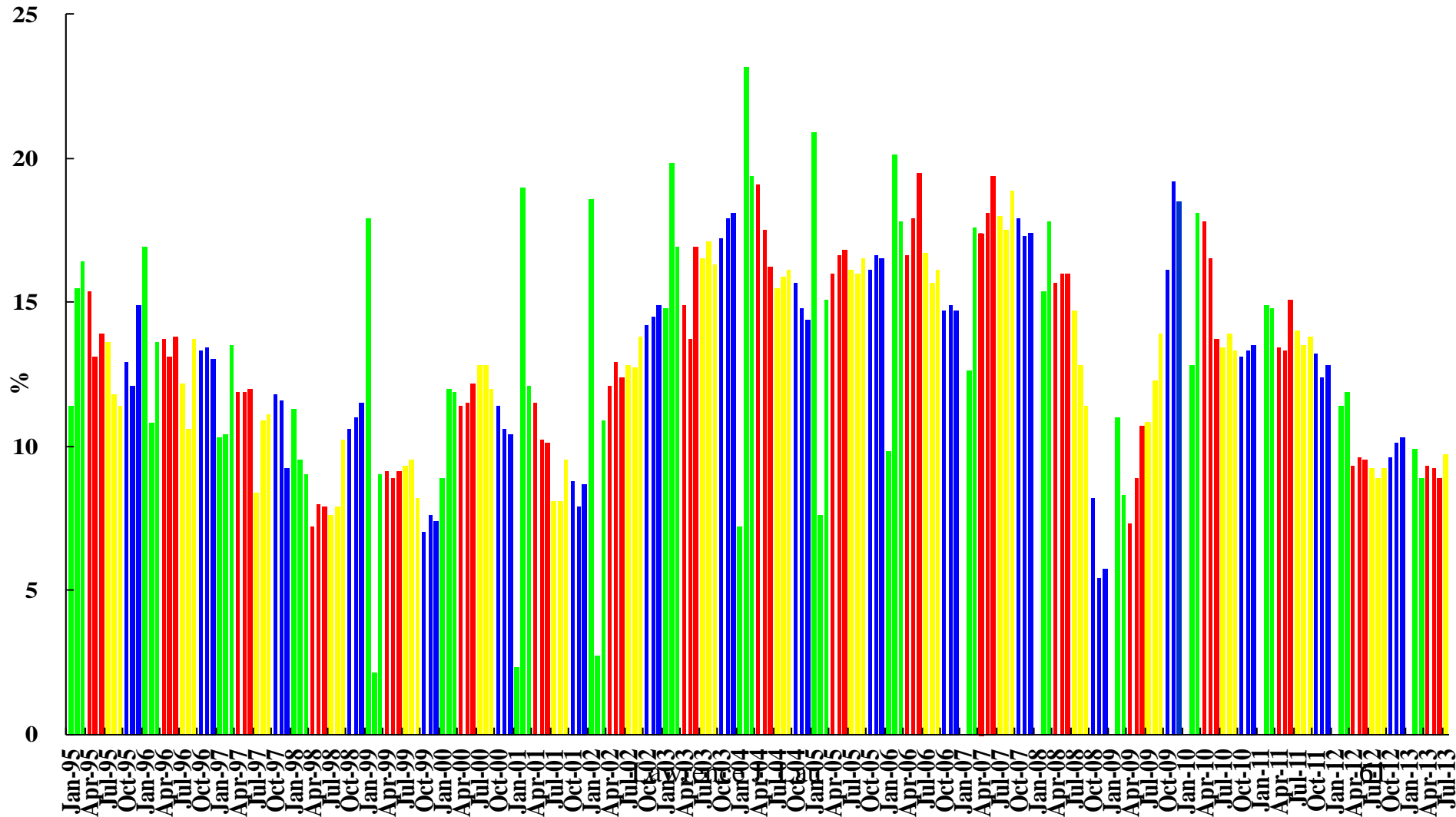
Quarterly Rates of Growth of Selected Chinese Provincial GDPs, Year-over-Year

Quarterly Rates of Growth of Selected Chinese Provincial GDPs, Year-over-Year



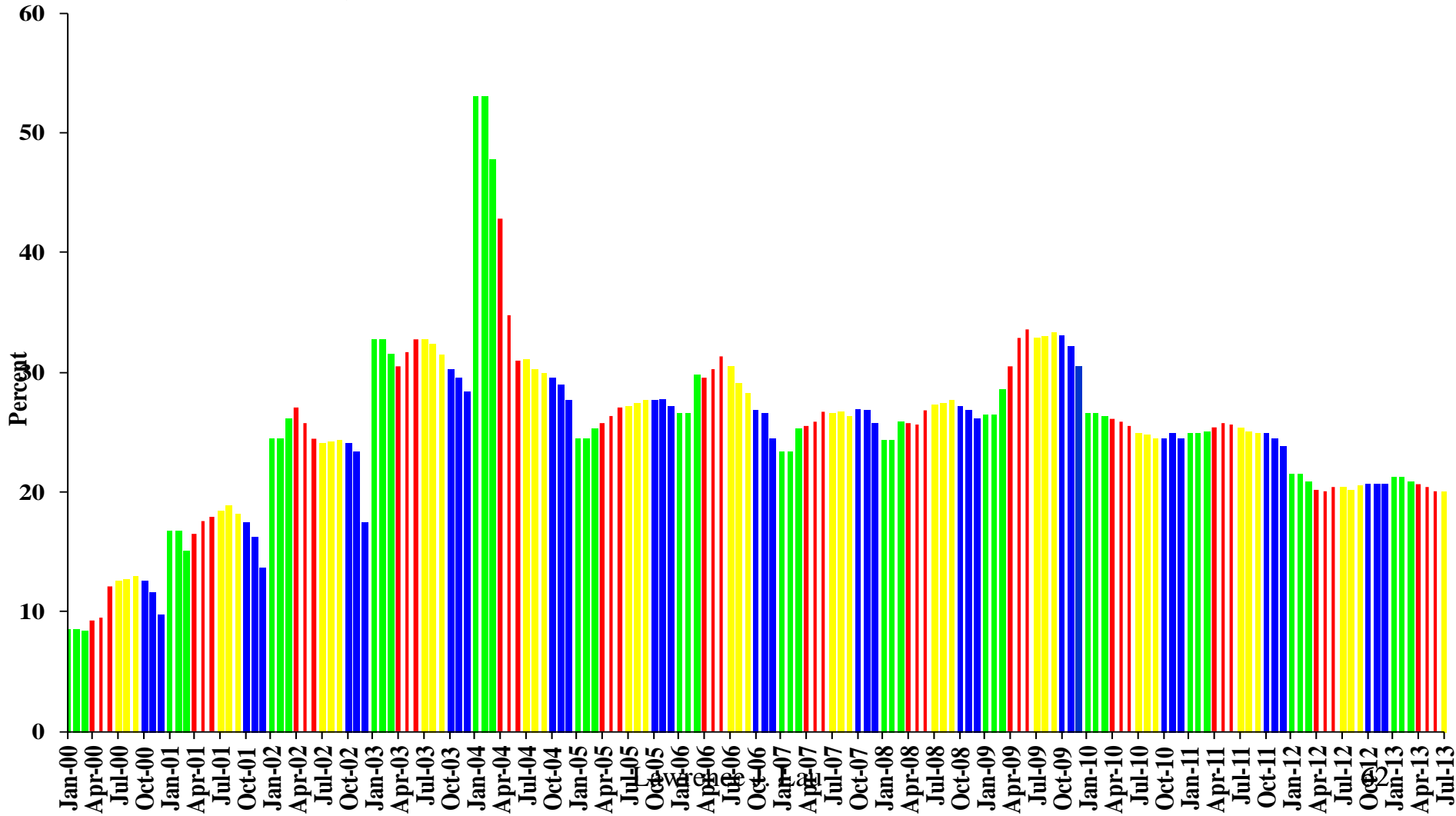
Monthly Rates of Growth of Real Value-added of the Industrial Sector, Y-o-Y

Monthly Rates of Growth of Real Value-Added of the Industrial Sector, Year-over-Year



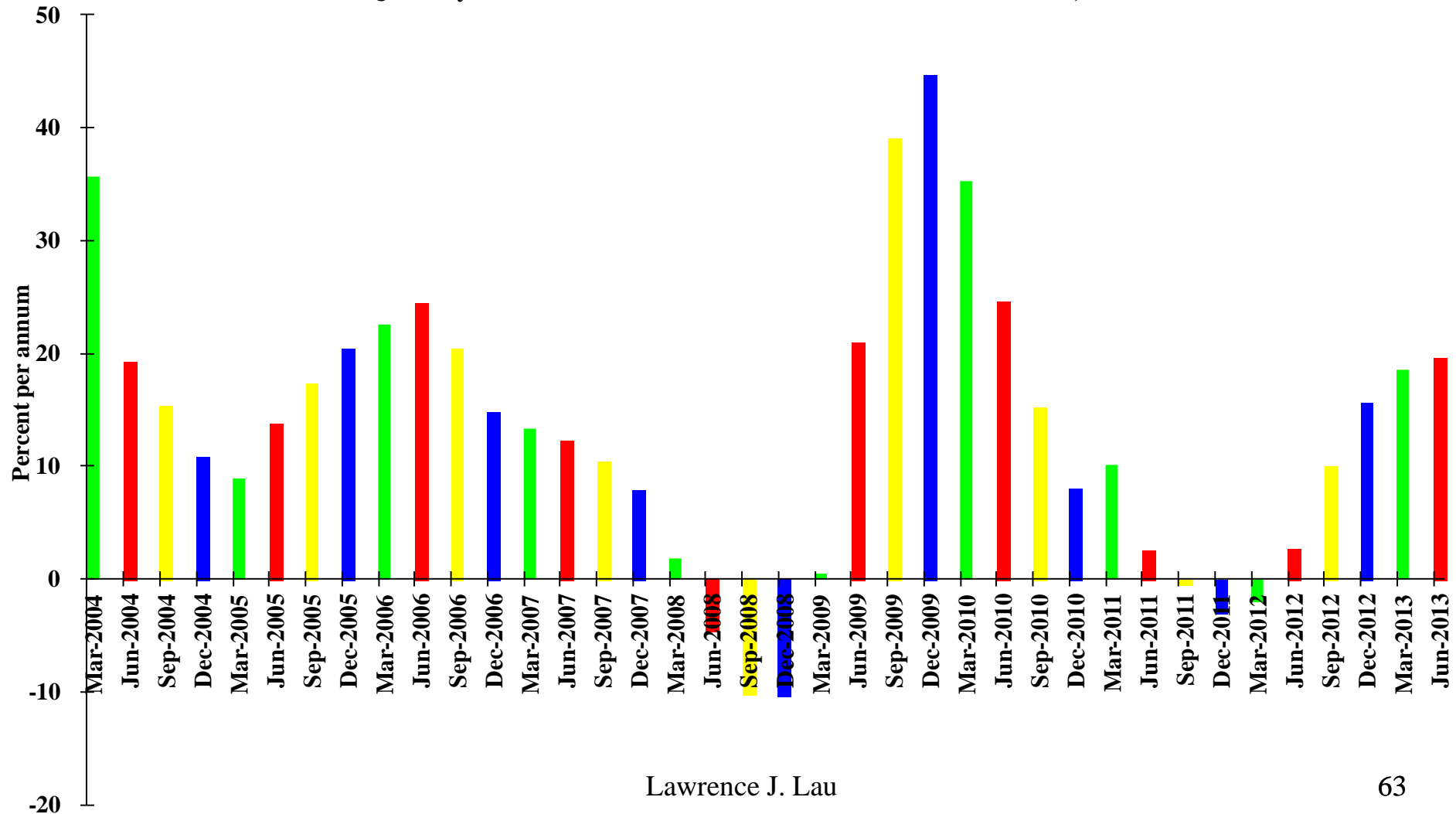
Monthly Rates of Growth of Chinese Fixed Assets Investment, Y-o-Y

Monthly Rates of Growth of Chinese Fixed Assets Investment since 2000, Year-over-Year



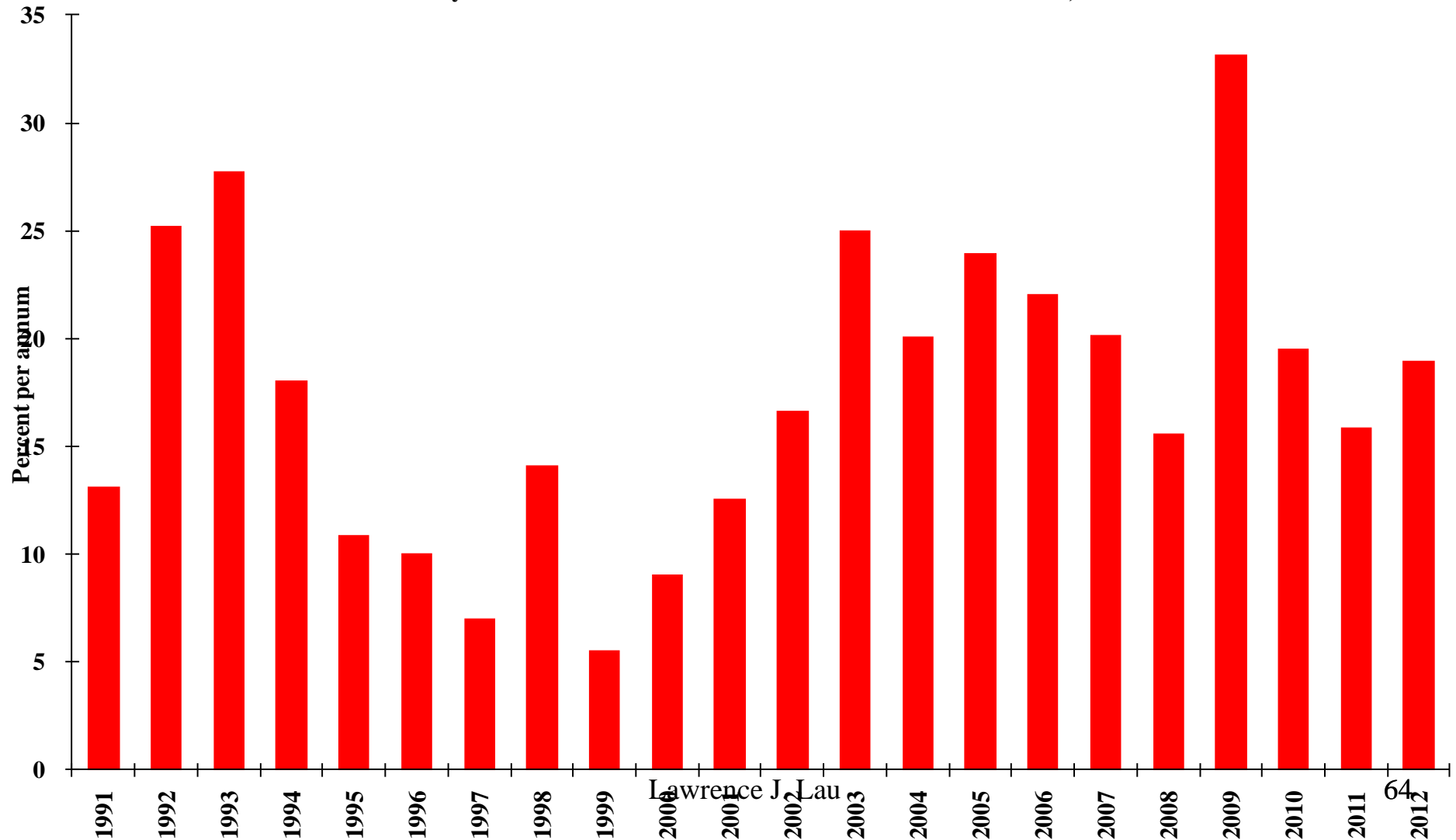
Quarterly Rates of Growth of Chinese Real Fixed Assets Investment, Y-O-Y

