The Sky is Not Falling!

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*All opinions expressed herein are the author's own and do not necessarily reflect the views of any of the organisations with which the author is affiliated.

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- Real Impacts on the Chinese and U.S. economies
- Longer-Term Developments
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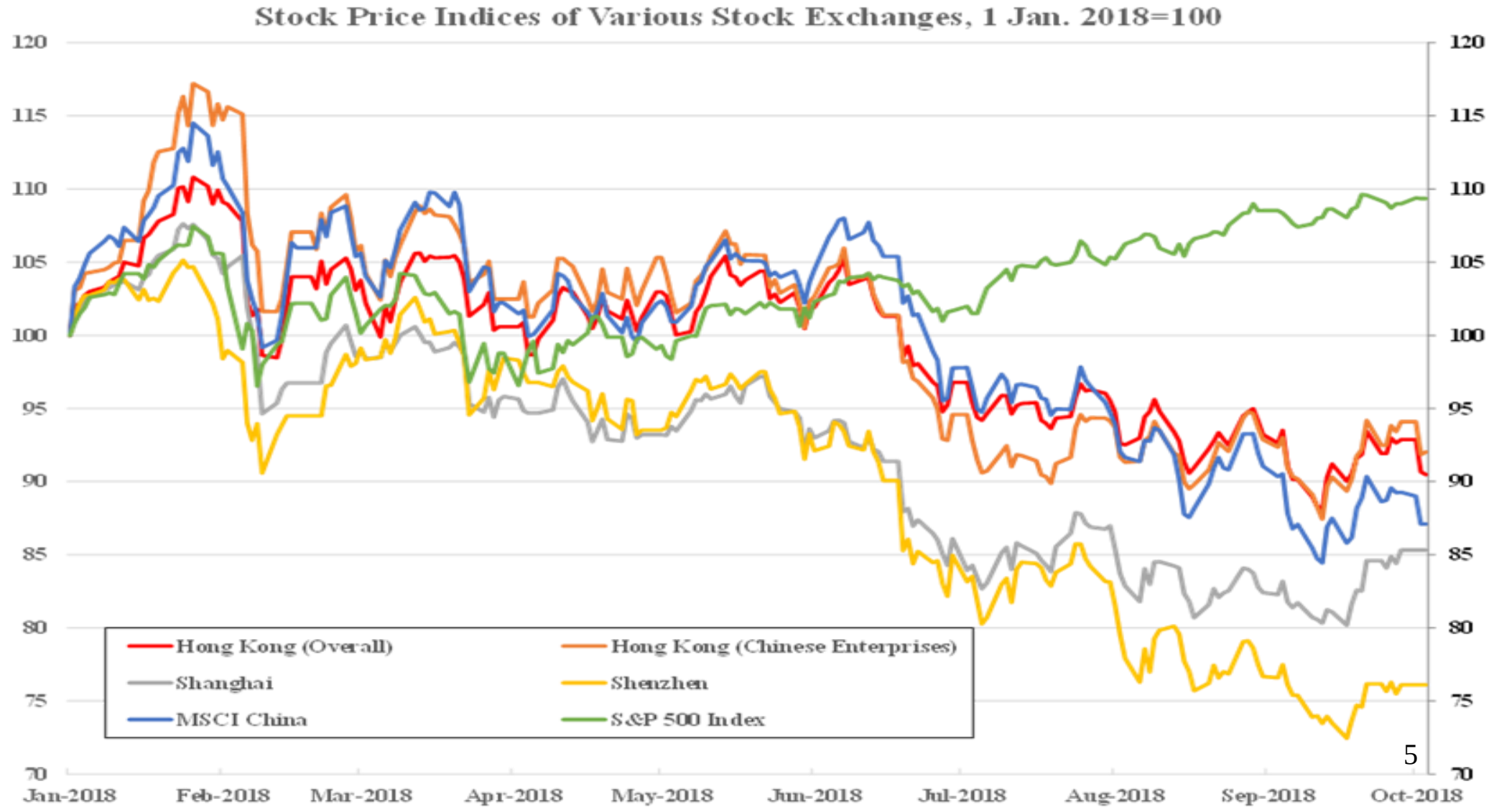
Introduction

- While the immediate direct impacts on the Chinese economy of the China-U.S. trade war are certainly negative, they are small in real terms, affecting at a maximum less than 0.5 percent of GDP, and quite manageable for China. There is no need to panic.
- But the trade war is not likely to end soon, at least not before the U.S. mid-term elections.
- However, the trade war itself may do damage to the longer-term relations between China and the U.S.
- It is a reflection of the underlying China-U.S. competition for economic and technological dominance and the rise of populism, isolationism and protectionism almost everywhere in the world.

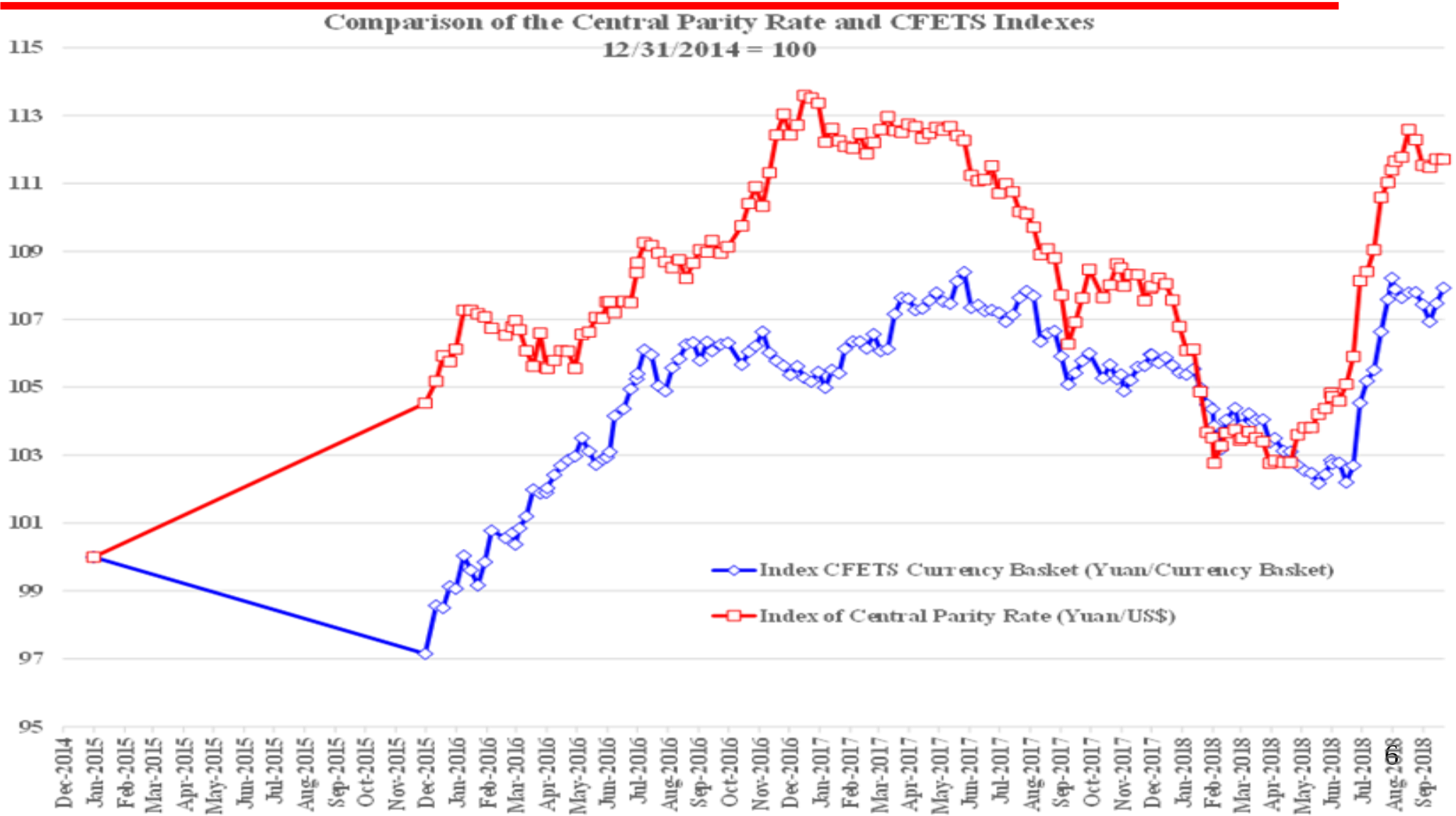
Immediate Impacts

- The stock markets have taken a hit. This is an area where the psychological factor dominates. Most Mainland investors are short-term traders.
- The Renminbi exchange rate has also been affected. However, the deviation of the central parity rate from the CFETS index has not widened very much. Our focus should be on the central parity rate (onshore rate) rather than the offshore rate.
- It is in China's interests to maintain a relatively stable Renminbi exchange rate. It is the only way for the internationalisation of the Renminbi to become a reality.

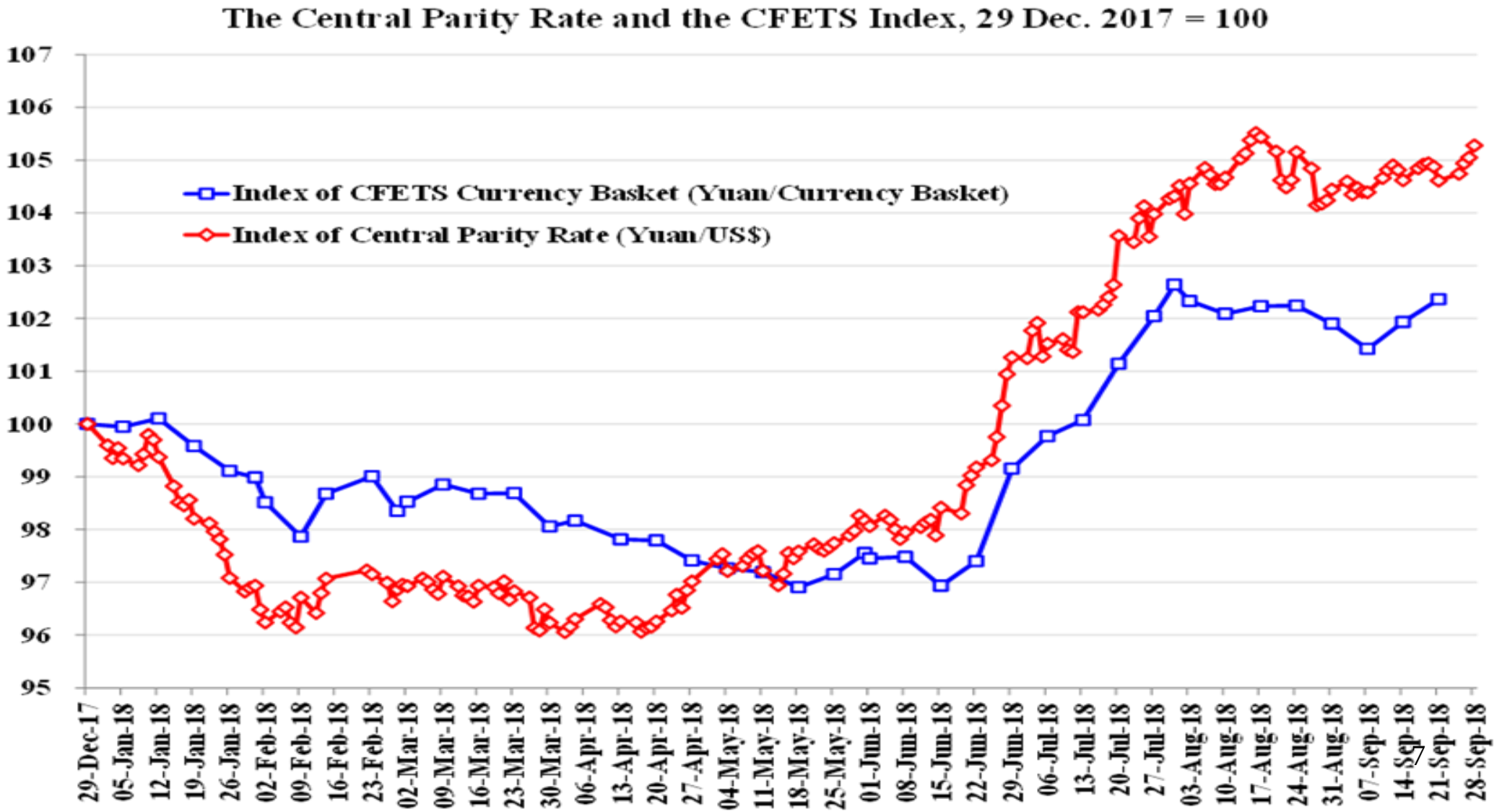
The Chinese, Hong Kong and U.S. Stock Market Indexes, Year to Date