Quarterly Rates of Growth of Chinese Real Fixed Assets Investment, Y-O-Y



Annual Rates of Growth of Chinese Real Fixed Assets Investment, Y-O-Y

Annually Rates of Growth of Chinese Real Fixed Assets Investment, Y-O-Y

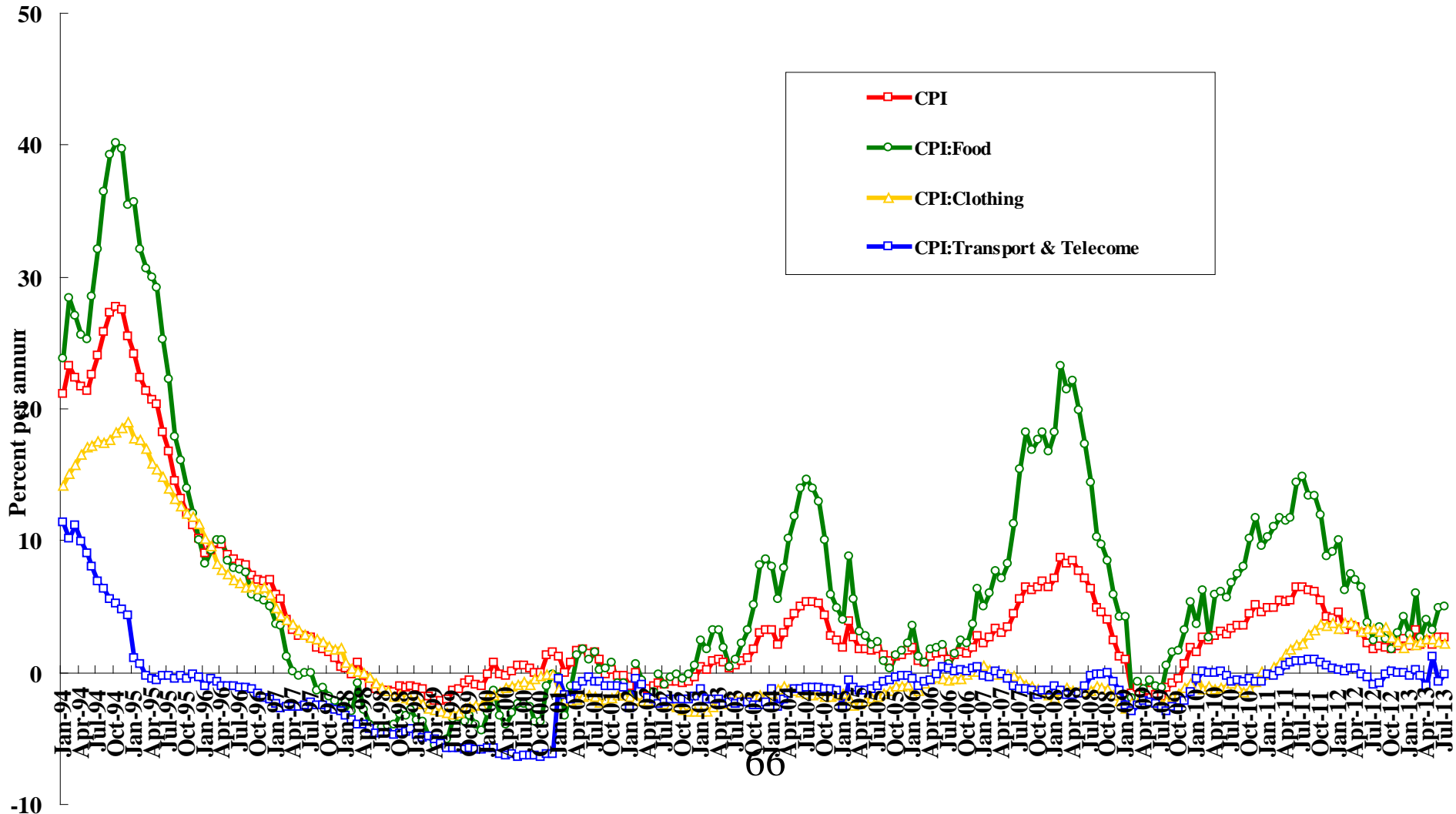


The Macroeconomic Outlook

- ◆ For 2012 as a whole, the rate of inflation was 2.6%, down from 5.4% in 2011.
- ◆ For the first seven months of 2013, the rates of inflation as measured by the CPI year-over-year were 2%, 3.2%, 2.1%, 2.4%, 2.1%, 2.7% and 2.7%. There was little indication that inflation would rise significantly in the near term, especially given the favourable agricultural harvests.
- ◆ The government target for 2013 is to keep the rate of inflation below 3.5%, which appears quite feasible at this time.

Monthly Rates of Change of the Consumer Price Index (CPI), Y-o-Y

Monthly Rates of Change of Consumer Price Index and Its Components since 1994, Y-o-Y

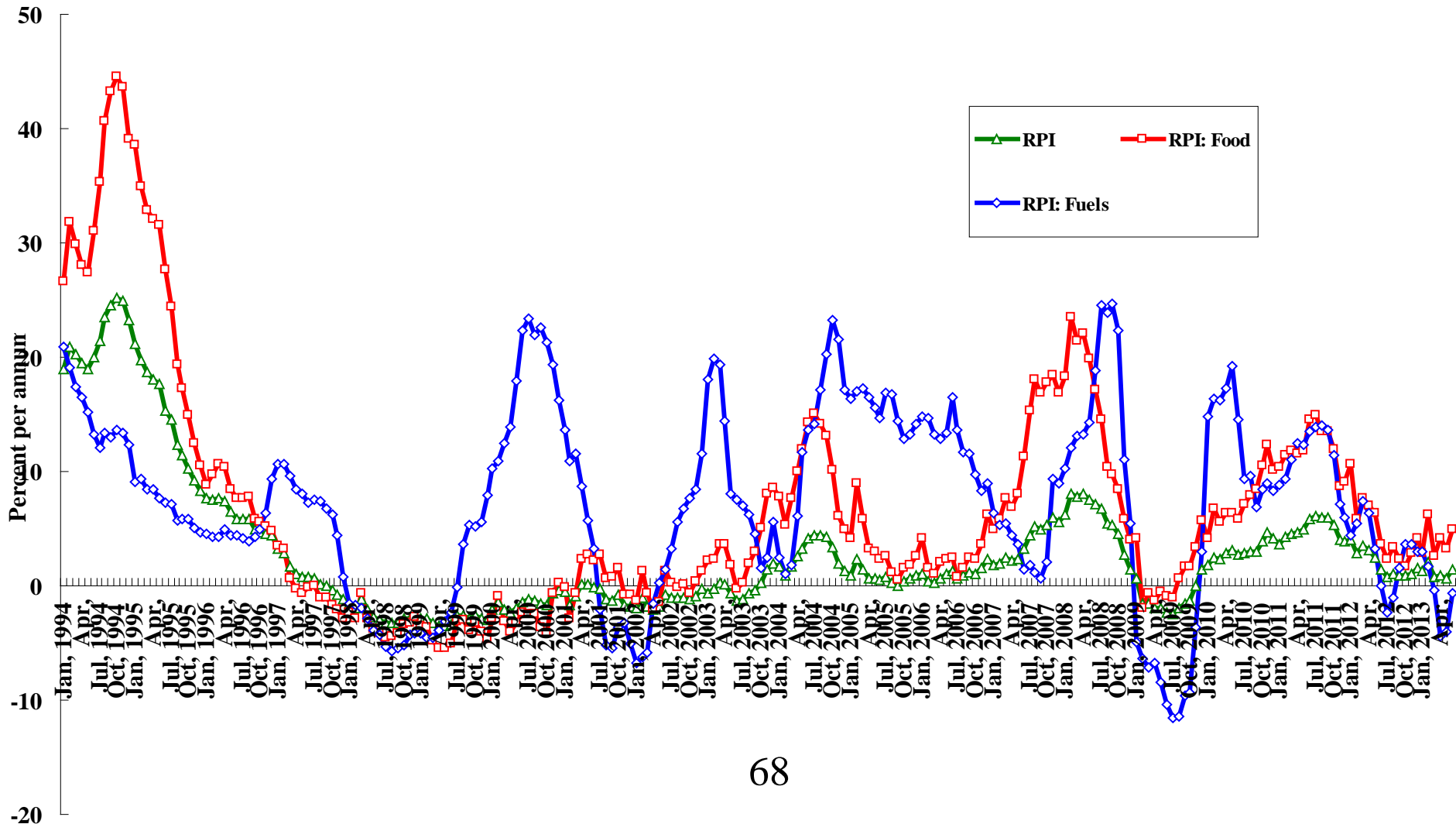


The Macroeconomic Outlook

- ◆ It should be noted that the bulk of the increase in the consumer price index (approximately 70%) has been caused by increases in food prices (principally the prices of pork and vegetables), due mostly to weather and the natural production cycle and possibly hoarding and market manipulation and not to monetary factors.
- ◆ The core rate of inflation, that is, the rate of inflation net of the changes in the prices of agricultural and energy goods, has remained relatively tame, below 2% per annum level, as has been the case in the past few years.

Monthly Rates of Change of the Retail Price Index, Y-o-Y

Monthly Rates of Change of Retail Price Index and Its Components Since 1994, Y-o-Y

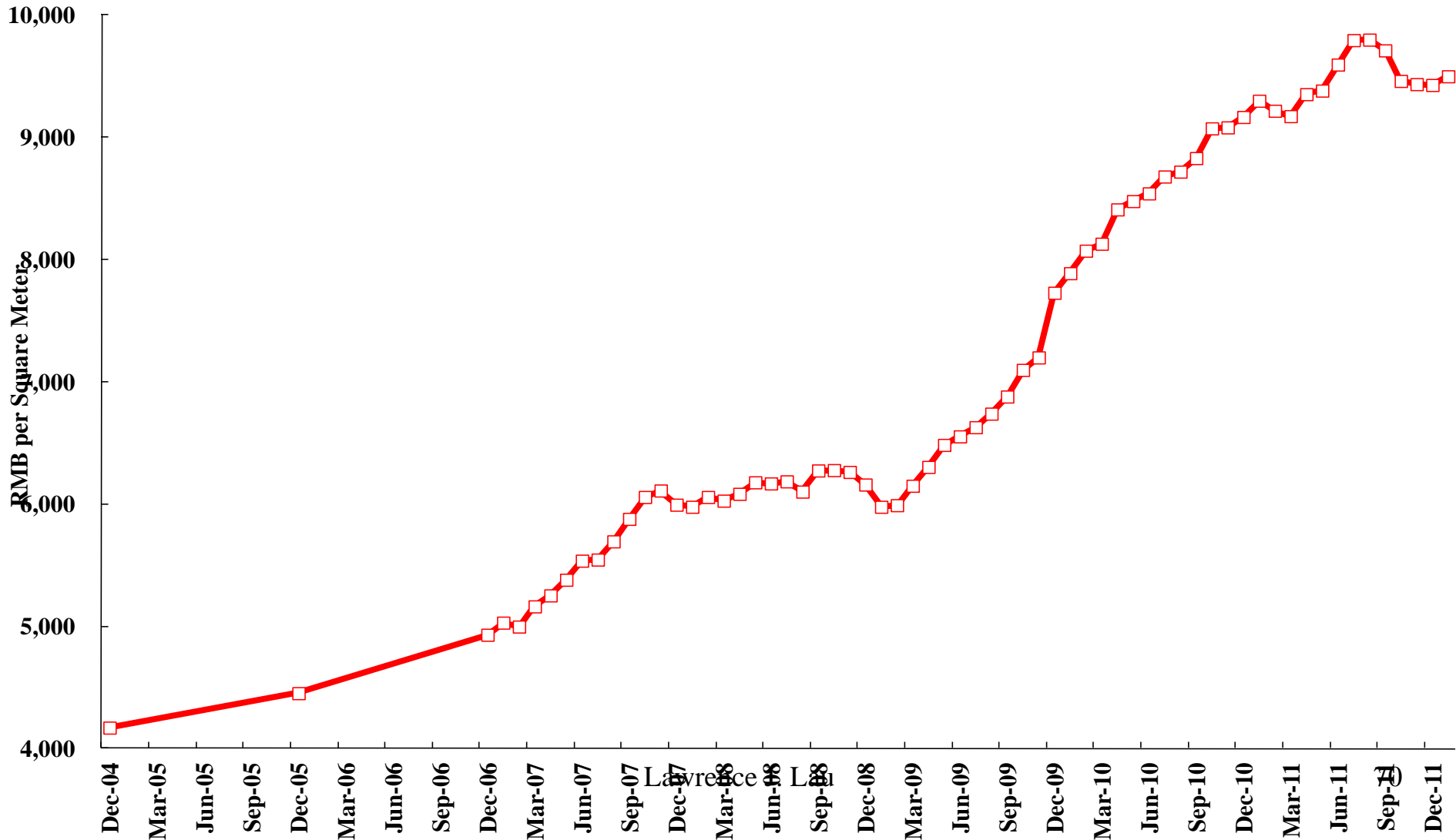


The Macroeconomic Outlook

- ◆ Moreover, given the hugely excess production capacity in many key industries, such as steel, cement, and glass, it is unlikely that there will be much inflation in the prices of non-agricultural goods in the next couple of years.
- ◆ However, there has been significant inflation in the prices of assets such as real estate in the past few years due to the implementation of the economic stimulus package and the resulting significant increases in the rates of growth of money supply and commercial bank credit. These increases in the prices of real estate feed into rental rates of both residential and non-residential real estate and through them directly and indirectly into the consumer price index.

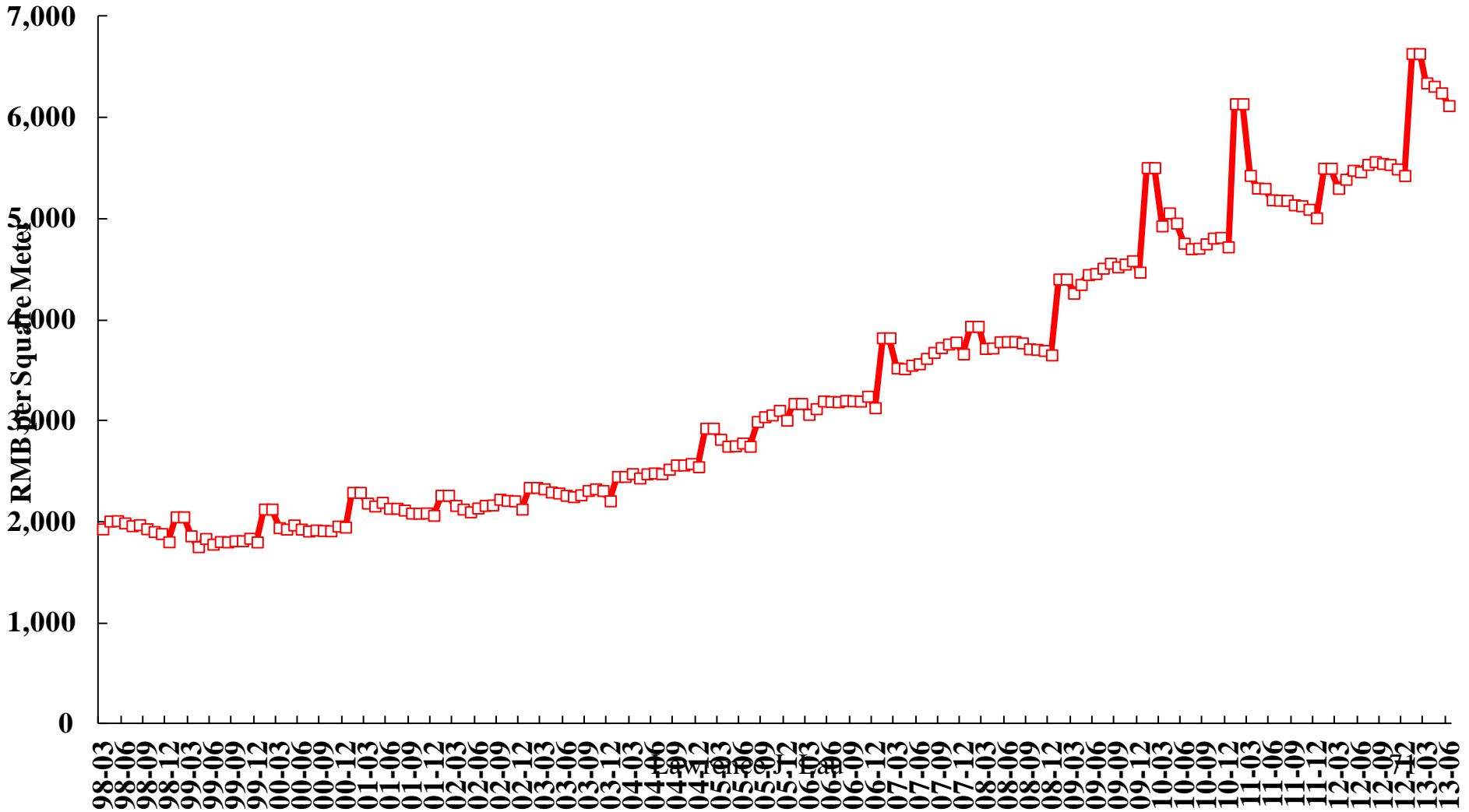
Average Housing Price of 36 Cities in China since December 2004

Average Housing Price of 36 Cities in China



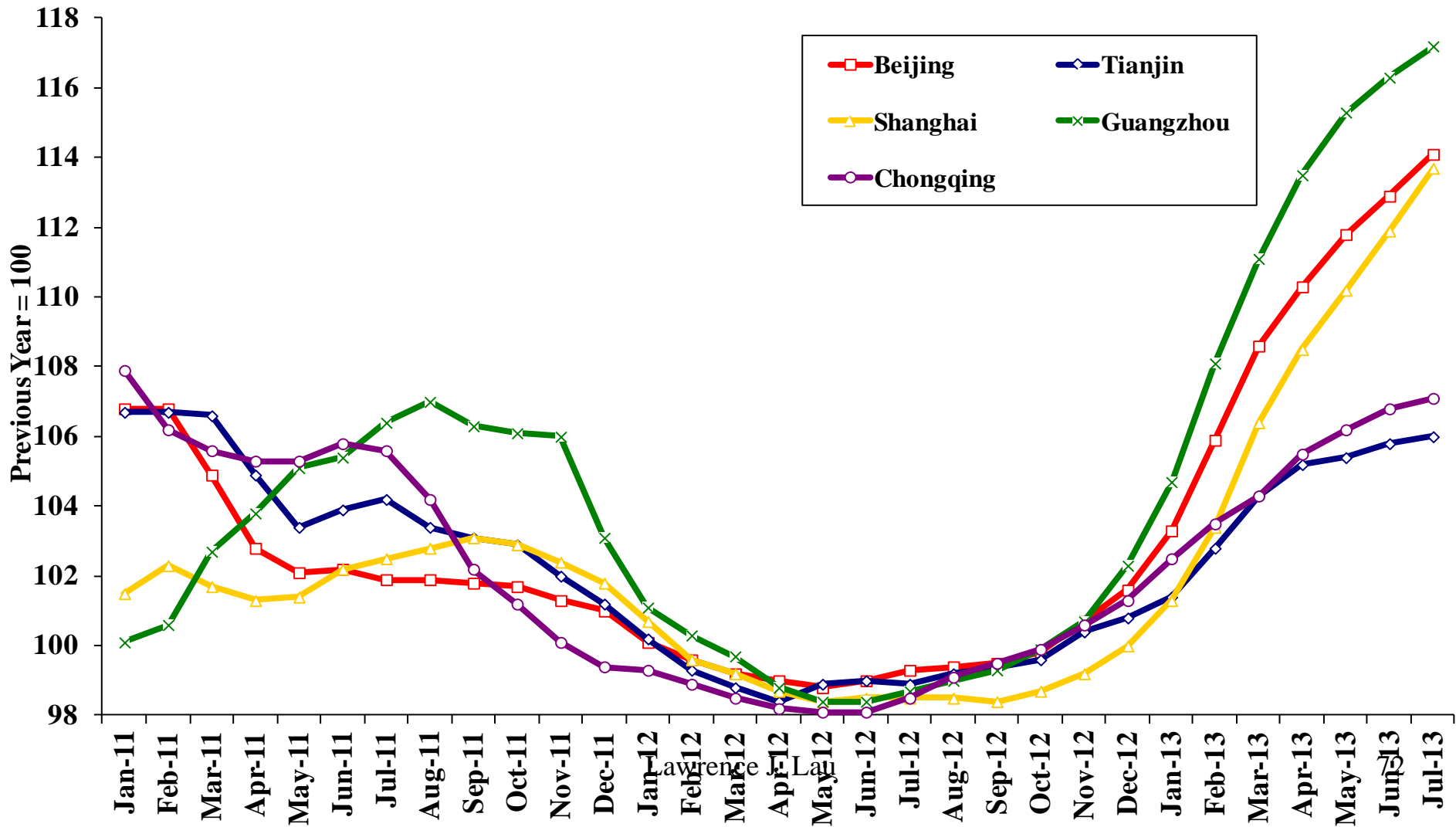
Average Housing Price in China, Yuan/Square Meter since March 1998

Average Housing Price in China, RMB per Square Meter



Price Index of New Residential Units, Selected Cities, Y-o-Y, since 2011

Price Index of New Residential Units, Selected Cities, Year-over-Year



The Macroeconomic Outlook

- ◆ There is not much any central bank can do about agricultural prices. No head of a central bank anywhere in the World has been able to control the weather or for that matter the hog cycle.
- ◆ The key in reining in increases in asset prices, especially real estate prices, is to ensure that there is a continuing dependable and steady supply of the assets going forward. Only the expectation of sufficient future supply availability can dampen price expectations. The Government must therefore try to create the expectation of regular increases of actual and potential supply of real estate through both its stated policy and its actual behaviour.

The Macroeconomic Outlook

- ◆ Price bubbles can be caused by self-fulfilling expectations. For example, if the public expects housing prices to go up by 25% a year, and behaves accordingly, that is, rushes out to buy before the prices actually go up, the prices will in fact be driven up by 25% or even more.
- ◆ Expectations of price increases bring future buyers into the present, thus greatly increasing current demand, but the current physical supply of real estate can only adjust upwards slowly, and so large actual price increases are bound to result.
- ◆ If the public can be convinced that residential housing units will be just as available or even more available next year compared to this year, there will be no reason for anyone to rush out to buy something now. Thus, the real estate price bubble can be more readily contained.

The Macroeconomic Outlook

- ◆ Other instruments for controlling asset prices in addition to the rate of interest include the strict control, perhaps even prohibition, of financing of any non-owner-occupied residential unit, and increasing the equity (down payment) ratio. The introduction of a property tax as a source of revenue for local governments will also help to discourage speculation as well as reduce the dependence of local governments on revenue from the sale of land leases and hence their incentive for maintaining expectations of high and rising land prices.
- ◆ Some measures have been taken to contain the asset price bubble. For example, state-owned enterprises that have not been explicitly authorised are now forbidden to invest in real estate. Bank lending rules have also been tightened so as to discourage the purchases of more than one residential unit by a single household.

The Macroeconomic Outlook

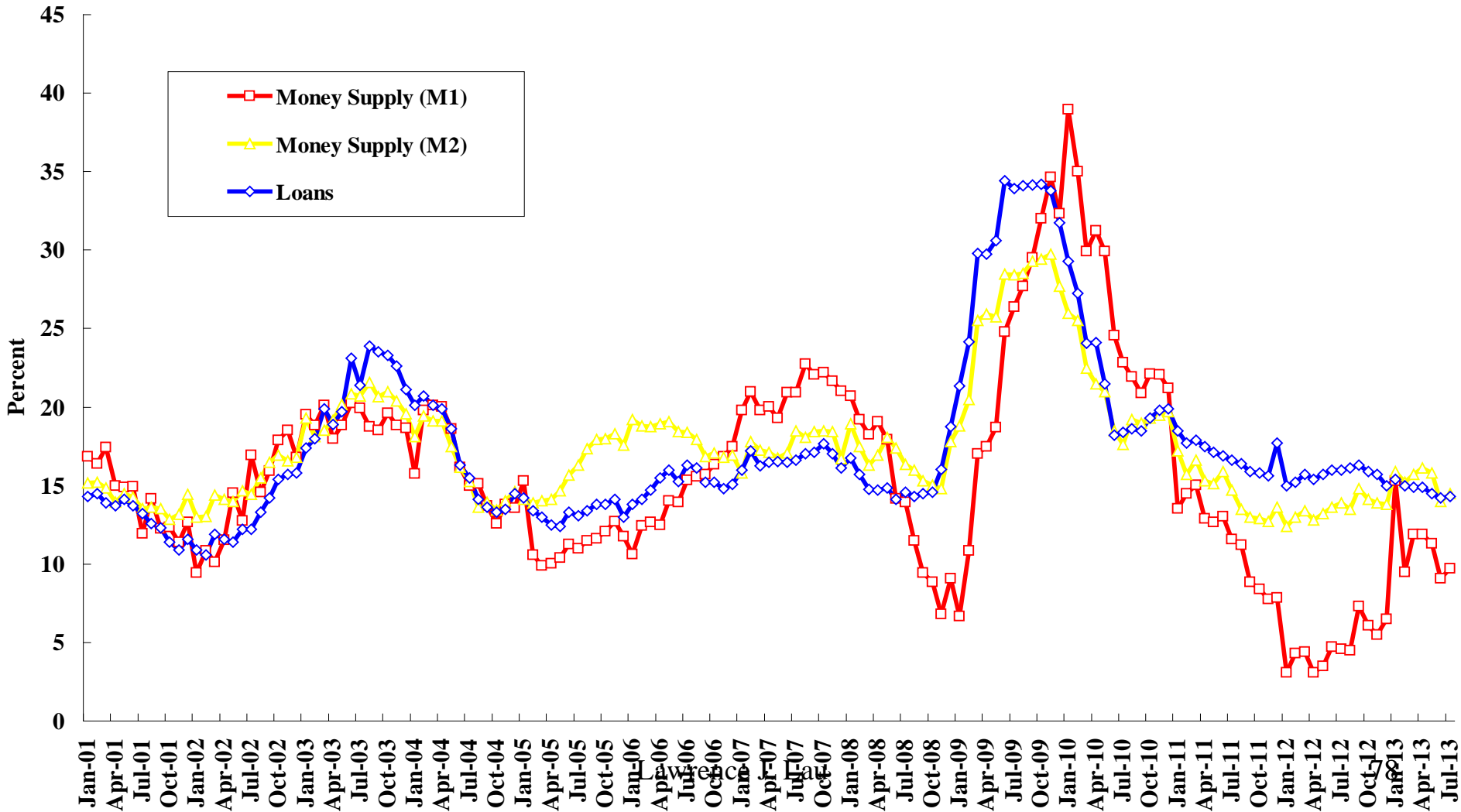
- ◆ In some Chinese cities, non-residents are no longer allowed to purchase residential property.
- ◆ However, measures designed to prohibit non-residents from buying residential property cannot help fundamentally if the total supply is not increased. Non-residents need housing and their demands will simply be re-directed to the rental housing market with the real estate being owned by residents.

The Macroeconomic Outlook

- ◆ The rates of growth of money supply (both M1 and M2) and loans have also declined significantly and stabilised at pre-global crisis levels. However, the data on loans may not have reflected the “loans” made available through shadow banking.
- ◆ However, recently, in response to a slowing economy, the People’s Bank of China, the central bank, after increasing the rates of interest (the minimum lending rate and the maximum deposit rate) and the reserve requirement ratio repeatedly, has begun to reduce both of them.