The Renminbi Central Parity Exchange Rate and the CFETS Index



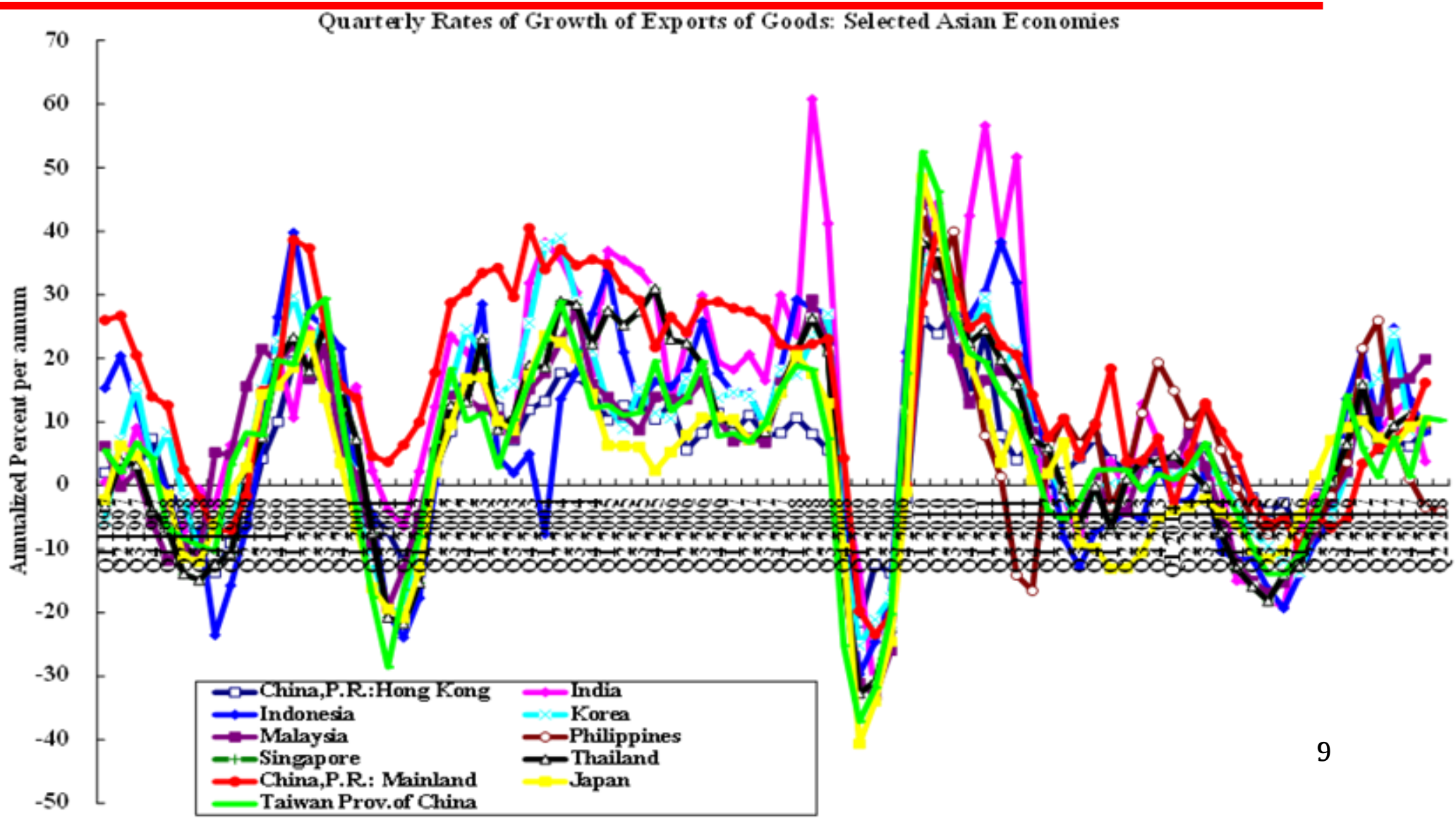
The Renminbi Central Parity Exchange Rate and the CFETS Index



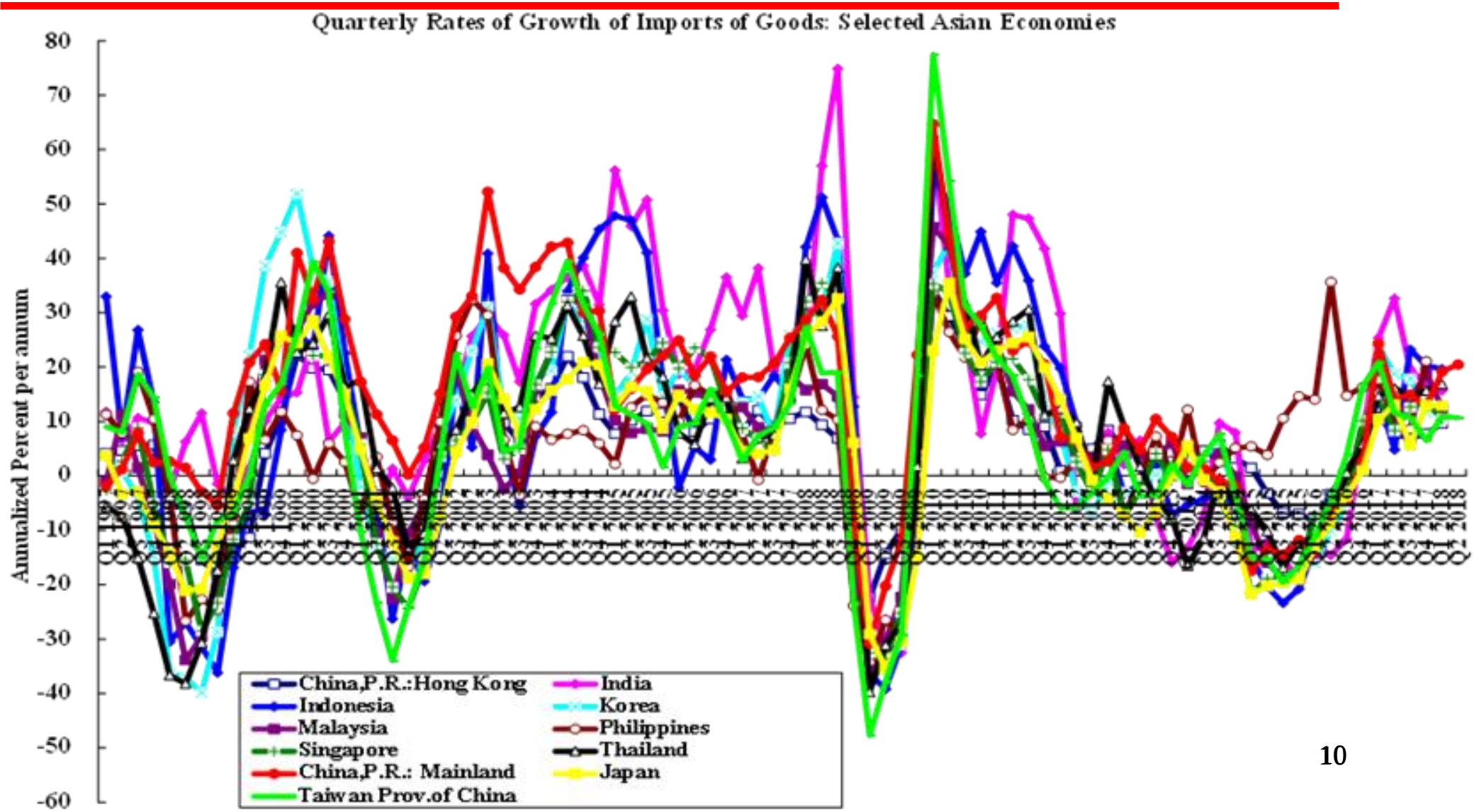
Real Impacts

- China, as a large continental economy with a huge domestic market, has a relatively low export dependence, and has always been relatively immune to external disturbances. During the past four decades, while the rates of growth of Chinese exports and imports fluctuate like those of all other economies, the rate of growth of Chinese real GDP has remained relatively stable, and in fact has always stayed positive (see the following charts).