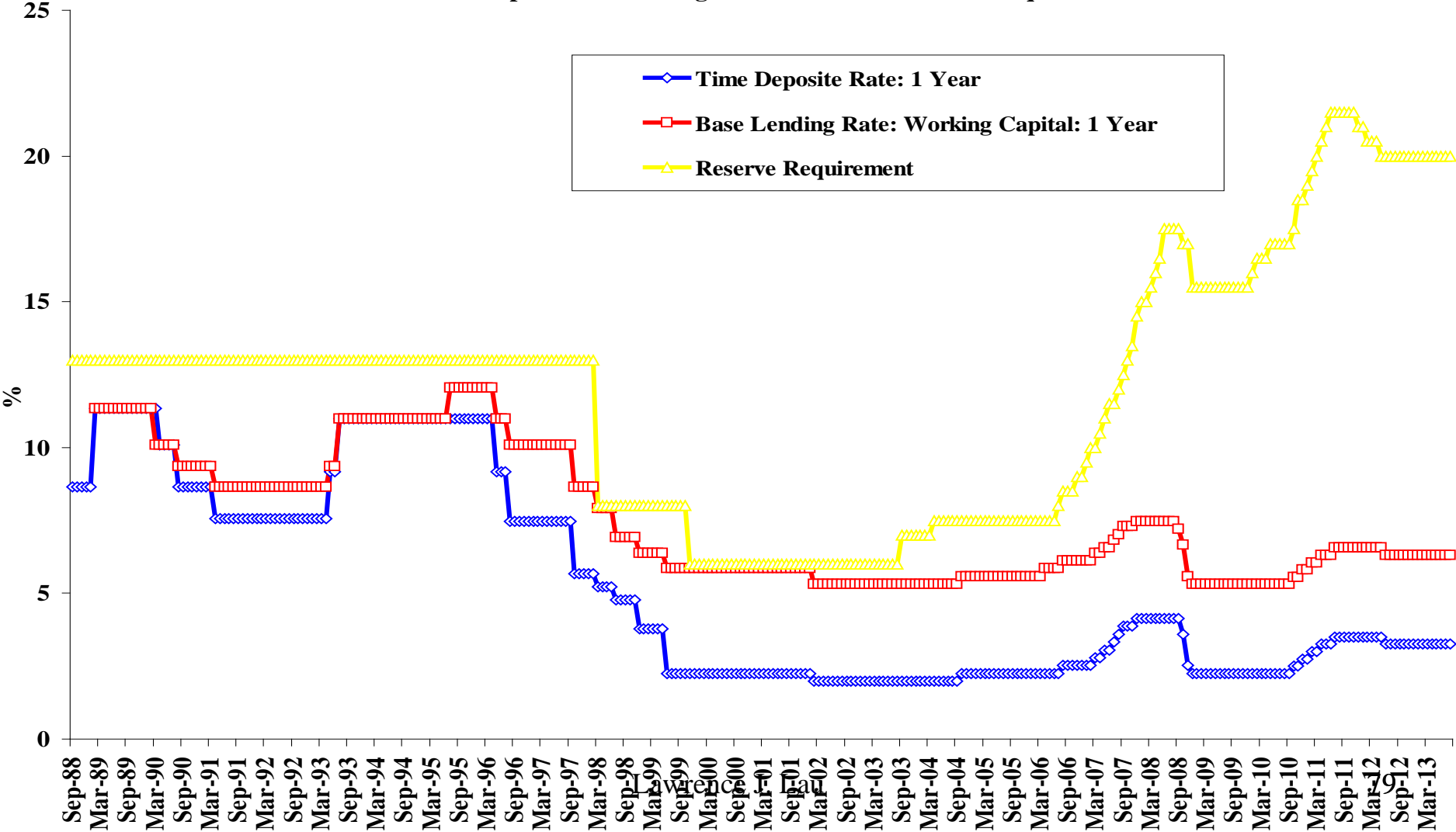
The Rates of Growth of Money Supply and Loans, Year-over-Year

The Rates of Growth of Money Supply and Loans, Year-over-Year



Short-Term Deposit and Lending Rates and Bank Reserve Requirement

Short-Term Deposit and Lending Rates and Bank Reserve Requirement



The Macroeconomic Outlook

- ◆ Until June of 2012, the China Banking Regulatory Commission has been setting maximum deposit and minimum lending rates on the Mainland, guaranteeing an interest rate spread of some 300 basis points for Chinese commercial banks. On 8th June and again on 6th July, these maximum and minimum rates for one-year deposits and loans were lowered by 0.25% and 0.31% each time to 3.00% and 6.00% respectively.
- ◆ At the same time, the banks were given the flexibility to raise the deposit interest rate to 1.1 times of the base (maximum) rate and to lower the lending interest rate first 0.8 and then 0.7 times the base (minimum) rate instead of the previous 0.9 times.

The Macroeconomic Outlook

- ◆ With the new flexibility, the deposit rate can in principle be raised by 0.3% to 3.3%, so that it will be able to beat the current rate of inflation and deliver a positive real return to the depositors. This is a good development.
- ◆ More recently, the restrictions on the lending rates have been almost totally removed. However, it is not likely that the “average” lending rate will come down much because of the chronic excess demand for credit in China.
- ◆ Despite the successive removal of the restrictions on the lending rates, the actual lending rates have not come down. In fact, the “effective” lending rates have gone up because of the shift to “shadow loans” from regular loans.

The Macroeconomic Outlook

- ◆ Even with increases in the levels of minimum wage rates in the different provinces, regions and municipalities, the real wage rate of unskilled, entry-level labour has basically remained stable and is expected to be stable for a long time because of the continuing existence of significant surplus labour in the Chinese economy as a whole.
- ◆ However, there is upward pressure on the real wage rate of skilled and experienced labour, which is actually in short supply, especially as Chinese enterprises move up the value-added chain.
- ◆ But given the trend of rapid expansion of Chinese tertiary education in recent years, with 6 million annual new graduates projected, the increase in the real wage rate of even skilled labour is likely to be relatively limited going forward.

The Macroeconomic Outlook

- ◆ “Shadow banking” have become more common in Mainland China in the last couple of years. Shadow banking arises in response to various restrictions on bank lending and other requirements: total quota on the value of loans outstanding and its rate of increase, capital requirements, leverage ratios, reserve requirements, etc. The fundamental idea is to move both “deposits” and “loans” off the bank’s balance sheet and hence reduce the size of its total assets and liabilities through various devices.
- ◆ “Deposits” can be moved off a bank’s balance sheet but retained under the bank’s control through the use of various wealth management products and trust products. This also allows a higher “interest rate” to be paid to the “depositors”.
- ◆ Through these accounts and with the assistance of trust companies the funds can be “lent” to various enterprises. The “borrowers” will have to pay higher interest rates than regular bank loans and additional fees to the bank and other intermediaries in the fund supply chain.

The Macroeconomic Outlook

- ◆ Through various forms of shadow banking, the banks can circumvent capital requirements, reserve requirements, leverage ratio requirements as well as loan quotas. So there are many advantages for every one except possibly for the shareholders of the banks and for the regulator. The net result, however, is a significantly lowered actual capital ratio and a significantly higher actual leverage.
- ◆ There is also maturity mis-match: wealth management products are typically short-term, and loans are typically of longer duration. Moreover, there is also reliance on interbank lending, which is also short-term in nature. Thus, a serious problem may arise when the wealth management accounts fail to rollover and interbank liquidity is insufficient to cover the shortfall. But Chinese commercial banks in general have not paid too much attention to this potential problem, counting on the central bank to bail them out if and when it becomes necessary.

The Macroeconomic Outlook

- ◆ The proportion of financing accounted for by conventional loans was over 90 percent 10 years ago and has since fallen to below 50%. Shadow banking probably accounts for 17-20 trillion Yuan, approximately 40% of GDP, still considerably lower than the percentage in other major economies. But the commercial banks are involved in 60% of the shadow banking activities in China, much more than the commercial banks in other countries and regions.
- ◆ To the extent that the commercial banks are involved, this means that the implicit hidden liabilities of the commercial banks are much higher than are represented on their balance sheets.

The Macroeconomic Outlook

- ◆ The problem is that the commercial banks are ultimately responsible for these “shadow loans”, which are initially off-balance-sheet but if the “borrowers” default, they will have to be taken back on to the balance sheet, forcing recognition of large losses similar to what happened to Enron and to the major commercial banks in 2006-07 when they had to take back on to their balance sheets the losses of their sub-prime mortgage loan special purpose vehicles.

The Macroeconomic Outlook

- ◆ Concern has also been expressed on the local government debt in Mainland China. The total value has increased significantly especially since 2008Q4.
- ◆ A 2011 report by the National Audit Office estimated that total local government debt in 2010 at 10.7 trillion Yuan (\$1.74 trillion), or 27% of the then GDP. Between 2010 and 2012, the total local debt level probably increased by another 10-15%, with the proportion of the GDP remaining approximately the same. At the moment, only 1% of the local government loans is reported to be non-performing.
- ◆ It is unlikely that all of the local government debt would become non-performing. Even if half of the local government debt eventually becomes non-performing, part of it would likely be assumed by the central government, which will still have a relatively low public debt to GDP ratio of approximately 40% compared to 150% for the U.S. and 250% for Japan. Moreover, almost all of the Chinese public debt is denominated in Renminbi and held by Chinese nationals.

The Relative Unimportance of International Trade

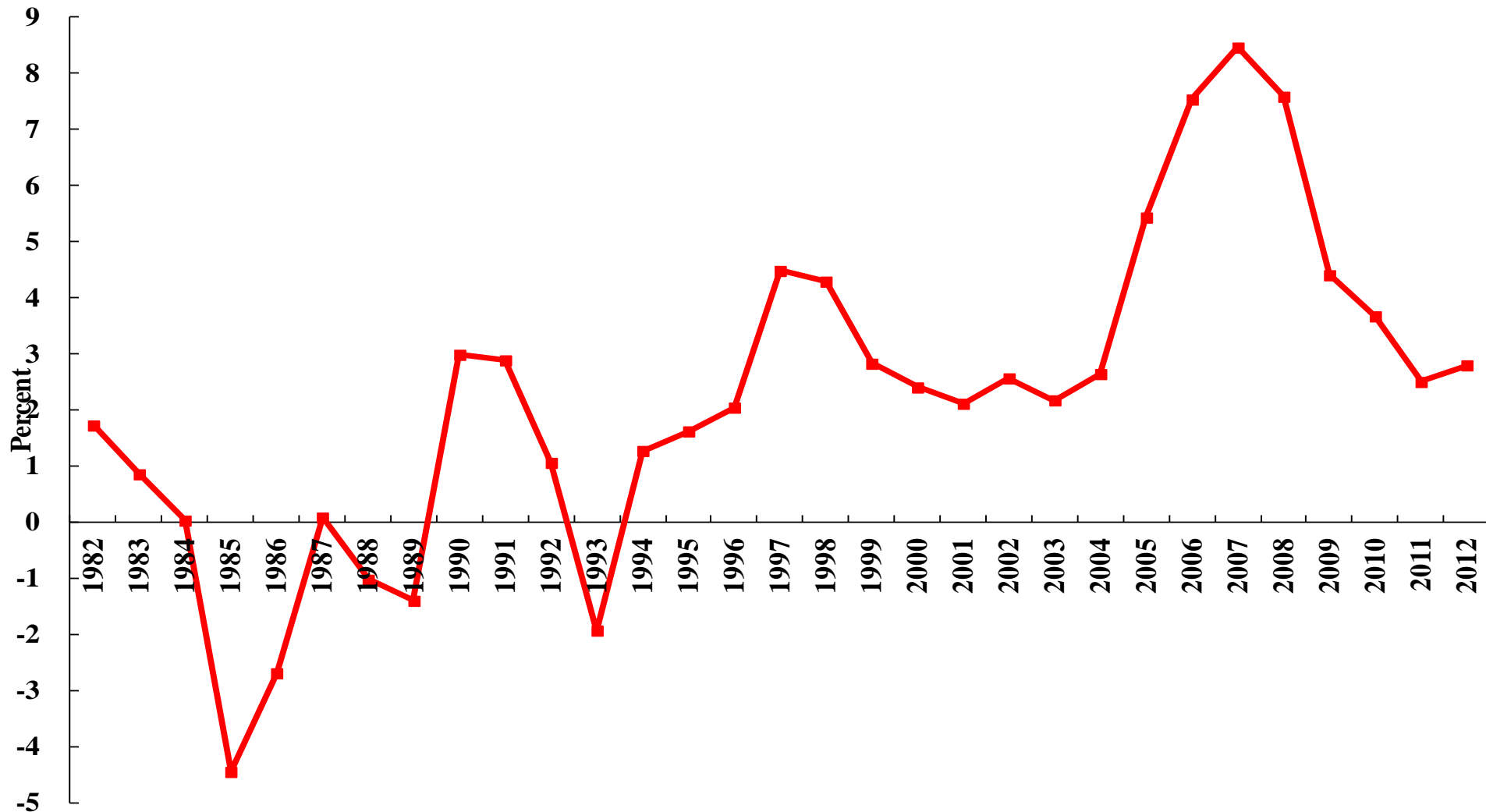
- ◆ There is a common mis-impression that the Chinese economy is highly dependent on exports, and in particular, on its export surpluses, as a source of growth.
- ◆ The facts are that China only began to have a significant trade surplus vis-a-vis the World in 2005, whereas the Chinese economy has been growing at an average real rate of almost 10 percent per annum since 1978.
- ◆ It should therefore be clear that the trade surplus could not have been an important source of growth for the Chinese economy during the past three decades. Chinese economic growth does not depend on the Chinese trade surpluses.

The Relative Unimportance of International Trade

- ◆ Chinese trade surplus as a percent of Chinese GDP fluctuated between -4.5 percent and 4.5 percent between 1982 and 2004 with an average of less than 2 percent of GDP. It then rose to almost 9 percent in 2007. It has since declined significantly and is around 2 percent at the end of 2012. It is expected to continue to decline, perhaps to around zero, some time between now and 2015.
- ◆ Thus, Chinese international trade vis-à-vis the whole world is expected to be essentially balanced in a couple more years, without necessarily any large adjustments in the Yuan/US\$ exchange rate.
- ◆ One reason that this is possible is the gradual closing of the savings-investment gap in China, as well as the substantial real appreciation of the Yuan versus the U.S.\$ that has occurred since mid-2005, to the tune of 40%.

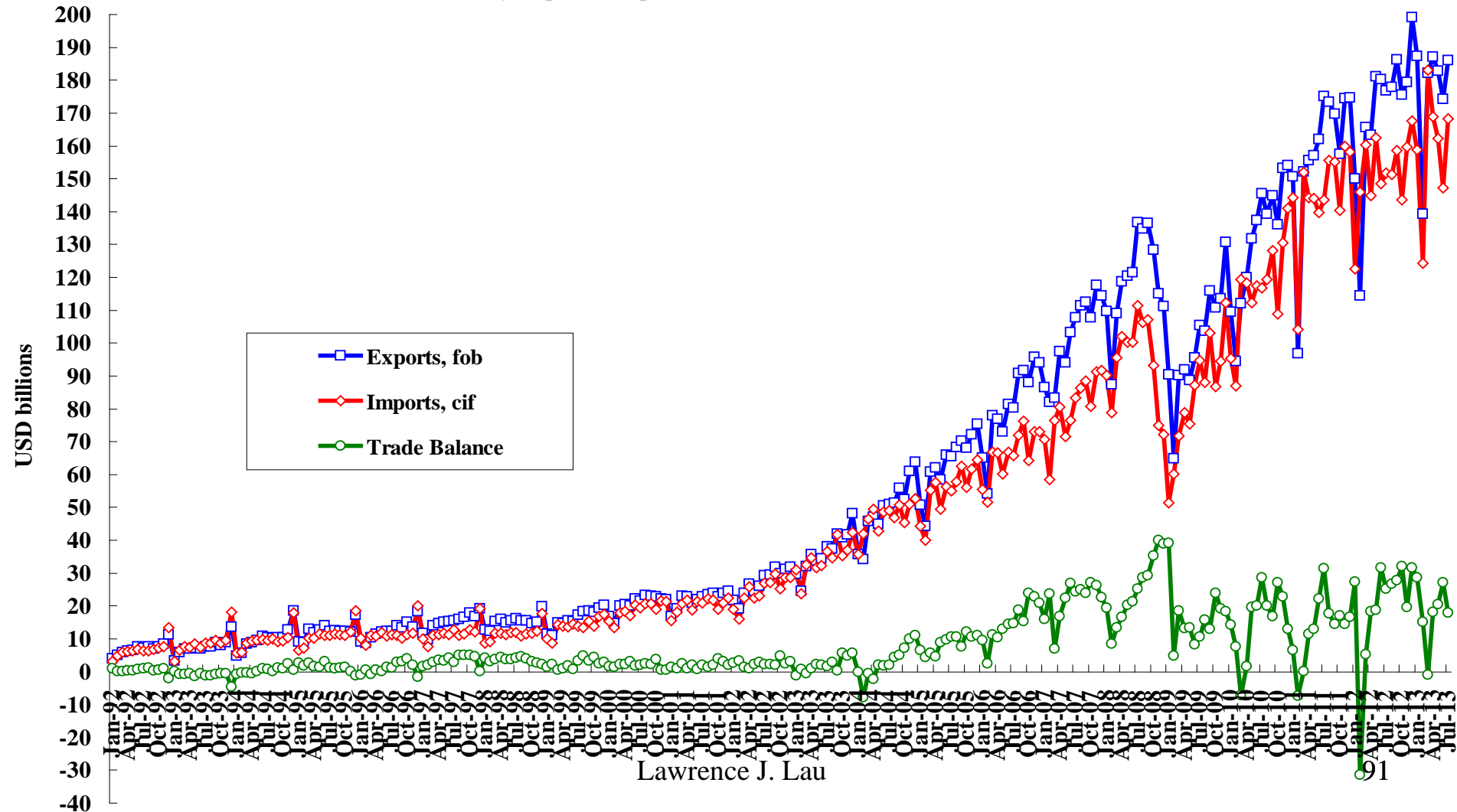
Chinese Trade Balance of Goods & Services as a Percent of GDP, 1982-

Chinese Trade Balance of Goods and Services as a Percent of GDP, 1982-present



Chinese Monthly Exports, Imports and Trade Balance, US\$

Chinese Monthly Exports, Imports and Trade Balance of Goods, in U.S. Dollars

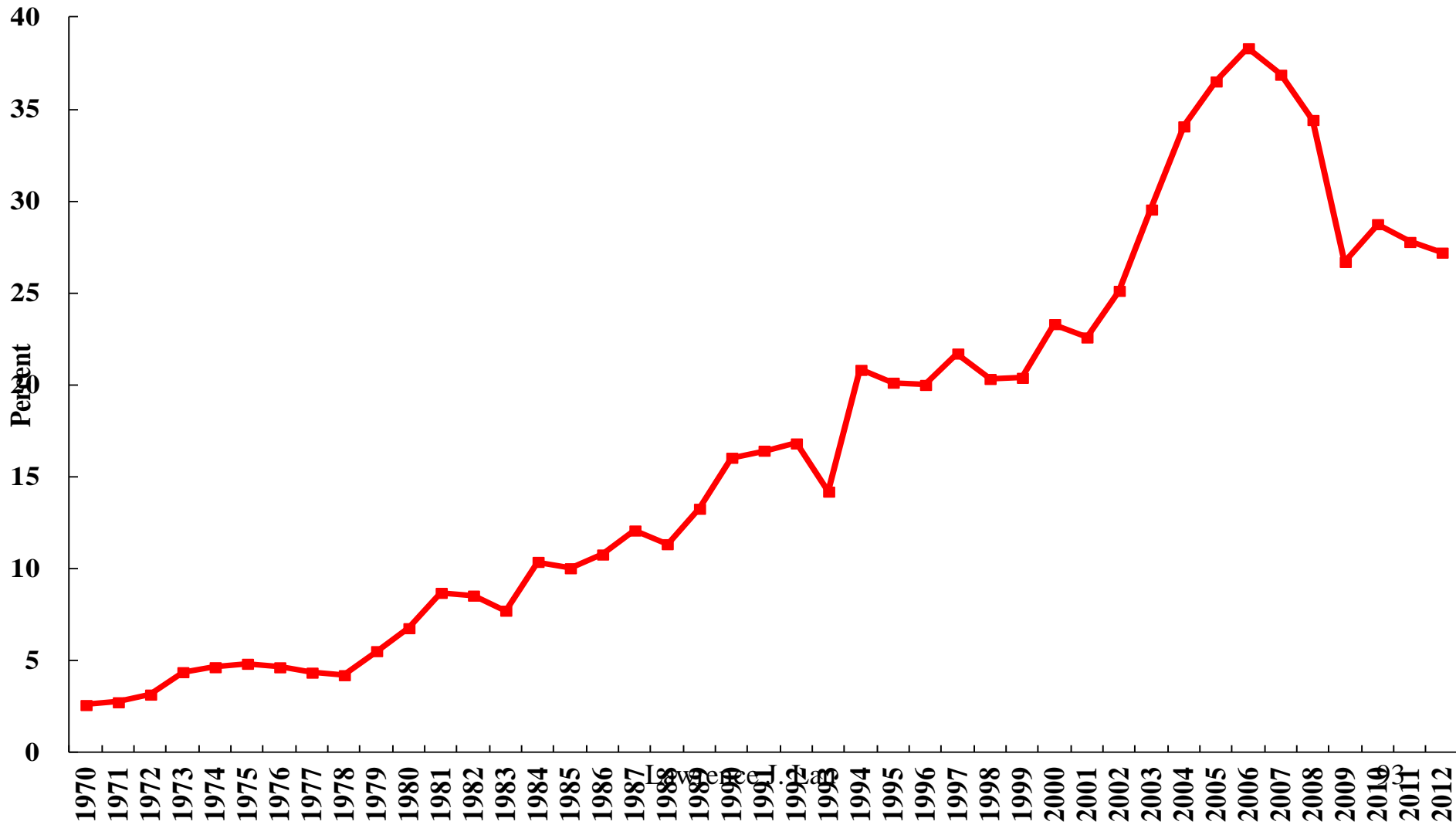


The Relative Unimportance of International Trade

- ◆ Chinese exports as a ratio of GDP rose steadily beginning in 1978 and reached a peak of almost 40 percent in 2006 and then began to decline to approximately 25 percent in 2009, where it stands today.
- ◆ While this ratio appears large, it is not when compared to Hong Kong, Singapore, South Korea and Taiwan, where exports are often several hundred percent of the respective GDPs.
- ◆ The Chinese Exports/GDP ratio actually exaggerates the importance of exports in the Chinese economy because it fails to take into account the low domestic value-added content of Chinese exports.

Chinese Exports of Goods and Services as a Percent of GDP, 1970-present

Chinese Exports of Goods and Services as a Percent of GDP, 1970-present



The Relative Unimportance of International Trade

- ◆ The domestic value-added content of Chinese exports is no more than 30 percent, that is: for every dollar of Chinese goods exported, less than 30 cents, on average, consist of domestic value-added. The rest consists of imported raw materials, intermediate goods, components, parts, semi-finished goods, etc. The domestic value-added percentage is even less for the so-called “Processing and Assembly” exports, which account for more than half of total Chinese exports.
- ◆ For example, Apple’s I-Pad, which is assembled in China, with an export value of approximately US\$500, generates a value-added in China of only US\$15.

The Relative Unimportance of International Trade

- ◆ In any case, it is unlikely that Chinese exports can resume its rapid growth any time soon with the U.S. and European economies in recession. This is a principal reason for the shift in China from a policy of promotion of exports to a policy of promotion of internal demand, which is the only way to ensure sustained and sustainable economic growth in China. Such a policy shift has been incorporated in the Twelfth Five-Year Plan.
- ◆ It is a goal of the Twelfth Five-Year Plan for China to achieve essentially balanced international trade with the rest of the World by the end of the Plan period in 2015.

The Relative Unimportance of International Trade

- ◆ If we multiply the Exports/GDP ratio of say 25 percent to the domestic value-added content of 30 percent, we obtain 7.5 percent, which is the percentage of Chinese GDP (value-added) generated by exports.
- ◆ Now, 7.5 percent of GDP is a large number, and no economy can afford to lose 7.5 percent of its GDP overnight. However, if 7.5 percent of GDP does not grow, or even declines by 25 percent, as long as the other 92.5 percent of the economy continues to grow, the economy as a whole should do all right, especially if appropriate compensatory economic stimulus measures are undertaken by the government.

The Relative Unimportance of International Trade

- ◆ The fact that the Chinese economy has continued to grow at an average rate of almost 10% per annum since the beginning of the global financial crisis in 2007 is ample proof that the Chinese economy has been at least partially de-coupled from the rest of the World, and in particular, from the United States and Europe, both of which have been and still are mired in economic recession until very recently.

The Relative Unimportance of International Capital

- ◆ Except for the initial decade after China adopted the reform and opening strategy in 1978, China has not had to rely on foreign loans to any significant extent. Instead, China is today a very large net creditor to the rest-of-the-World.
- ◆ Foreign direct investment (FDI) was important in the 1980s and early 1990s. By now it is no longer important quantitatively, accounting for less than 10% of aggregate domestic Chinese investment. FDI is still helpful and welcome to the extent that it brings in technology, markets, intangible capital (e.g., brand names), new business models, but money alone is not enough for foreign direct investment to be successful in China today.
- ◆ Inbound FDI amounted to US\$111.7 billion in 2012, down from US\$116 billion in 2011, accounting for approximately 5% of annual gross domestic investment in China.

The Relative Unimportance of International Capital

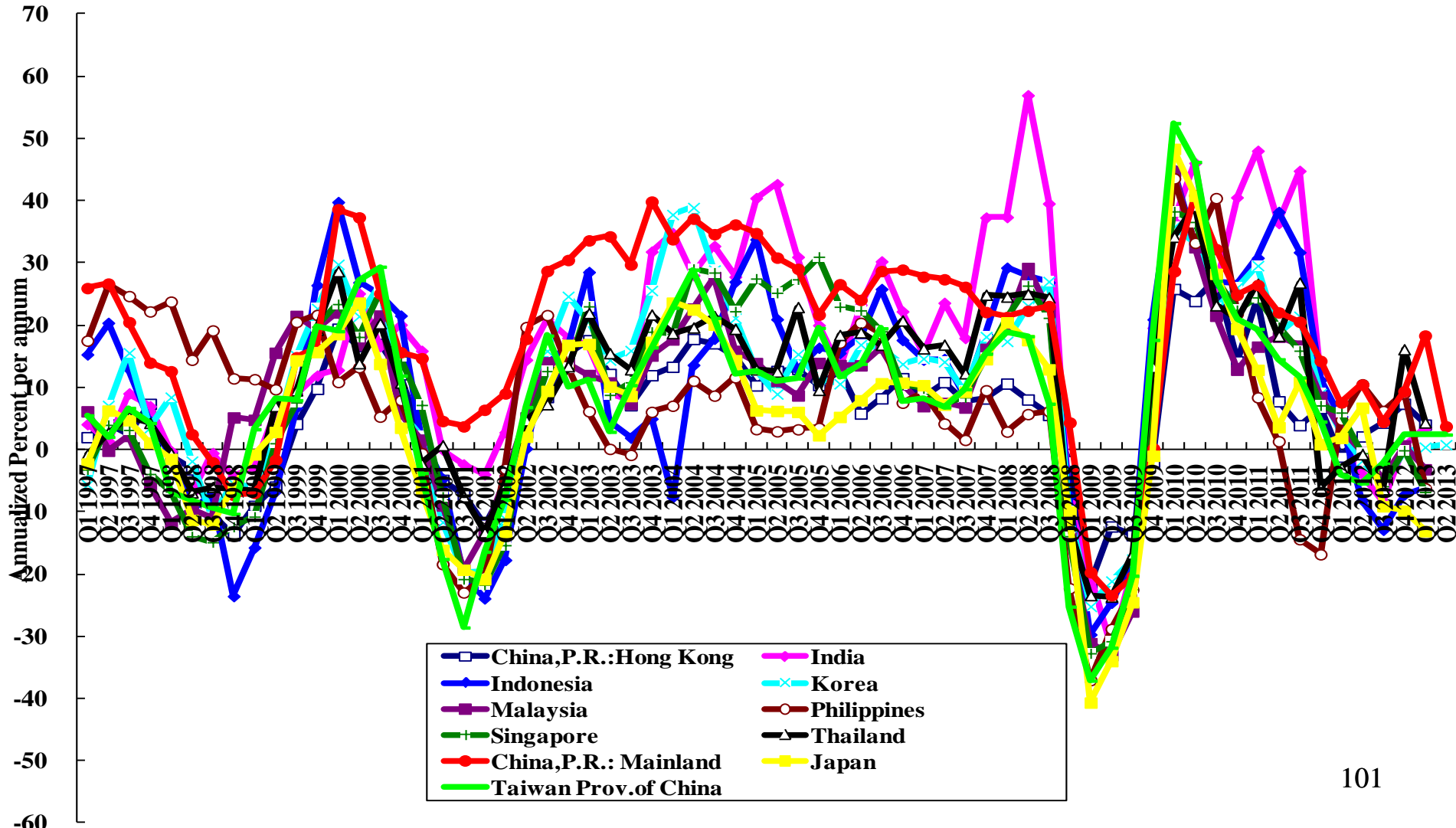
- ◆ Foreign portfolio investment (FPI) has played a relatively minor role in the Chinese economy. China does not really need more net inflows of foreign capital at the present time. The investment by foreign institutions in the initial public offerings (IPOs) of Chinese state-owned enterprises is not so much for the money but for the “certification” effect.
- ◆ Thus, fluctuations in FDI and FPI have had only relatively marginal impacts on the real rates of growth of the Chinese economy.