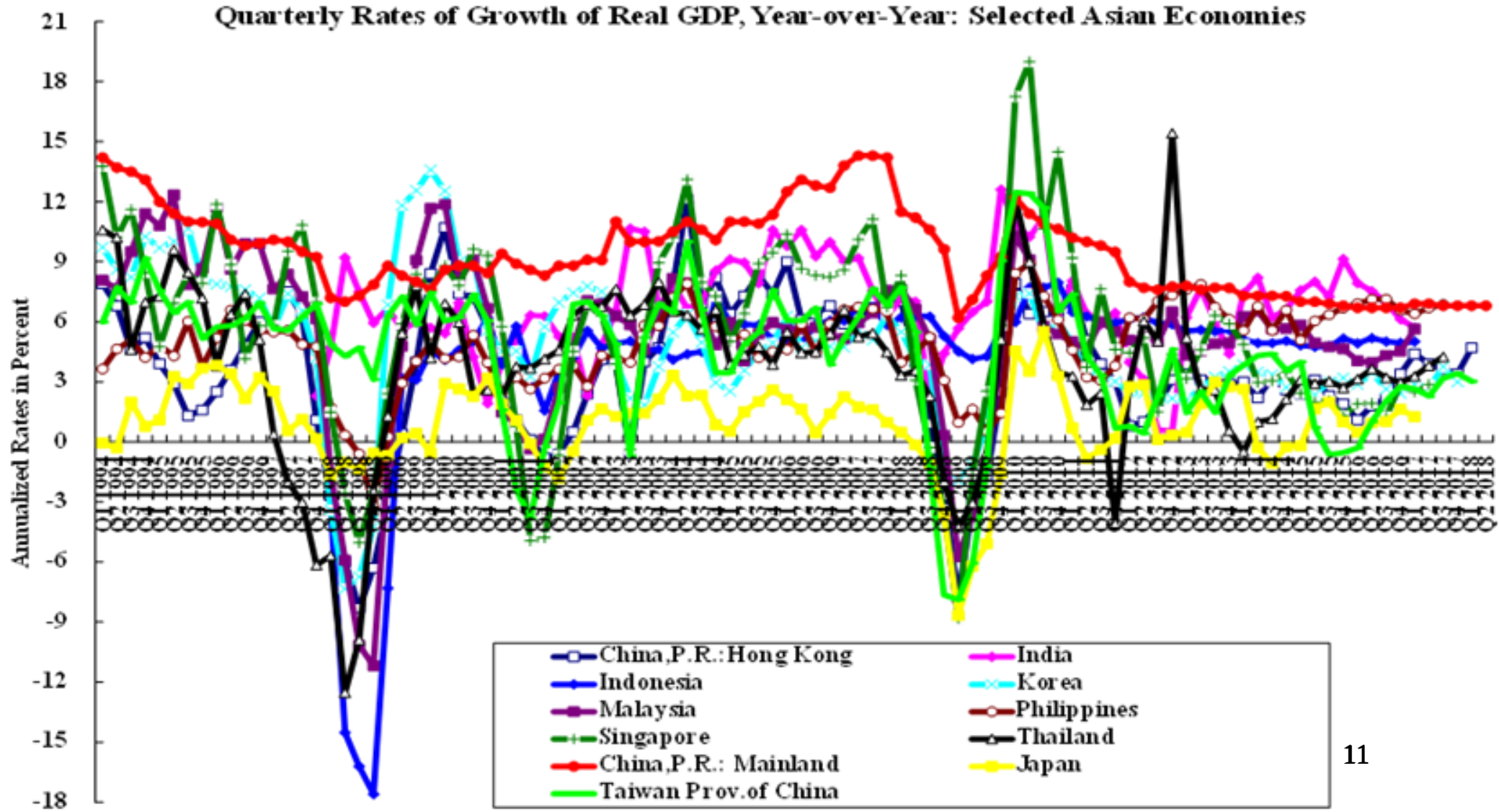
Quarterly Rates of Growth of Exports of Goods: Selected Asian Economies



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



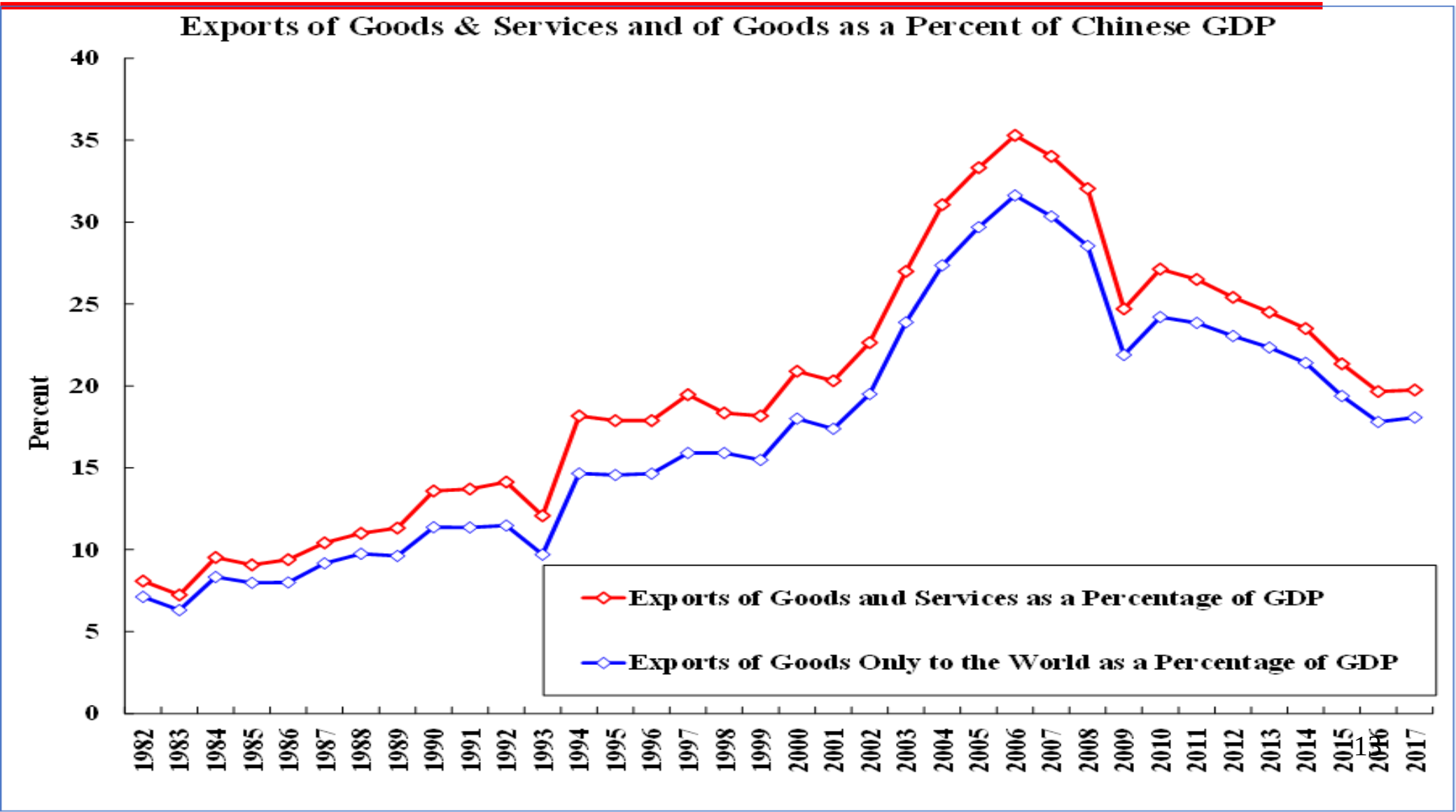
Quarterly Rates of Growth of Real GDP, Y-o-Y: Selected Asian Economies



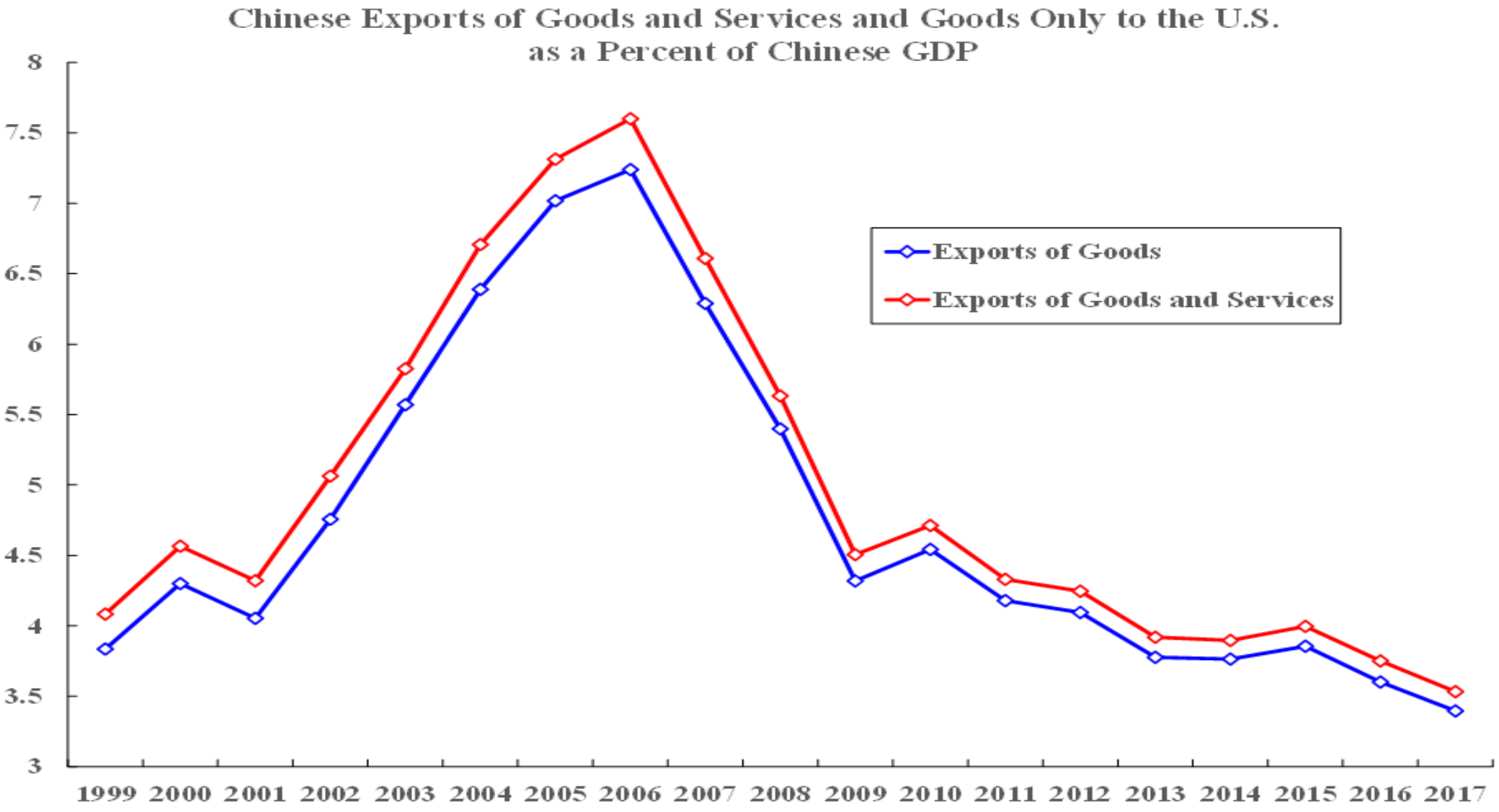
Real Impacts

- Moreover, Chinese dependence on exports has been declining over the past decade. The share of exports of goods in Chinese GDP has fallen from a peak of 35.3% in 2006 to 19.8% in 2017.
- The share of exports of goods to the U.S. in Chinese GDP has also fallen by more than half, from a peak of 7.2% in 2006 to 3.4% in 2017.
- During this same period, the growth of Chinese exports to the world and to the U.S. has also slowed significantly (see the following charts). Chinese exports to the world grew at an average annual rate of 22.6% in the decade 1998-2007, but slowed to only 7.9% in the following decade, 2008-2017. Similarly, exports to the U.S. grew at 22% per annum in the decade 1998-2007, but slowed to less than 7% per annum in the most recent decade. Exports is no longer the engine of Chinese economic growth.