The Relative Unimportance of International Trade

- ◆ An important implication of the relatively low export dependence of Chinese GDP is that the rate of growth of Chinese real GDP is relatively stable, unlike the other East Asian economies, even as Chinese exports and imports fluctuate as widely as the exports and imports of other East Asian economies. (See the following charts on the rates of growth of exports, imports and real GDP of East Asian economies).
- ◆ In addition, China is a large, continental economy like the United States, that is relatively self-sufficient and is therefore relatively immune from disturbances in the rest of the World.

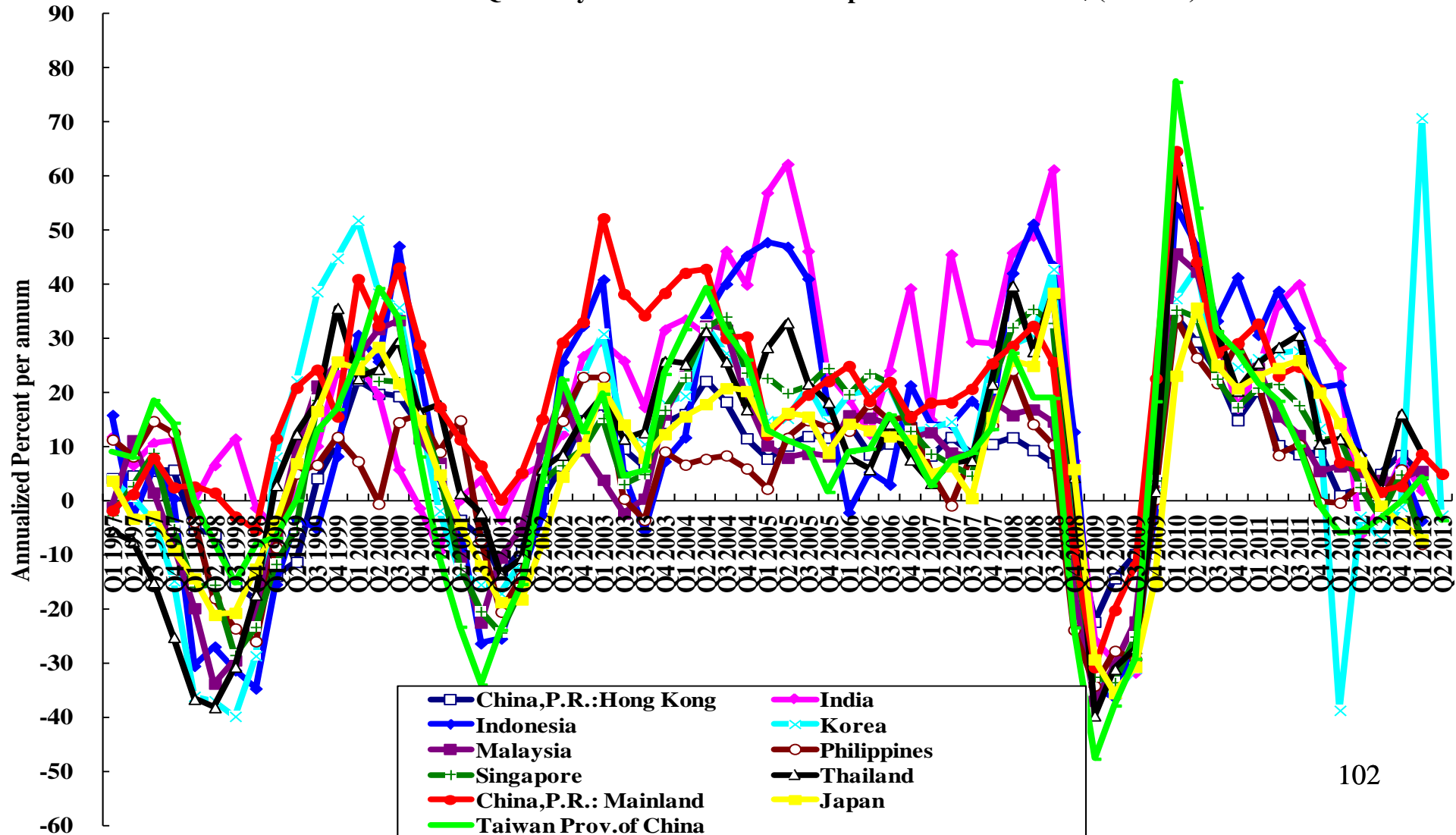
Quarterly Rates of Growth of Exports of Goods: Selected East Asian Economies

Year-over-Year Quarterly Rates of Growth of Exports of Goods in US\$ (Percent)



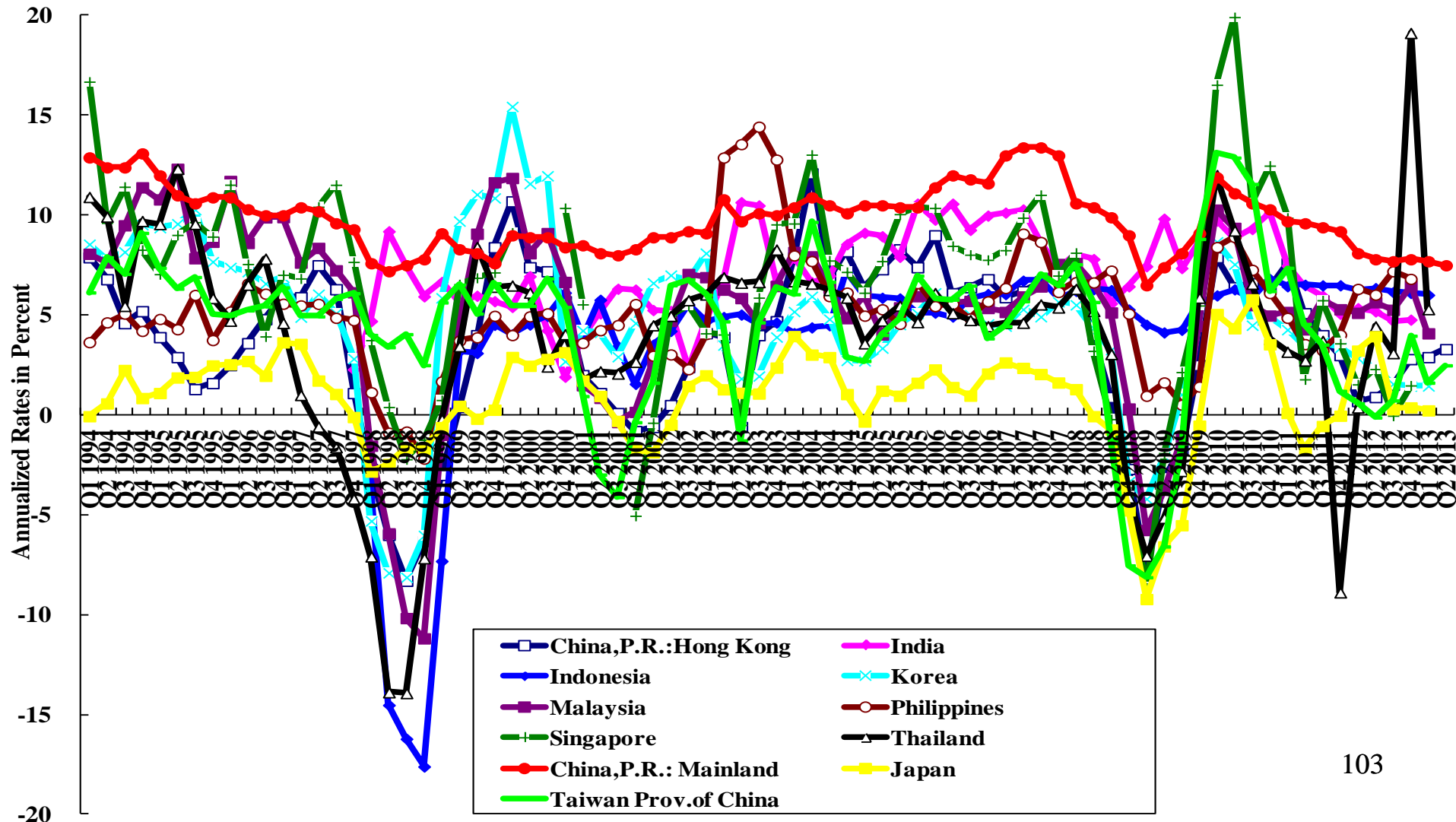
Quarterly Rates of Growth of Imports of Goods: Selected East Asian Economies

Year-over-Year Quarterly Rates of Growth of Imports of Goods in US\$ (Percent)



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

Quarterly Rates of Growth of Real GDP, Year-over-Year, Selected East Asian Economies

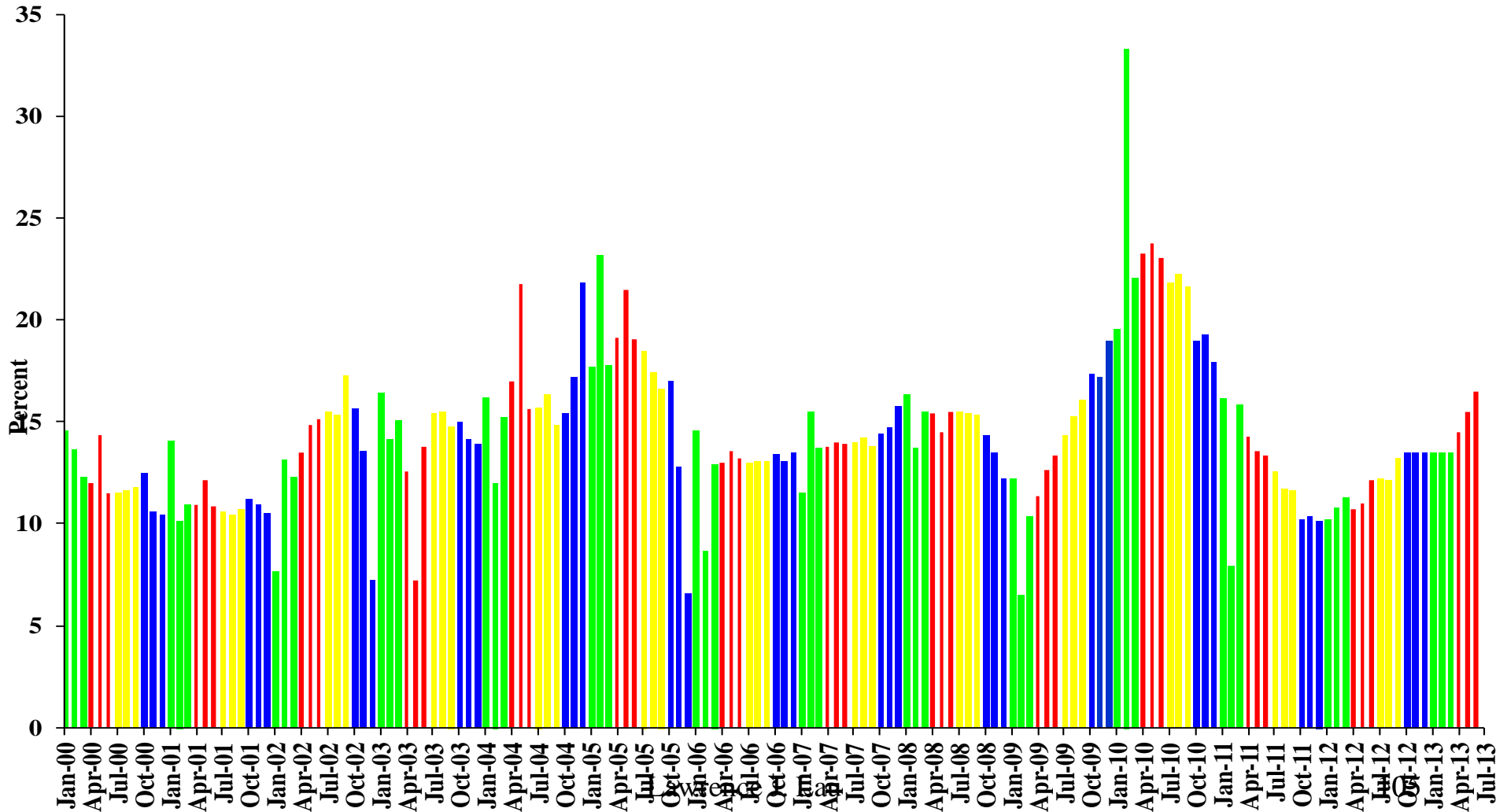


Sources of Sustainable Growth of Aggregate Demand

- ◆ Chinese household consumption is sometimes viewed as a potential sustainable source of growth of Chinese domestic aggregate demand.
- ◆ Chinese household consumption has actually been growing quite rapidly, as indicated by the double-digit monthly year-over-year rates of growth of real retail sales since the first quarter of 2009. The rates of growth of real retail sales declined in 2011 but have since risen again and exceeded the rates of growth of real GDP and real household income significantly.

Monthly Rates of Growth of Chinese Real Retail Sales, Y-o-Y

Monthly Rates of Growth of Chinese Real Retail Sales since 2000, Year-over-Year



Sources of Sustainable Growth of Aggregate Demand

- ◆ The Chinese household saving rate, as distinct from the much higher national saving rate, currently stands at approximately 30% (for urban households).
- ◆ However, the consumption-savings behaviour of Chinese households on the Mainland today appears to be little different from ethnic Chinese households in Hong Kong and Taiwan at the same level of per capita household income, with an average saving rate of urban households of approximately 30%. Thus, the Chinese household saving rate is not likely to fall significantly in the foreseeable future. Increases in consumption must come from increases in household income rather than decreases in the household saving rate.

Sources of Sustainable Growth of Aggregate Demand

- ◆ Chinese household consumption can be expected to increase significantly faster than GDP only if Chinese household (disposable) income as a share of GDP rises significantly. There are structural reasons why this is unlikely to occur in the short run even though in the longer run, the income share of labour, which currently stands at less than 50%, is likely to rise in China.
- ◆ Continuing Chinese economic growth beyond 2013 will therefore have to depend mostly on the growth of internal demand and not on exports, and, as analysed above, not on the growth of household consumption per se in the absence of a significant sustained increase in the share of household income in GDP.
- ◆ Household income can be increased through wage increases but also through increases in the cash dividend payouts from state-owned enterprises. Recently, the Chinese Government has called for an increased cash dividend payouts from state-owned enterprises.

Sources of Sustainable Growth of Aggregate Demand

- ◆ Increased cash dividend payouts have many advantages in addition to increasing household income and thereby household consumption.
- ◆ They increase government revenue, both directly, as the government is a major shareholder in many publicly listed enterprises and will receive the increased cash dividends, and indirectly, through the increased individual income taxes collected on the cash dividends paid to the other shareholders. The increased government revenue can in turn be used to increase public consumption—e.g., the provision of public services such as education and health care, the preservation and restoration of the environment, etc.
- ◆ An increased cash dividend payout by the state-owned enterprises reduces their excess retained earnings so that they can no longer make investments at will—it will have to apply for loans and hence their investment projects will have to be justified to and evaluated by the lenders. This may help to reduce over-investment in certain industries.

Sources of Sustainable Growth of Aggregate Demand

- ◆ Increased cash dividend payouts may make long-term holding of shares more attractive and may attract a different breed of investors. It will encourage investors to hold their shares longer and hence indirectly improve corporate governance as only long-term shareholders pay any attention to corporate governance.
- ◆ An increased cash dividend payout provides a support level for the price of the shares of a publicly listed enterprise. Thus, the government does not need to worry as much about supporting the market.

Sources of Sustainable Growth of Aggregate Demand

- ◆ The ability to pay cash dividends on the part of an enterprise actually provides a real verification of the true profitability of an enterprise. An enterprise with only virtual or fictional or only accounting profits does not have the ability to pay out cash dividends whereas it can always declare stock dividends.
- ◆ The average cash dividend yield of common stock listed on Shanghai and Shenzhen stock exchanges has been rising slowly from 1.04% in 2009 to 1.14% in 2010 and 1.82% in 2011. Potentially the higher cash dividend yield can attract many more long-term investors into the Chinese stock market.

Sources of Sustainable Growth of Aggregate Demand

- ◆ Even though household consumption cannot increase very quickly, there is a great deal of room for government-financed public consumption of public goods, for example, education, health care, environmental preservation, protection and control. The provision of public goods by the government can greatly increase the welfare of the average people.

Sources of Sustainable Growth of Aggregate Demand

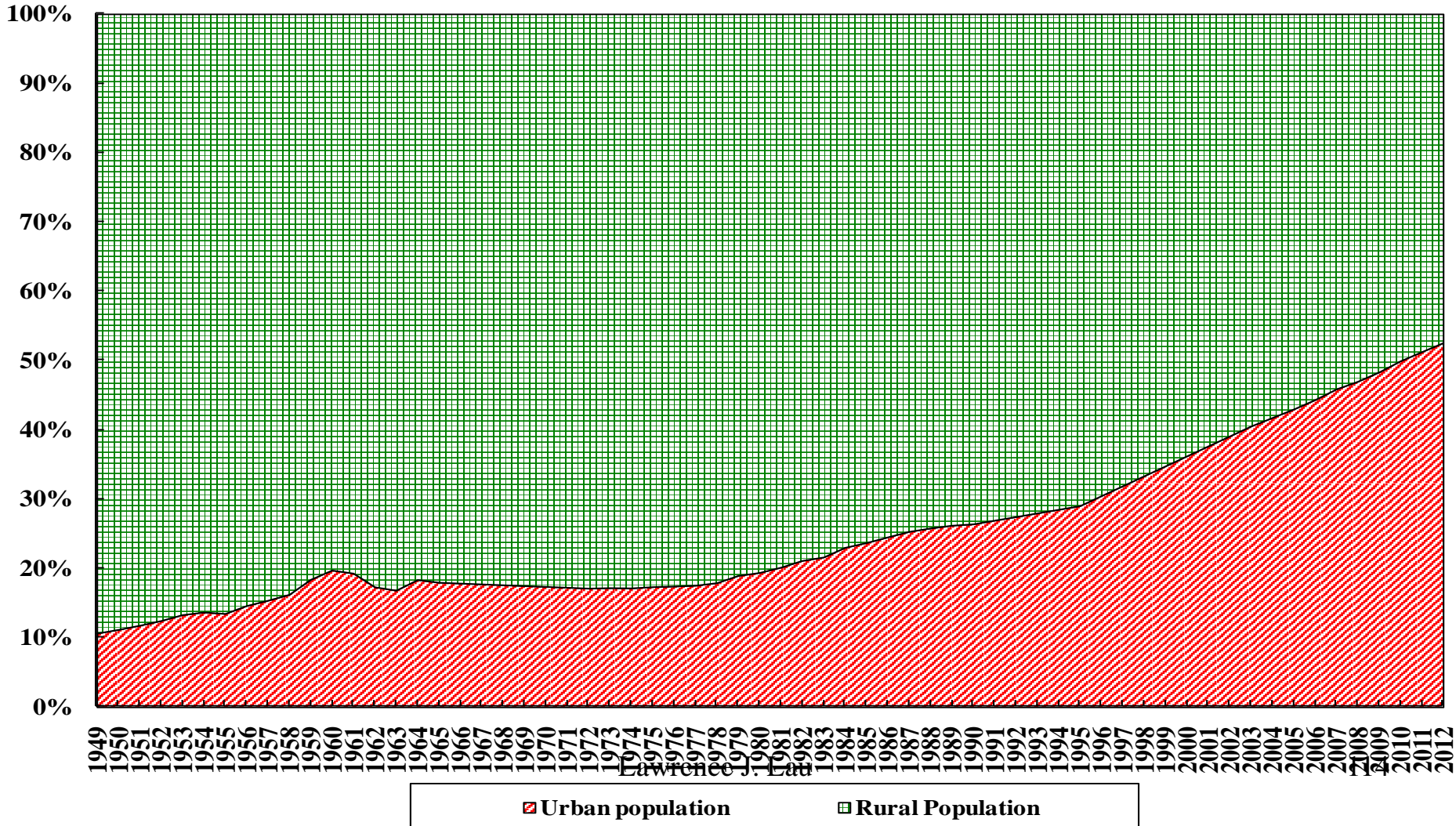
- ◆ The possible areas that have the potential of generating sustainable increases in aggregate demand, in addition to household consumption and public infrastructural investment (e.g., high speed railroads, mass-transit systems, power plants, etc.), include:
 - ◆ (1) Acceleration of urbanisation;
 - ◆ (2) Residential housing;
 - ◆ (3) Education and health care and the application of high technology in these sectors; and
 - ◆ (4) Conservation of energy, environmental protection and preservation, and promotion of the green economy.

Urbanisation

- ◆ The share of rural population in China was just under 90% in 1949. By 1978, the beginning of the Chinese economic reform and opening to the World, the share of rural population was 82%. At the end of 2010, the share was 51%.
- ◆ By 2011, the share of rural population has fallen to 48.7%. It is expected to continue to fall during the period of the Twelfth Five-Year Plan, 2011-2015, to 47%. It is possible that this goal may be exceeded.
- ◆ The rate of decline of the share of rural population has been approximately 1 percentage point per year, about the same rate of decline as the share of employment of the primary (agriculture) sector.
- ◆ It is expected that the share of rural population will continue to decline by 1 percentage point a year until 2040, when the share of rural population will have fallen to approximately 20%.

The Shares of Rural and Urban Population in China, 1949-Present

The Shares of Rural and Urban Populations in China



Urbanisation

- ◆ Instead of making the existing cities larger and more crowded, urbanisation is likely to proceed under the administration of Premier LI Keqiang by building new cities in the rural areas, particularly in the central and western regions, taking advantage of the traditional market towns and bringing capital and technology to labour rather than the other way around.
- ◆ The urbanisation drive will generate a great deal of aggregate demand as new cities are developed and built. The real challenge lies in the subsequent deployment of complementary capital, physical and human, to the new cities to support the creation of employment for its residents. While cities often generate their own internal demands, especially in terms of services of various kinds, ultimately a source of sustainable external earnings is required so as to enable the import of essential resources from beyond the borders of the individual cities.

Urbanisation

- ◆ Urbanisation in the rural areas is greatly facilitated if the rural households currently living on and working with their land can have their property rights recognised and made transferable and if the household registration (hukou) system can be reformed so as to allow conversion from a rural residency to an urban residency under certain conditions.

Urbanisation

- ◆ The inter-urban communication and transportation infrastructure needs to be further planned and improved, especially with the building of new cities. Super-high-speed trains are promoted as the preferred mode of transportation between major cities over air travel, resulting in significant savings of time as well as energy consumption.
- ◆ Central planning of new cities, with regard to their locations, layouts, land use, densities, and intra-urban communication and transportation infrastructure, is necessary—left entirely to the market system, it will result in urban sprawls and slums and a heavy reliance on the private automobile, which neither China nor the World can afford from the point of view of energy consumption and carbon emission, as well as their effects on air and on congestion.

Urbanisation

- ◆ Mass-transit systems should be the principal means of intra-urban transportation for existing as well as new cities, and as mentioned above, this requires planning and cannot be left to the market.
- ◆ With at least a couple of hundreds of Chinese cities of over say 2 million in population and requiring mass-transit systems, the planning, designing, building and operating mass-transit systems can become a huge new industry with significant domestic and eventually export demands.
- ◆ In order to economise on the use of the scarce land resource, and to assure the efficiency and environmental friendliness of the urban transportation system, high density land use should be mandated in the cities.

The Residential Housing Sector

- ◆ One important source of sustainable aggregate demand is owner-occupied residential housing. Despite significant development of residential housing during the past thirty years, there is still a great deal of room for it to grow, especially in the interior provinces and regions and for the middle-to-lower-middle income households.
- ◆ Owner-occupied residential housing has been a major engine of growth for many countries and regions for decades during their periods of fastest economic growth. There is no question that there is a huge potential demand in China.

The Residential Housing Sector

- ◆ The demand for residential housing also generates with it the derivative demands for furniture, electric home appliances such as air-conditioners, refrigerators, washing machines, and television sets, curtains, carpets, household goods and services and with them a great deal of employment and activities for not only large enterprises but also small and medium enterprises.
- ◆ In order to promote owner-occupied residential housing for all, one has to assure that there is both the supply and the demand. Supply can be promoted by making sure that land is available at an affordable cost and is used efficiently (that is, predominantly high-density use). Demand can be promoted by making available long-term (say 35 years),¹²⁰ fixed interest-rate mortgages.

The Education and Health Care Sectors

- ◆ This is the time to increase support for the education sector across the board—primary, secondary and tertiary—and for the health care sector, expanding the accessibility, availability and affordability in the rural areas.
- ◆ Both the physical structures as well as the human resources of primary and secondary schools and of hospitals need to be upgraded, especially in the rural and low-income areas.

The Education and Health Care Sectors

- ◆ In addition, China should adopt a policy of assuring low-cost or no-cost access to the internet by all students in China everywhere, all the way down to the primary school level. Promoting and making universal the laptop or the tablet is one way to achieve this goal. Many Chinese households are able to afford laptop computers and tablets—the difficulty is having inexpensive and ready access to the internet.

The Education and Health Care Sectors

- ◆ Making the internet accessible, available and affordable everywhere in China (certainly from all the educational institutions) will greatly narrow degree of inequality of education (and information) between the urban and rural areas and reduce the so-called digital divide between the rich and the poor. It will be a great equaliser, because on the internet, for example: a student in Qinghai, one of the poorest provinces in China, will have more or less the same access to information as a student in Shanghai; large and small enterprises will compete more or less equally.
- ◆ This will also create a great deal of domestic demand for the high-technology sector.

The Education and Health Care Sectors

- ◆ Public health and preventive medicine should be widely promoted. Food and drug safety should be a top priority and high technology can be applied to testing and certification of food and drugs under the supervision of institutions with public credibility, such as the Chinese Academy of Sciences or the Chinese Academy of Engineering.

Environmental Protection and Green Technologies

- ◆ Green technologies can find significant application in the residential housing sector—in terms of heating, cooling, lighting, provision of electricity and hot water, etc.
- ◆ The mass-transit systems provide an indispensable alternative to the use of the automobile. “A car in every garage” would be a nightmare for China and for the World. Cities should be planned so that the residents do not require the use of an automobile in their everyday life (although they may well own an automobile for weekend and leisure use).