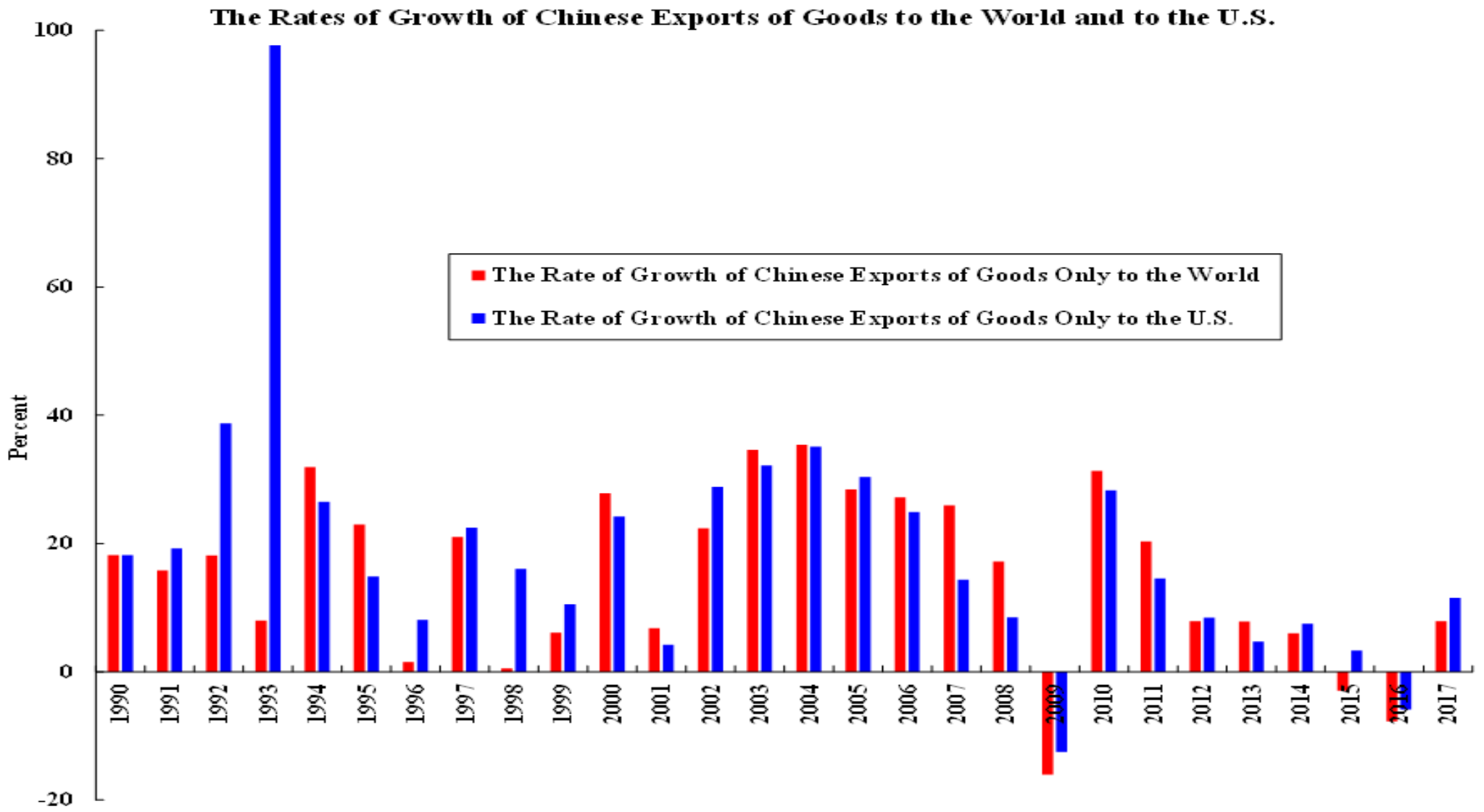
Chinese Exports of Goods and Services and Goods Only as a Percent of Chinese GDP



Chinese Exports of Goods and Services to the U.S. as a Percent of Chinese GDP



The Annual Rates of Growth of Chinese Exports of Goods to the World and to the U.S.



Real Impacts

- New U.S. tariffs on US$250 billion of U.S. imports of goods from China (approximately equal to US$227 (250 x 10/11) billion of Chinese exports of goods to the U.S., f.o.b.) or half of Chinese exports of goods to the U.S.
- Thus, a maximum of Chinese exports of goods amounting to approximately 1.7% (3.4%/2) of Chinese GDP will be affected.
- The U.S. tariff rates will range from 10% to 25% on the value of the imports from China. These rates will be prohibitive for most of the goods imported from China as neither the Chinese exporters nor the U.S. importers have the kind of profit margins that can afford these tariffs.

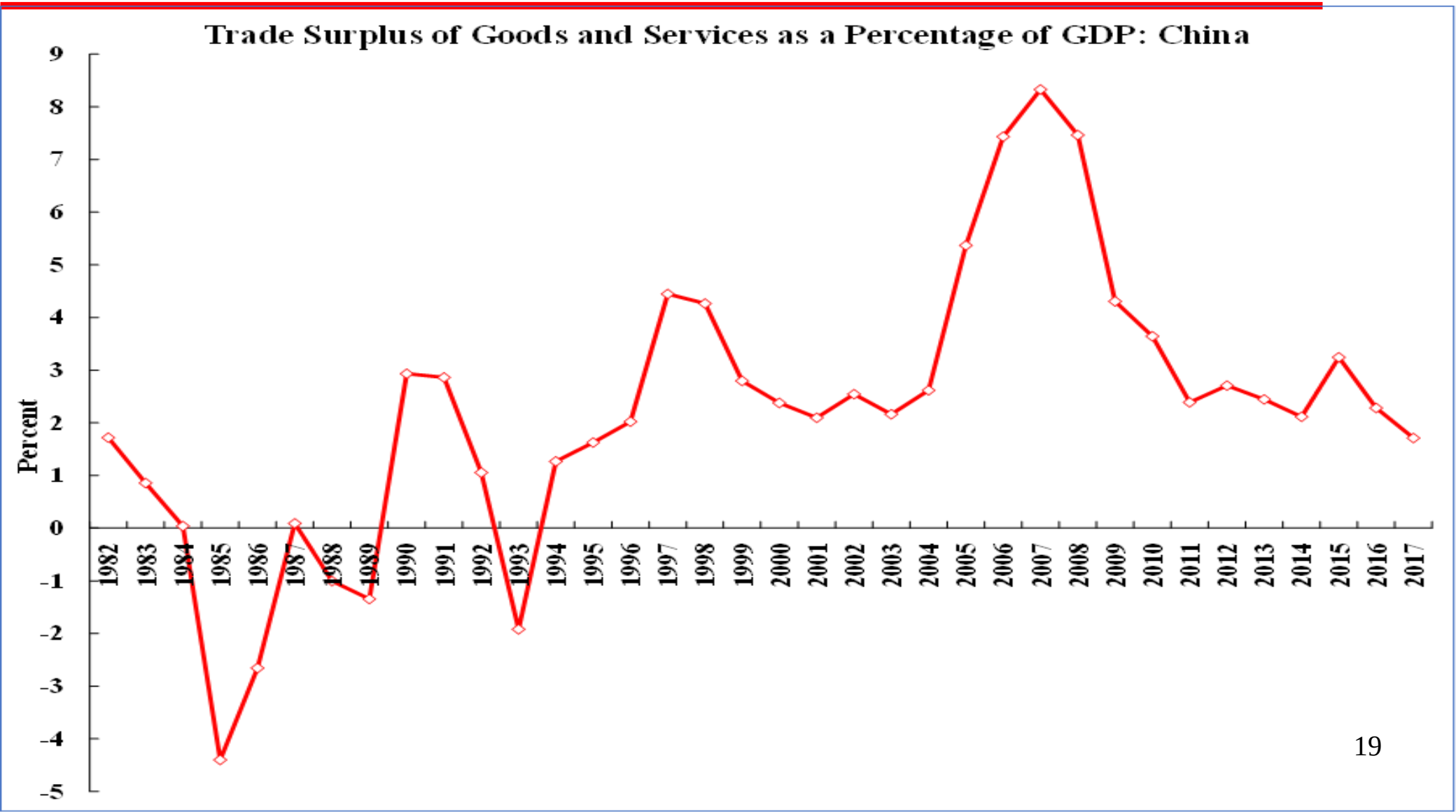
Real Impacts on the Chinese Economy

- However, the direct domestic value-added content of Chinese exports to the U.S. is less than 25%. Thus, the maximum loss in Chinese GDP, assuming that half of the exports to the U.S. is completely halted, in the first instance, may be estimated at 0.43% (1.7% x 0.25), a tolerable level, especially for an economy growing at an average annual real rate of 6.5 percent and with a per capita GDP of US$9,137 in 2017, which is way over the subsistence level.
- With the indirect, that is, second-, third-, fourth- and higher-round effects of the reduction of Chinese exports kicking in, the total domestic value-added content affected increases eventually to 66 percent. This implies ultimately a maximum total loss in Chinese GDP of 1.12% (1.7% x 0.66). In absolute terms, this amounts to US$137 billion in 2017 prices.

Real Impacts on the Chinese Economy

- A reduction of 1.1% from an expected annual growth rate of 6.5% leaves 5.4%, still a very respectable rate compared to the average of 3.9% for the world in 2018 projected by the International Monetary Fund.
- Moreover, even with the reduction of Chinese exports of goods amounting to 1.7% of GDP, the Chinese trade in goods and services, which had a surplus of 1.71% of GDP in 2017, will still remain in balance, without taking into account any potential reduction of Chinese imports from the U.S. Thus, there should be little pressure for the Renminbi to devalue.
- In fact, it is probably in the best interests of the Chinese economy to maintain a relatively stable Renminbi exchange rate. By following the CFETS Index, an index of a trade-weighted basket of currencies, the Renminbi exchange rate will have a lower volatility than the U.S. Dollar exchange rate because it will move, in general, in the same direction as the U.S. Dollar but by a smaller amount. This means when the U.S. Dollar appreciates with respect to other currencies, the Renminbi will devalue relative to the U.S. Dollar, and when the U.S. Dollar devalues with respect to other currencies, the Renminbi will appreciate relative to the U.S. Dollar. The Renminbi exchange rate will be less volatile than the U.S. Dollar exchange rate.