Environmental Protection and Green Technologies

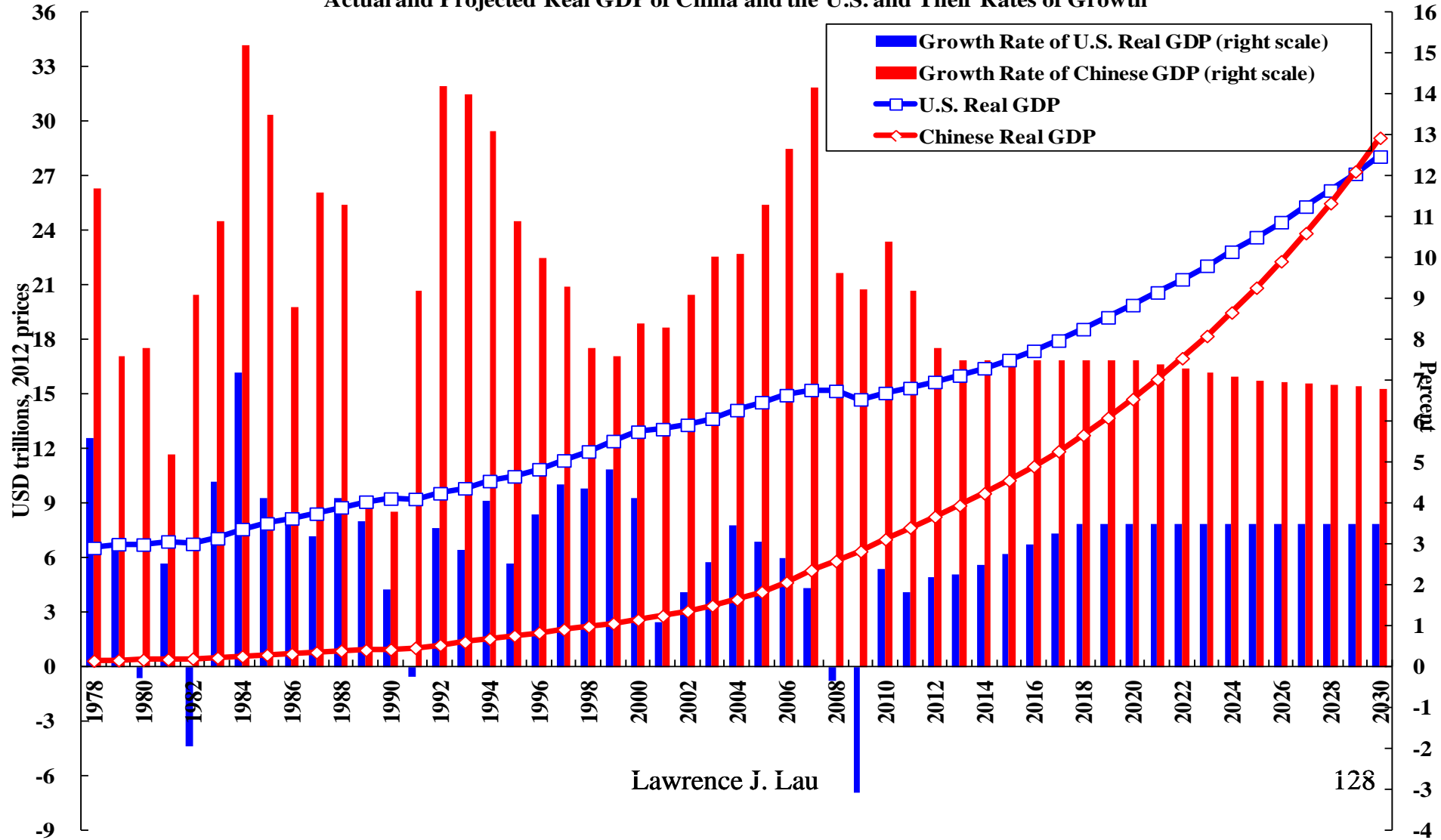
- ◆ China has an advantage in introducing technologies for green or greener vehicles because it has, at this time, still relatively little sunk costs. (An electric car consortium has been formed recently to develop an electric car suitable for China.) China also has a substantial incentive in developing clean coal technologies, having large coal reserves itself. China also has very large shale oil and gas reserves.
- ◆ It can also introduce and promote alternative renewable and clean sources of energy, such as solar power and wind power based on its own huge internal demand. However, the most promising directions are in energy conservation—the energy consumption/GDP ratio in China is still too high relative to other economies at a similar stage of economic development—and in the increased utilisation of hydro-electric and nuclear power for electricity generation. A gasoline tax can be imposed to bring the retail price of gasoline in China to Japanese and Western European levels so as to discourage automobile use.

Projections of the Future

- ◆ If current trends continue, with the U.S. economy recovering slowly but surely, East Asia as a whole will surpass the United States in terms of aggregate GDP with China contributing the highest proportion of the total by 2015.
- ◆ Chinese real GDP is projected to catch up to U.S. real GDP in approximately 15 years' time--around 2028, at which time both Chinese and U.S. real GDP will exceed US\$28 trillion (in 2012 prices), almost four times the current Chinese GDP. (Bear in mind that in the meantime, the U.S. economy will also continue to grow, albeit at rates lower than those of the Chinese economy.)
- ◆ By this time, China and the U.S. will each account for approximately 15% of World GDP.

Actual and Projected Chinese and U.S. Real GDPs and Their Rates of Growth

Actual and Projected Real GDP of China and the U.S. and Their Rates of Growth

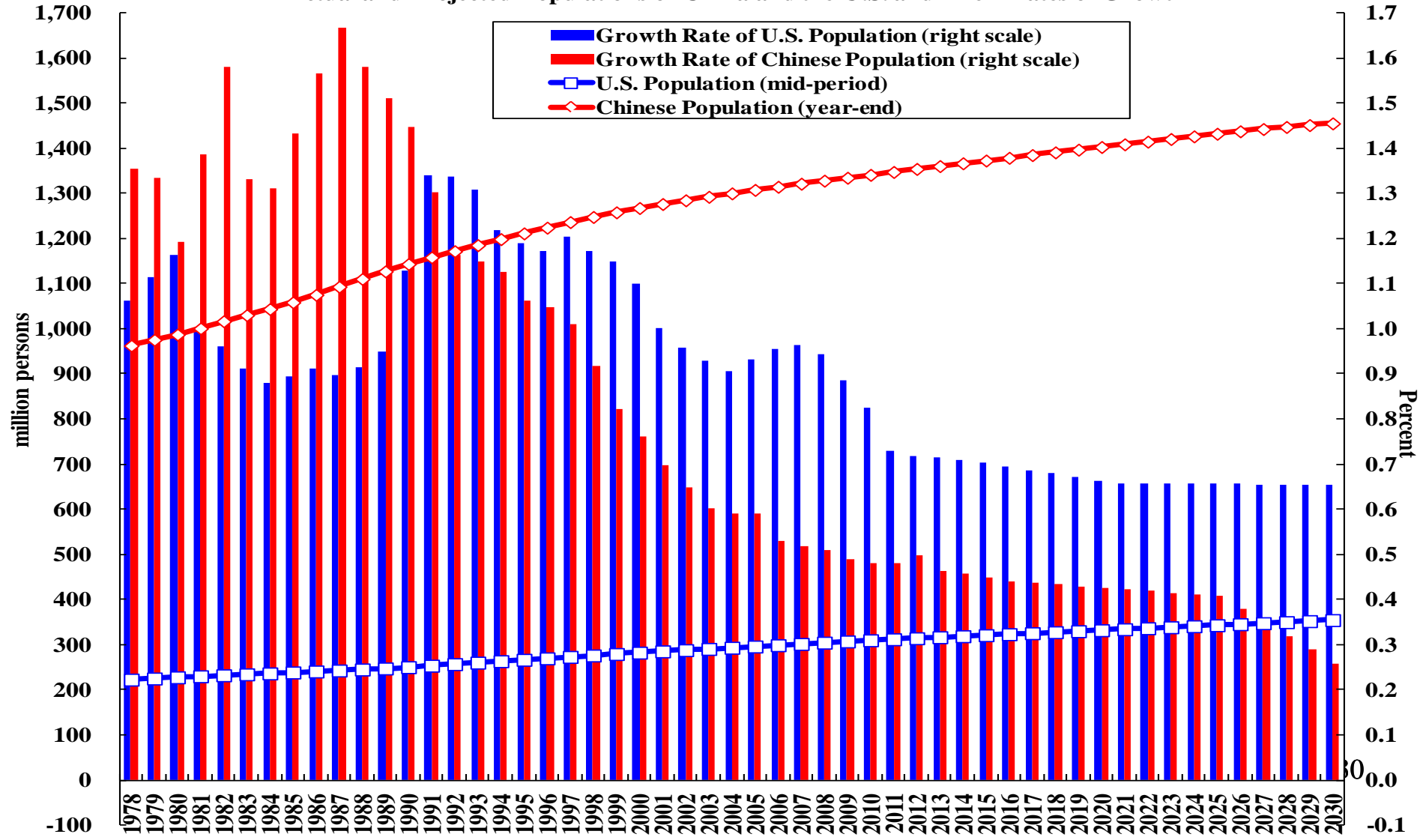


Projections of the Future

- ◆ During this period, Chinese population is projected to reach a plateau around 2045 and then become more or less stationery. Some population projections suggest that Chinese population will reach a peak in 2035; however, this scenario does not appear likely as the Chinese population policy is likely to be modified long before 2035.
- ◆ By 2030, Chinese real GDP per capita is projected to exceed US\$19,500, which will still only be slightly more than a quarter of the projected US per capita real GDP of US\$77,600.

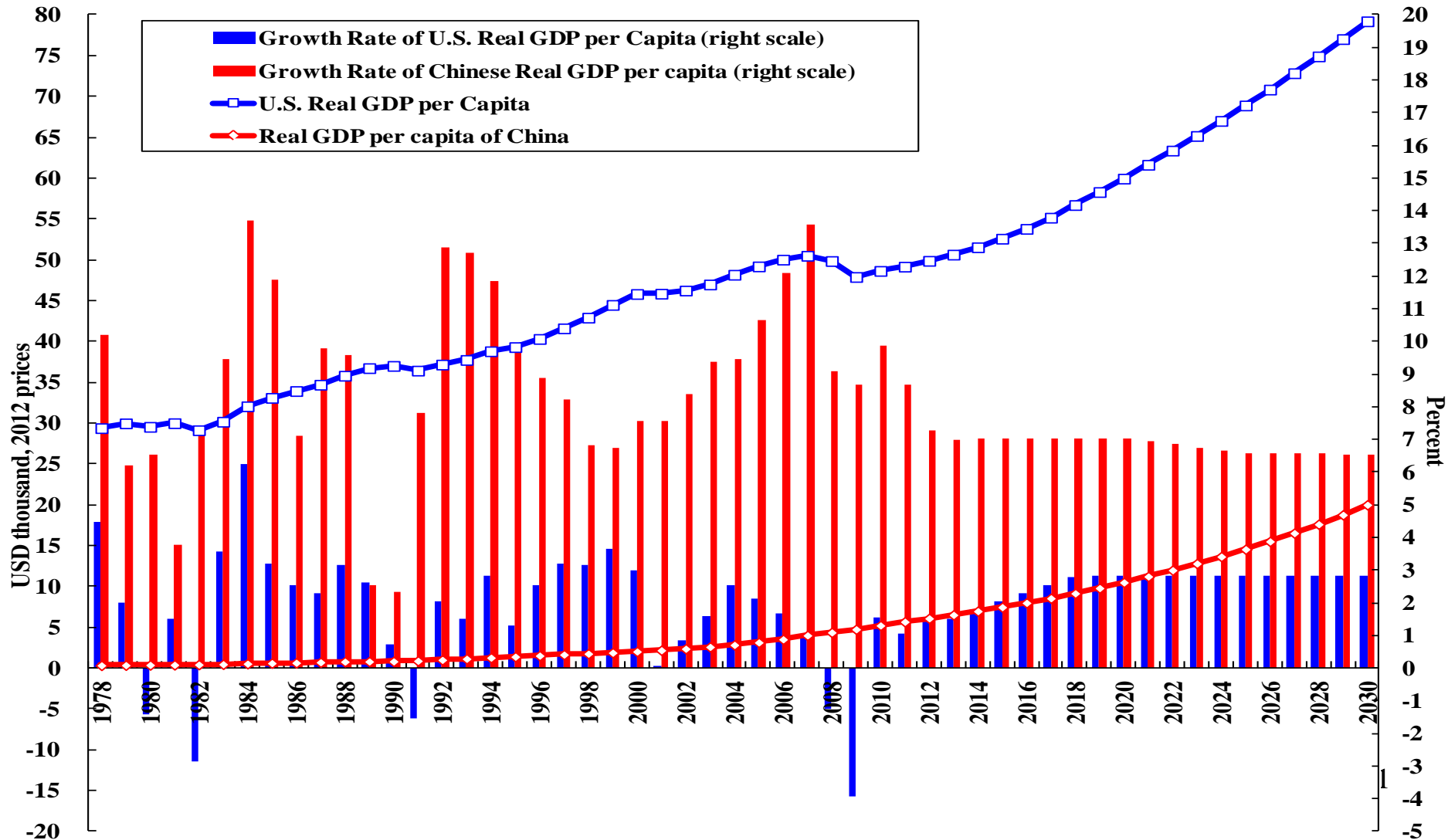
Actual and Projected Chinese and U.S. Populations & Their Rates of Growth

Actual and Projected Populations of China and the U.S. and Their Rates of Growth



Actual and Projected Chinese and U.S. Real GDP per Capita's & Rates of Growth

Actual and Projected Real GDP per Capita of China and the U.S. and Their Rates of Growth



Projections of the Future

- ◆ It will take another 30 years, some time around 2060, for China to reach the same level of real GDP per capita as the United States.
- ◆ By that time, Chinese GDP is likely to be more than three times the U.S. GDP, and will account for perhaps 30 percent of World GDP (depending on the rates of growth of other economies, especially the developing economies of today).
- ◆ According to Angus Maddison, China accounted for 30% of World GDP in early 19th Century.

Concluding Remarks

- ◆ On the basis of its strong economic fundamentals, China should be able to continue to grow at an average annual rate of at least 7% for the next couple of decades, more or less independently of what happens in the rest of the World.
- ◆ Chinese economic growth will be marginally, but not critically, affected by a large decline in its exports, as demonstrated by its experience in the past several years as well as during the 1997-1998 East Asian currency crisis. Thus, it will be able to survive even prolonged economic recessions in the European and U.S. economies.
- ◆ China will develop into a largely internal-demand driven economy like the United States. International trade and international investment will not have a decisive impact on the Chinese economy.

Concluding Remarks

- ◆ Exports as a share of Chinese GDP will probably continue to decline over time, as befitting a large, continental economy. Chinese international trade will become approximately balanced with the rest of the World.
- ◆ However, China may well become a net overseas direct as well as portfolio investor over the next decade.

Concluding Remarks

- ◆ The long-term sustainable sources of Chinese aggregate demand will all be internal: urbanisation (building new cities), public infrastructure, mass-transit systems, household and public consumption, residential housing, investment in education and health care, environmental protection and preservation, energy conservation and renewable energy, and the green economy.
- ◆ Chinese household consumption will rise, as GDP per capita and wage rate rise and the social safety net is gradually perfected. But the national saving rate may remain high for a long time.

Concluding Remarks

- ◆ Standard and Poor has projected an average annual growth rate for the Chinese real GDP between 2013 and 2015 of 7.3 percent.
- ◆ The World Bank, in its recent Global Economic Prospects report, has forecast that China will grow 7.7% in 2013, strengthening to 8.0 and 7.9 % in 2014 and 2015 respectively.
- ◆ For 2013, the short-term economic targets of the Chinese Government are to achieve a real rate of growth of over 7% and to control the rate of inflation to below 3.5%. I am confident that the actual outcomes will be close to these targets.