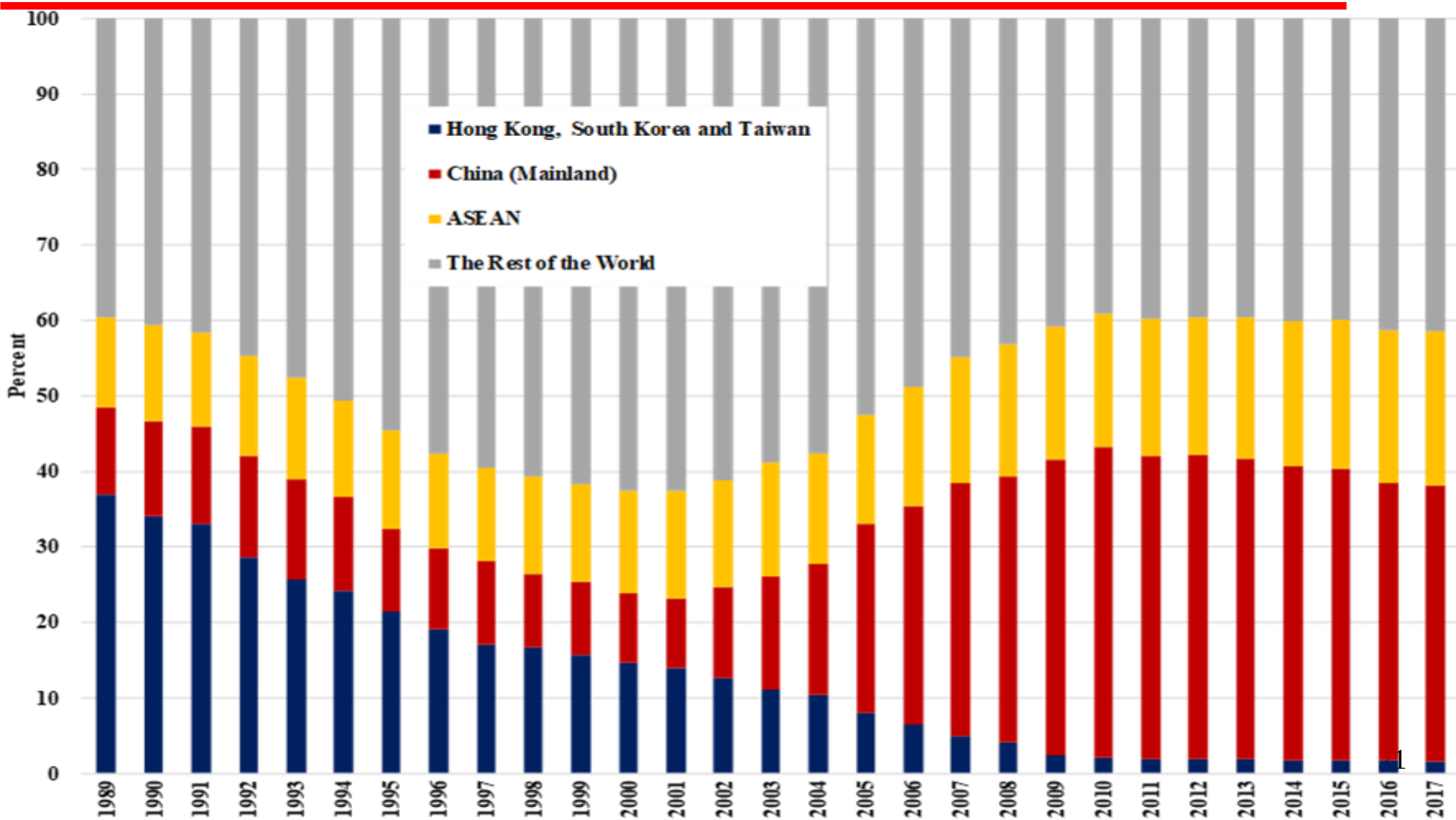
Chinese Trade Surplus in Goods and Services as a Percent of GDP



Real Impacts on the Chinese Economy

- In the longer run, assuming that the tariffs continue on both sides, the U.S. importers will begin to replace Chinese imports by imports from other Asian countries such as Vietnam, Cambodia and Bangladesh, and eventually perhaps even North Korea.
- But the shift in the sourcing of imports away from China has already been occurring since 2010, because of the rise in labour costs in China and because of the appreciation of the Renminbi. This is similar to the earlier shift of the sources of U.S. imports of apparel from Hong Kong, South Korea and Taiwan to Mainland China (see the following chart). The new U.S. tariffs will accelerate this process.
- The ASEAN and South Asian countries may benefit, but it is really hard to predict by how much because the supply chains today are so internationalised. However, it is unlikely, in most cases, that the tariffs will stimulate new domestic production in the U.S.

The Distribution of U.S. Apparel Imports by Countries of Origin



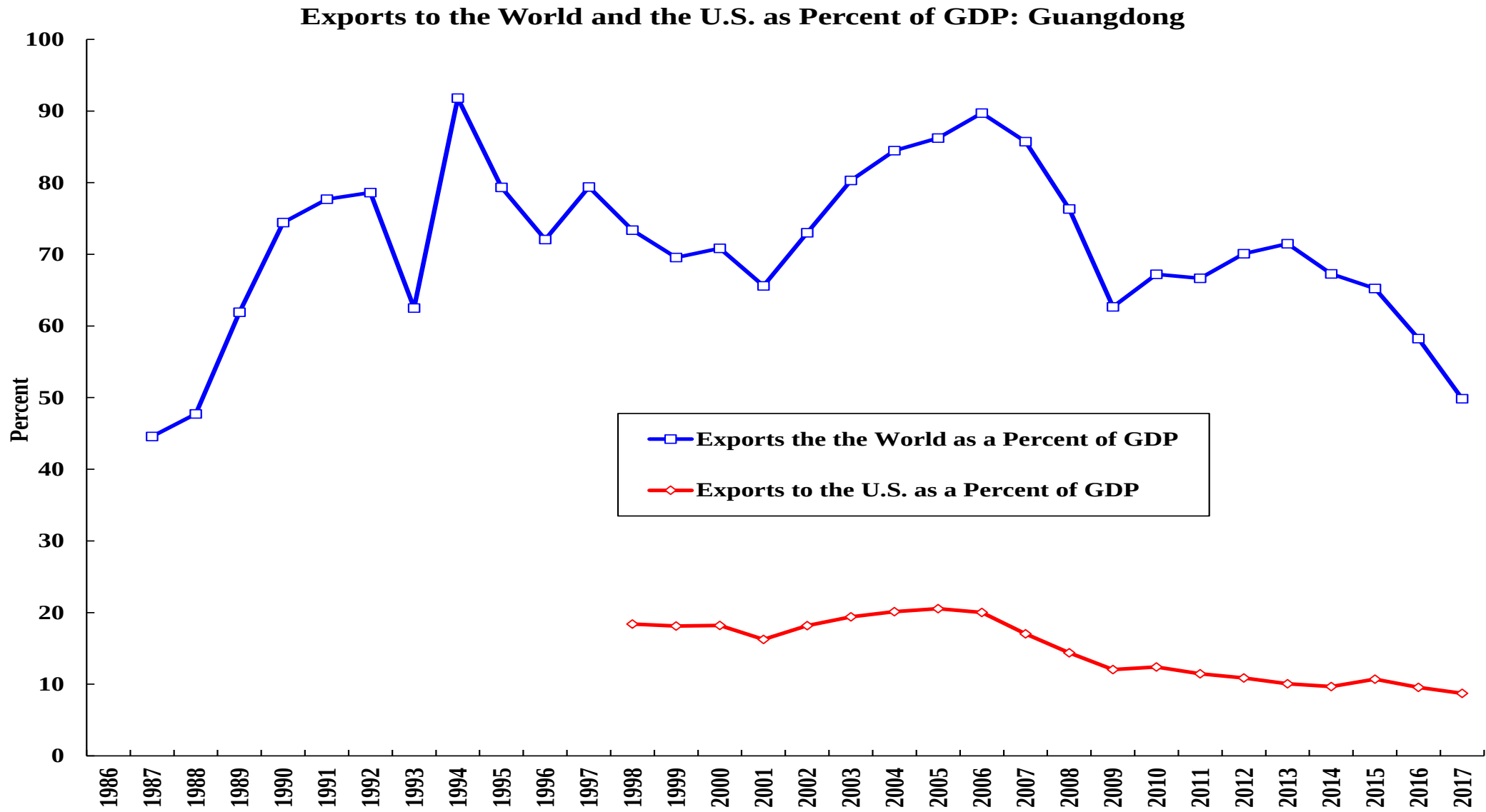
Real Impacts on the Chinese Economy: Specific Regional Impacts

- Even though the real impacts on the Chinese economy in the aggregate are relatively small, they can be more significant for individual specific municipalities and provinces, especially those oriented towards exports.
- Guangdong, including Shenzhen, is the largest exporting region in China, followed by Shanghai and then Zhejiang. Even then, exports as a percent of its GDP was just below 50% in 2017, and exports to the U.S. was 8.7%.

Real Impacts on the Chinese Economy: Specific Regional Impacts

- Assuming the direct domestic value-added content of Guangdong exports to the U.S. is the same as that of Chinese exports as a whole, that is, 25%, the maximum loss in Guangdong GDP, assuming that half of the exports to the U.S. is completely halted, in the first instance may be estimated at 1.09% (4.35% x 0.25). Such a decline in GDP is perfectly manageable by Guangdong as the real rate of growth of its GDP was 10.2% and its GDP per capita was US$12,909 in 2017.
- Taking into account the indirect, that is, second-, third-, fourth- and higher-round effects of the reduction of exports from Guangdong, the total domestic value-added content affected increases to 66 percent. This implies ultimately a total loss in Guangdong GDP of 2.87% (4.35% x 0.66). This will represent a significant slowdown in the real rate of growth of the Guangdong economy. Even then, the Guangdong economy will still be growing at more than 7% per annum.

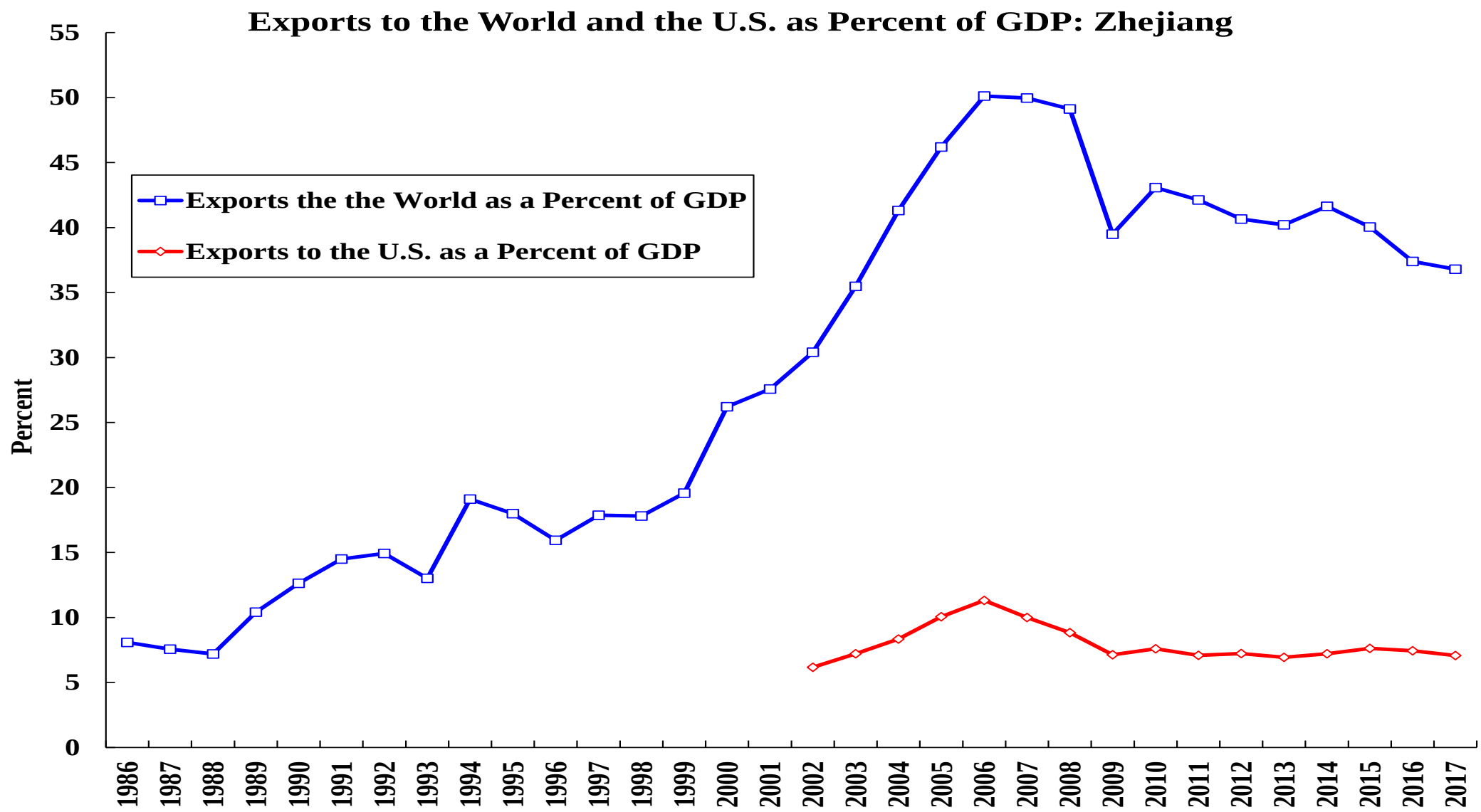
Exports to the World and the U.S. as Percent of GDP: Guangdong



Real Impacts on the Chinese Economy: Specific Regional Impacts

- Exports as a percent of GDP in Zhejiang was just below 36.8% in 2017, and exports to the U.S. was 7.1%.
- Assuming the direct domestic value-added content of Zhejiang exports to the U.S. is the same as that of China as a whole, that is, 25%, the maximum loss in Zhejiang GDP, assuming that half of the exports to the U.S. is completely halted, in the first instance may be estimated at 0.89% (3.55% x 0.25). A decline of this magnitude is manageable as the real rate of growth of Zhejiang GDP was 8.6% and its GDP per capita was US$14,630 in 2017.
- Taking into account the indirect, that is, second-, third-, fourth- and higher-round effects of the reduction of exports, the total domestic value-added content affected increases to 66 percent. This implies ultimately a total loss in Zhejiang GDP of 2.3% (3.55% x 0.66). This will also represent a significant slowdown in the real rate of growth of the Zhejiang economy, but the rate of growth would still be higher than 6%.

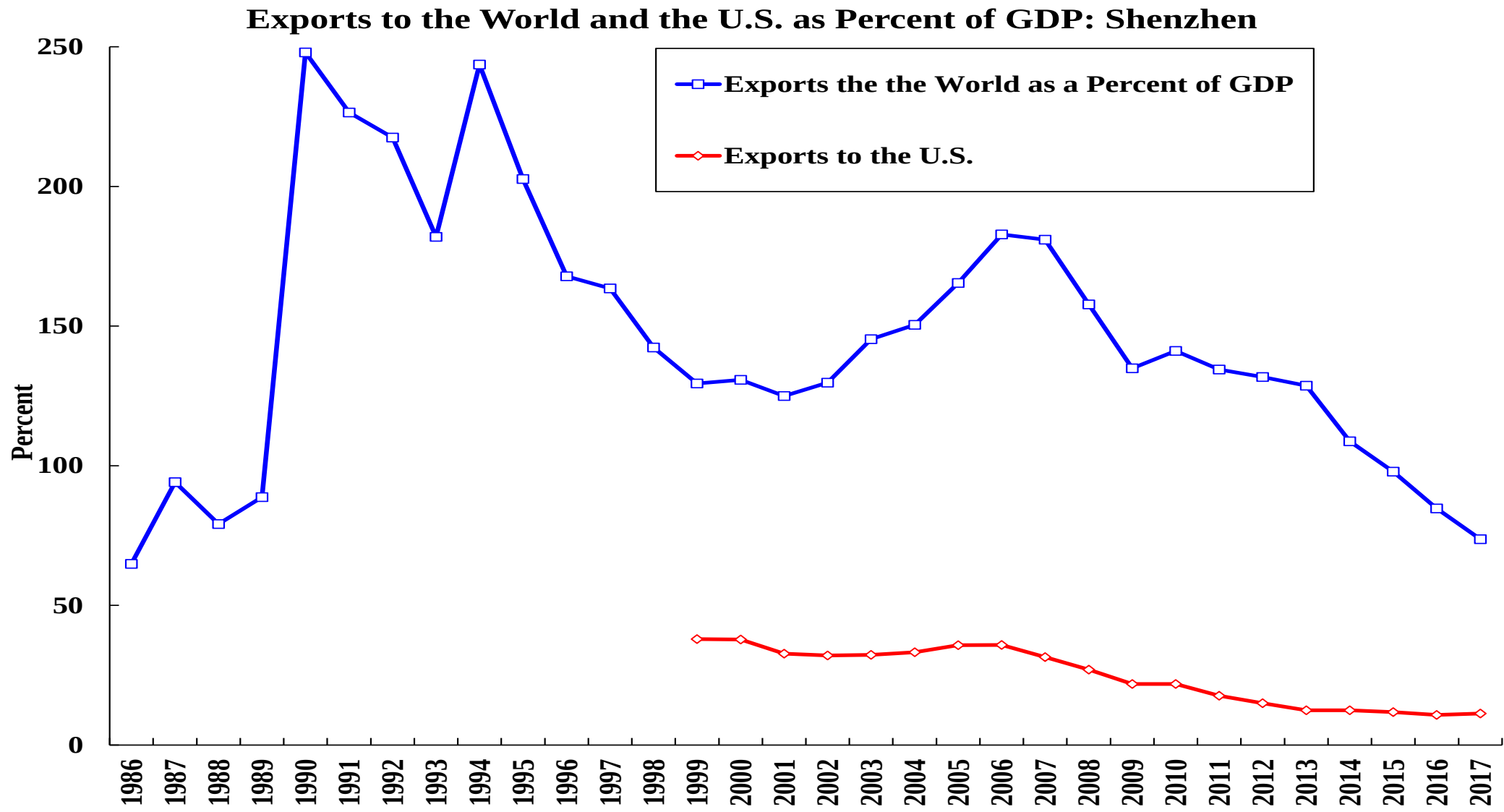
Exports to the World and the U.S. as Percent of GDP: Zhejiang



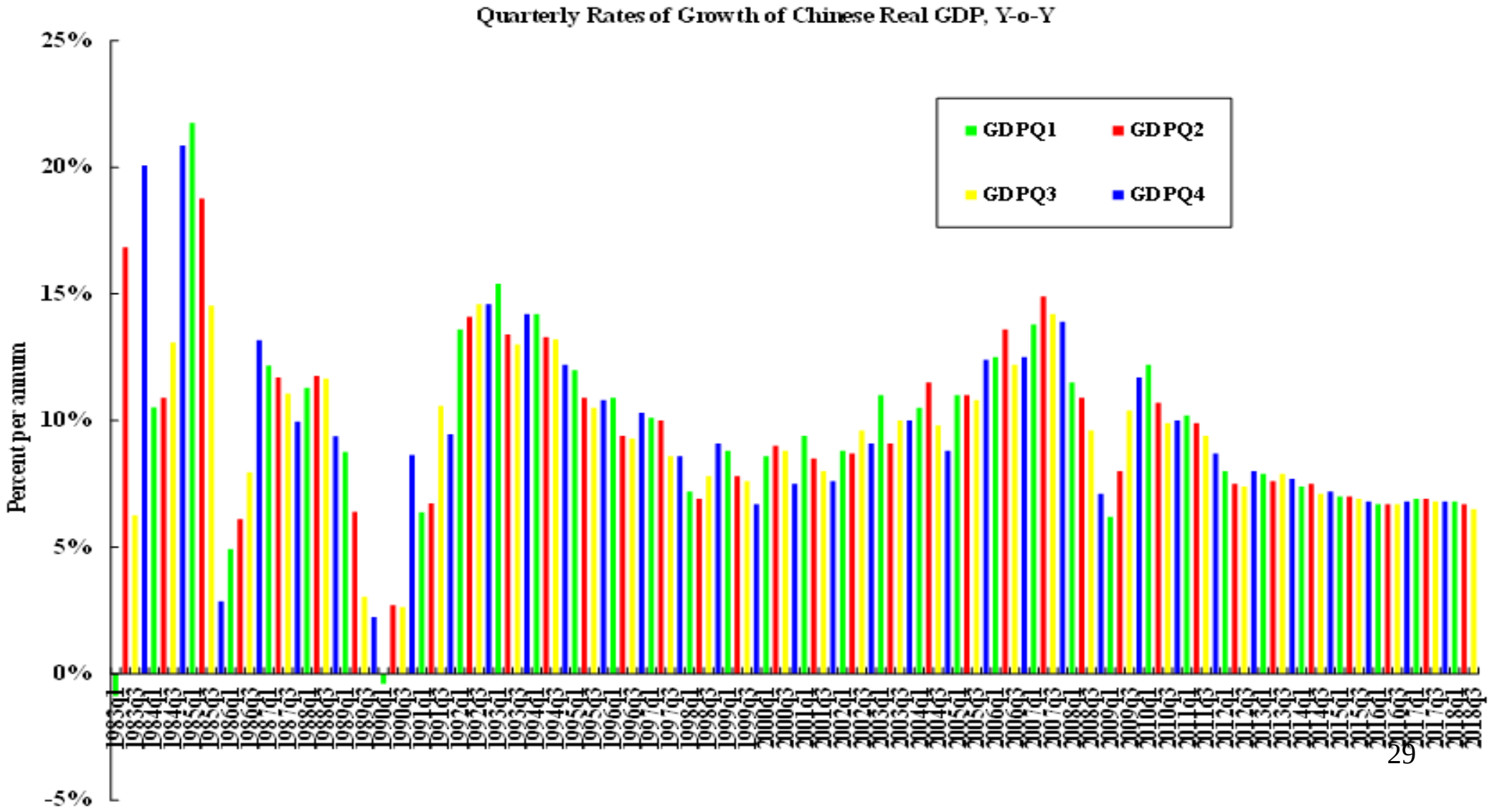
Real Impacts on the Chinese Economy: Specific Regional Impacts

- Exports as a percent of GDP in Shenzhen was 73.7% in 2017, and exports to the U.S. was 11.3%.
- Assuming the direct domestic value-added content of Shenzhen exports to the U.S. is the same as that of China as a whole, that is, 25%, the maximum loss in Shenzhen GDP, assuming that half of the exports to the U.S. is completely halted, in the first instance may be estimated at 1.41% (5.65% x 0.25). However, for the Shenzhen economy, which grew at 8.8% in 2017, a decline of this magnitude would still be manageable.
- Taking into account the indirect, that is, second-, third-, fourth- and higher-round effects of the reduction of exports, the total domestic value-added content affected increases to 66 percent. This implies ultimately a total loss in Shenzhen GDP of 3.7% (5.65% x 0.66), still leaving Shenzhen with a rate of growth of 5.1%, significantly higher than the average rate of growth of the world economy of 3.9% and that of neighbouring Hong Kong in 2018.

Exports to the World and the U.S. as Percent of GDP: Shenzhen



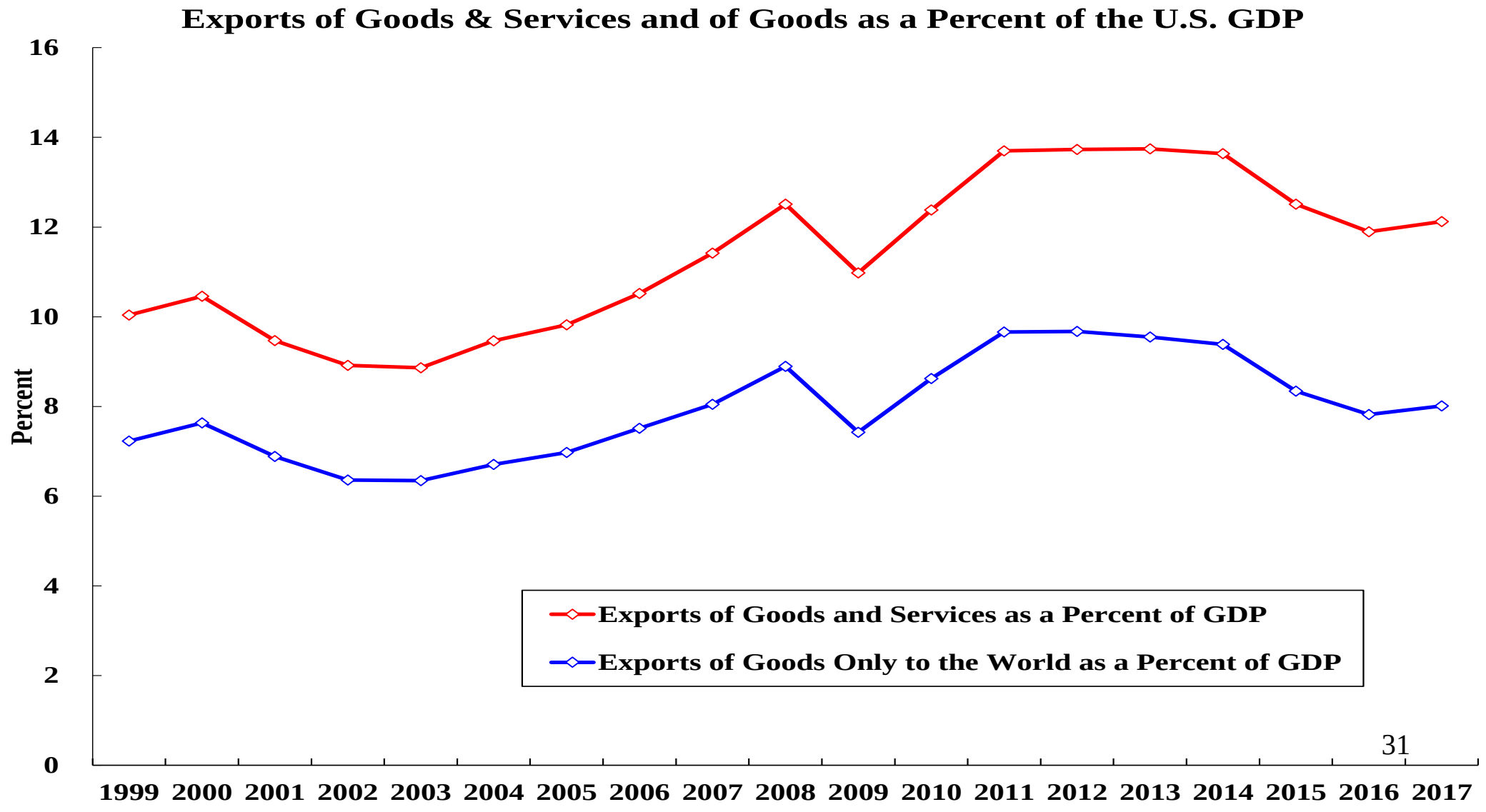
Quarterly Rates of Growth of Chinese Real GDP, Year-on-Year



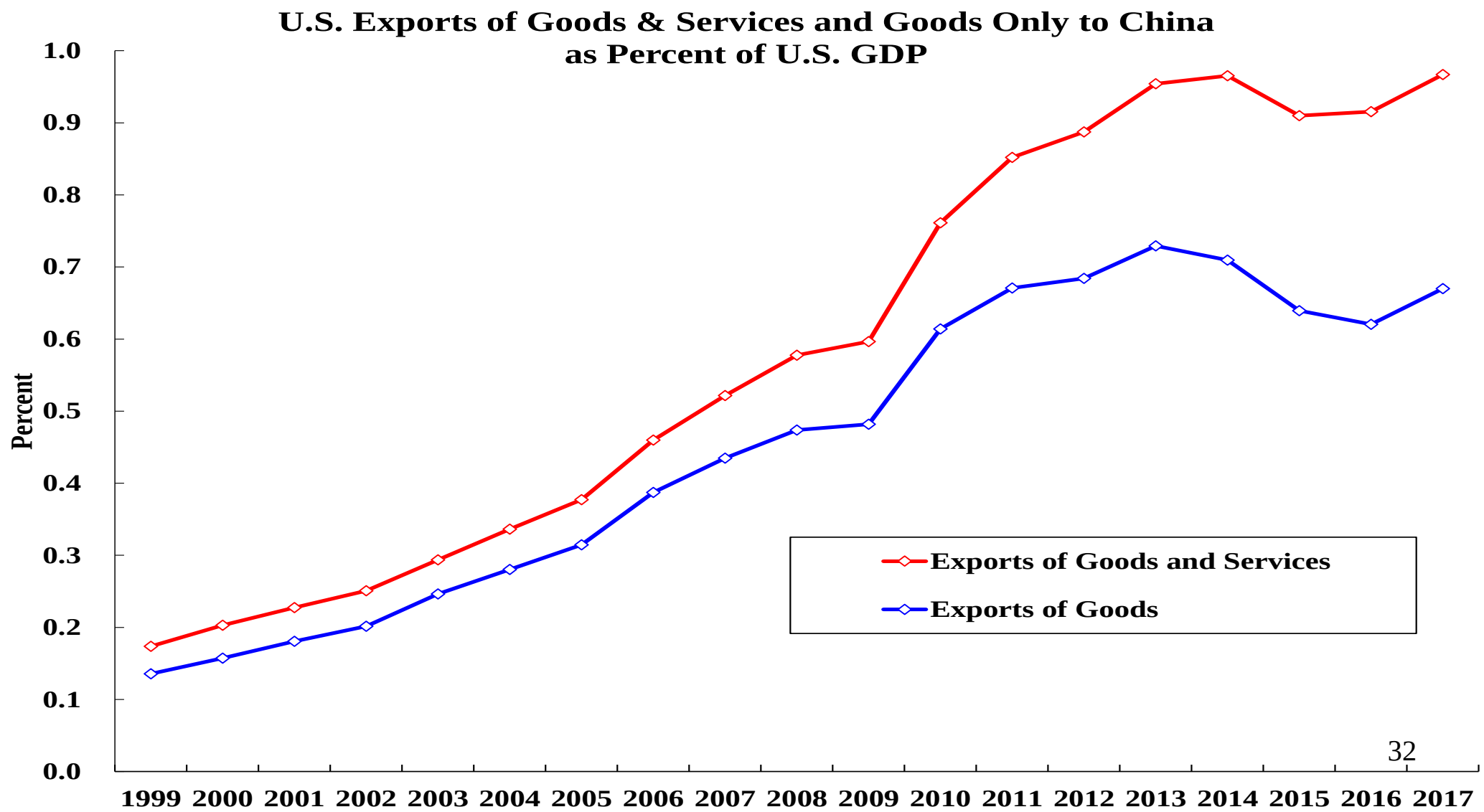
Real Impacts on the U. S. Economy

- The dependence of the U.S., a large continental economy, on exports is even lower than that of China's. U.S. exports of goods and services combined as a share of GDP was 12.12% in 2017. The exports of goods alone as a share of GDP was only 8.01%.
- The shares of U.S. exports of goods and services and goods alone to China in GDP was 0.97% and 0.67% respectively in 2017, much lower than those of Chinese exports to the U.S.

U.S. Exports of Goods and Services and Goods Only as Percent of U.S. GDP



U.S. Exports of Goods and Services and Goods Only to China as Percent of U.S. GDP



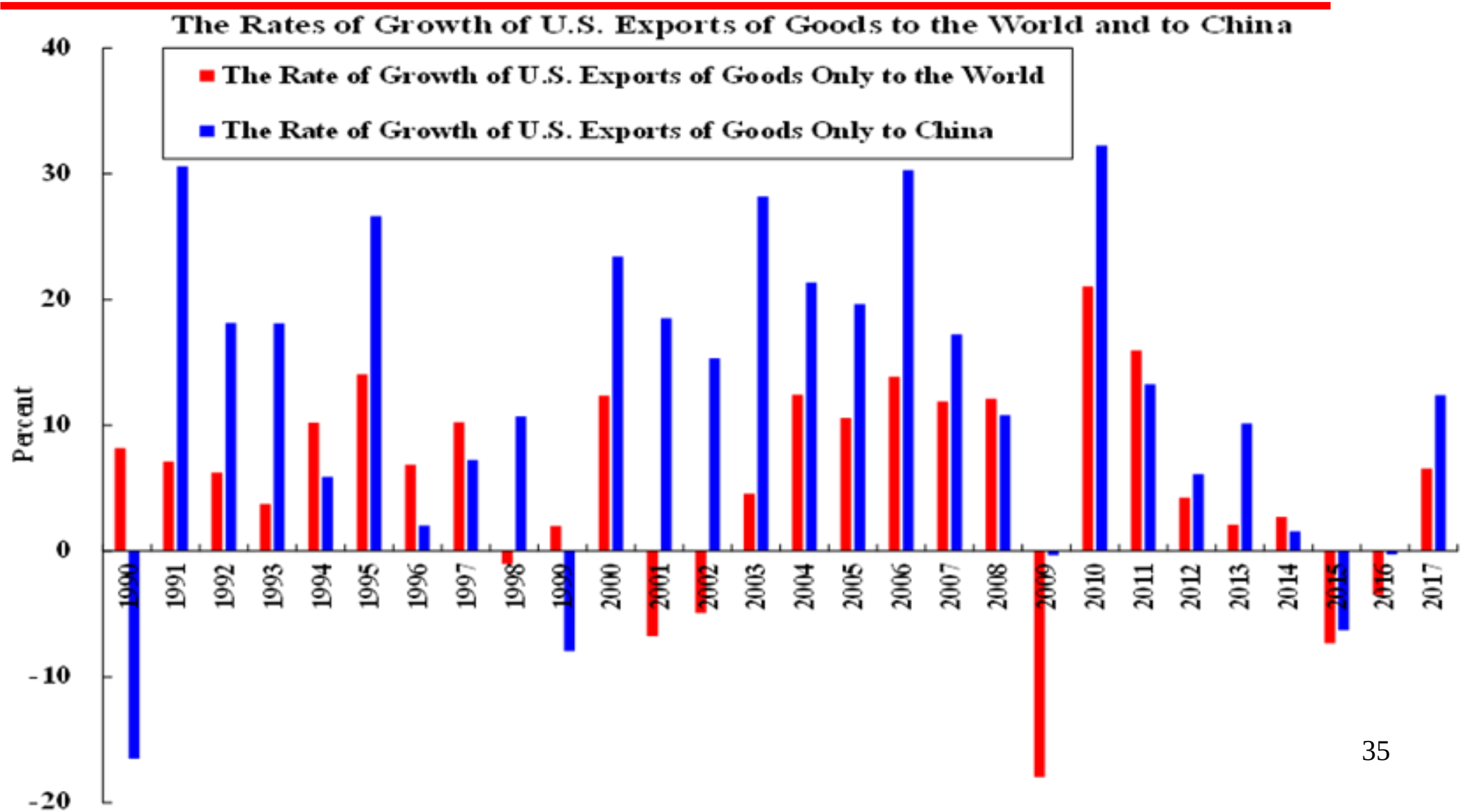
Real Impacts on the U. S. Economy

- The direct domestic value-added content of U.S. exports of goods to China may be estimated to be 50.8%. Thus, the maximum loss in U.S., assuming that all of the exports to China is completely halted, in the first instance may be estimated at 0.34% (0.67% x 0.508), less than the impact on Chinese GDP of 0.43%.
- Moreover, it is unlikely that all of the exports of goods will be halted; for example, computer chips will continue to be imported in large quantities. Suppose only half of U.S. exports of goods to China is halted, it would amount to a loss of U.S. GDP of 0.17%. This is not significant for the U.S. economy as a while, especially with the recent recovery of the quarterly rate of growth of GDP to 4.1%. U.S. GDP per capita is approximately US$60,000. The U.S. economy can easily weather a reduction of 0.17% in its rate of growth.

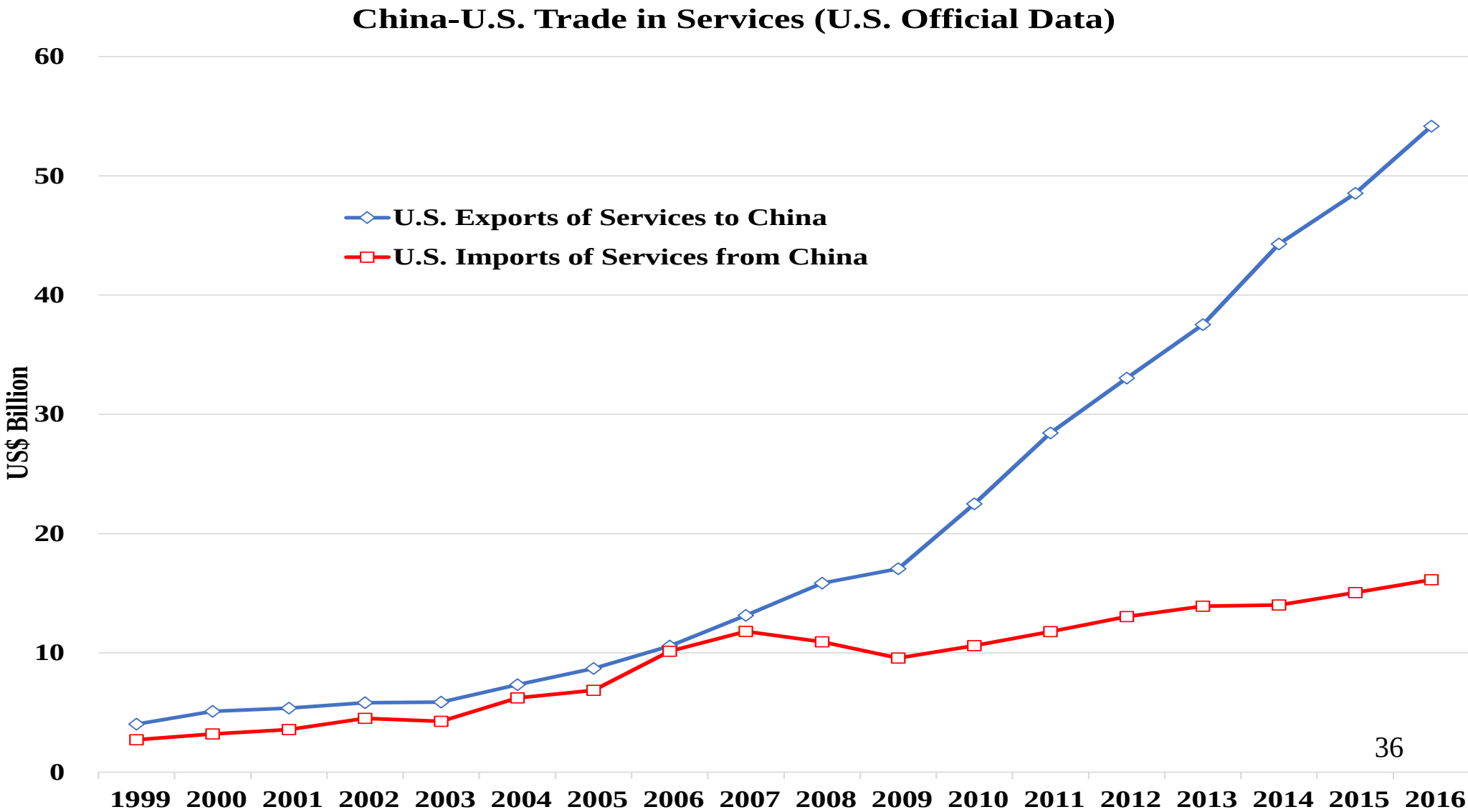
Real Impacts on the U. S. Economy

- With the indirect, that is, second-, third-, fourth- and higher-round effects of the reduction of U.S. exports of goods kicking in, the total domestic value-added content affected increases to 88.7%. This implies ultimately a total loss in U.S. GDP of 0.30% (0.67% x 0.887/2), assuming that half of U.S. exports to China will be halted.
- In absolute terms, this amounts to US$58 billion (0.30 x 19.4 trillion) in 2017 prices, much less than the estimated Chinese loss in terms of GDP of US$137 billion.
- However, the U.S. has a significant trade surplus in services with China, estimated to be US$40 billion by the U.S. Government but US$54 billion by the Chinese Government. This surplus may be in jeopardy if China-U.S. relations deteriorate further.

The Annual Rates of Growth of U.S. Exports of Goods to the World and to China



Real Impacts on the U. S. Economy: China-U.S. Trade in Services



Real Impacts on the U. S. Economy: Estimates of U.S.-China Trade Surplus in Services

Real Impacts on the U. S. Economy

- President Donald Trump's primary objective is to run and win re-election in 2020. In the interim, he would need to have the Republican Party maintain a majority in both the House of Representative and the Senate of the U.S. Congress in the mid-term elections to be held on 6 November 2019.
- He will use China as a villain in the mid-term election. It is easy enough to bash China and he did promise that he would be tough on China during his presidential campaign in 2016.
- Thus, the trade war is unlikely to end before the U.S. mid-term elections.

Longer-Term Developments

- One of the principal causes of the current trade war between China and the United States is actually not trade itself, but the potential competition between China and the U.S. for economic and technological dominance in the world. This competition, whether explicit or implicit, and whether intentional or not, will not go away soon. It did not begin with President Donald Trump. Both the "pivot to Asia" and the "Trans-Pacific Partnership" were initiated by President Barack Obama. It will not go away even after President Trump leaves office.
- However, competition can potentially lead to constructive and positive as well as destructive and negative outcomes. For example, the competition on creating the fastest super-computer has already resulted in both countries producing better and faster super-computers. The champion in 2018 is the IBM Summit, a U.S. super-computer, which beat the Sunway TaihuLight, the champion in 2016 and 2017, a Chinese super-computer that was built entirely with indigenously designed chips.

Longer-Term Developments

- In terms of aggregate GDP, China went from only 20 percent of the U.S. GDP in 2000 to two-thirds in 2017. It is only a matter of time that the Chinese GDP will catch up with the U.S. GDP, probably in the early 2030s. However, in terms of GDP per capita, China is still way behind, with US$9,137 compared to almost US$60,000 for the U.S. in 2017. My own projections suggest that it will probably take until the end of the Twenty-First Century before Chinese GDP per capita approaches the U.S. level.
- In terms of the number of nuclear-armed warheads, I believe the U.S. is way ahead by at least an order of magnitude in total and even more in per capita terms. This is not a competition that China should wish to join. However, a race to find an effective cure for cancer or Alzheimer's disease would be worthwhile for both countries and in fact for the entire mankind.

Longer-Term Developments

- U.S. grievances against China include intellectual property rights protection, forced transfer of technology and cyber-theft. (Note that none of these grievances have much to do with trade per se.)
- Intellectual property right protection in China has actually been vastly improved since special intellectual property courts were set up in Beijing, Shanghai and Guangzhou in 2014. Economically meaningful fines have begun to be levied on violators of intellectual property rights in China.
- Both Japan and Taiwan in their early stages of economic development did not do much to protect intellectual property rights either. But as they changed from being a user and imitator to a creator of intellectual property, they began to enforce intellectual property rights vigorously.
- Intellectual property right protection in China should get even better over time.

Longer-Term Developments

- Forced technology transfer has to do with the Chinese requirements for foreign direct investors in certain industries to take Chinese enterprises as equal joint-venture partners.
- However, the sharing of technology in a joint venture is a voluntary one. The foreign direct investor will have to weigh the benefits of having a local joint-venture partner versus the costs. In any case, the technology used in the current manufacturing process is probably already on the way to becoming obsolete. What is more valuable is the next-generation technology that has yet to be implemented. This is what the foreign direct investor can still maintain as its own in its home factories and laboratories.
- Forced transfer of technology is fast becoming a moot issue because of recent Chinese liberalisation measures. For example, in the automobile manufacturing industry, Tesla has been able to establish a wholly-owned subsidiary in Shanghai to manufacture electric cars; and even though it is now possible for General Motors to buy out its Chinese joint-venture partner, it has indicated that it does not intend to do so.

Longer-Term Developments

- These latest moves on the part of China and the new, much shortened negative list on foreign direct investment should go a long way towards eliminating the issue of forced technology transfer.
- Commercial cyber-thefts should be vigourously prosecuted, with the collaboration of both governments.
- If Huawei is perceived as a national security risk by the U.S., will the Apple i-phone be considered a national security risk by China eventually?

Longer-Term Developments

- The rise of populist, isolationist and protectionist sentiments in the U.S. and elsewhere in the world will also have significant impacts on international trade and investment (and migration). Even though these sentiments were not created by President Donald Trump, he has been able to tap into them and exploited them very effectively.
- Economic globalisation and innovation benefit every country in the aggregate. However, they also create winners and losers in every country. The free market cannot compensate the losers. It is up to the government of each country to take care of its domestic losers, who naturally oppose economic globalisation and free trade.
- In addition, it is also natural and instinctive for any individual to entertain the feeling of "us" versus "them". And most people believe that all deals are zero-sum, that is, "more for them is less for us, and vice versa". It is therefore a revelation to many that voluntary trade between two countries benefits both, that is, it is in fact win-win.

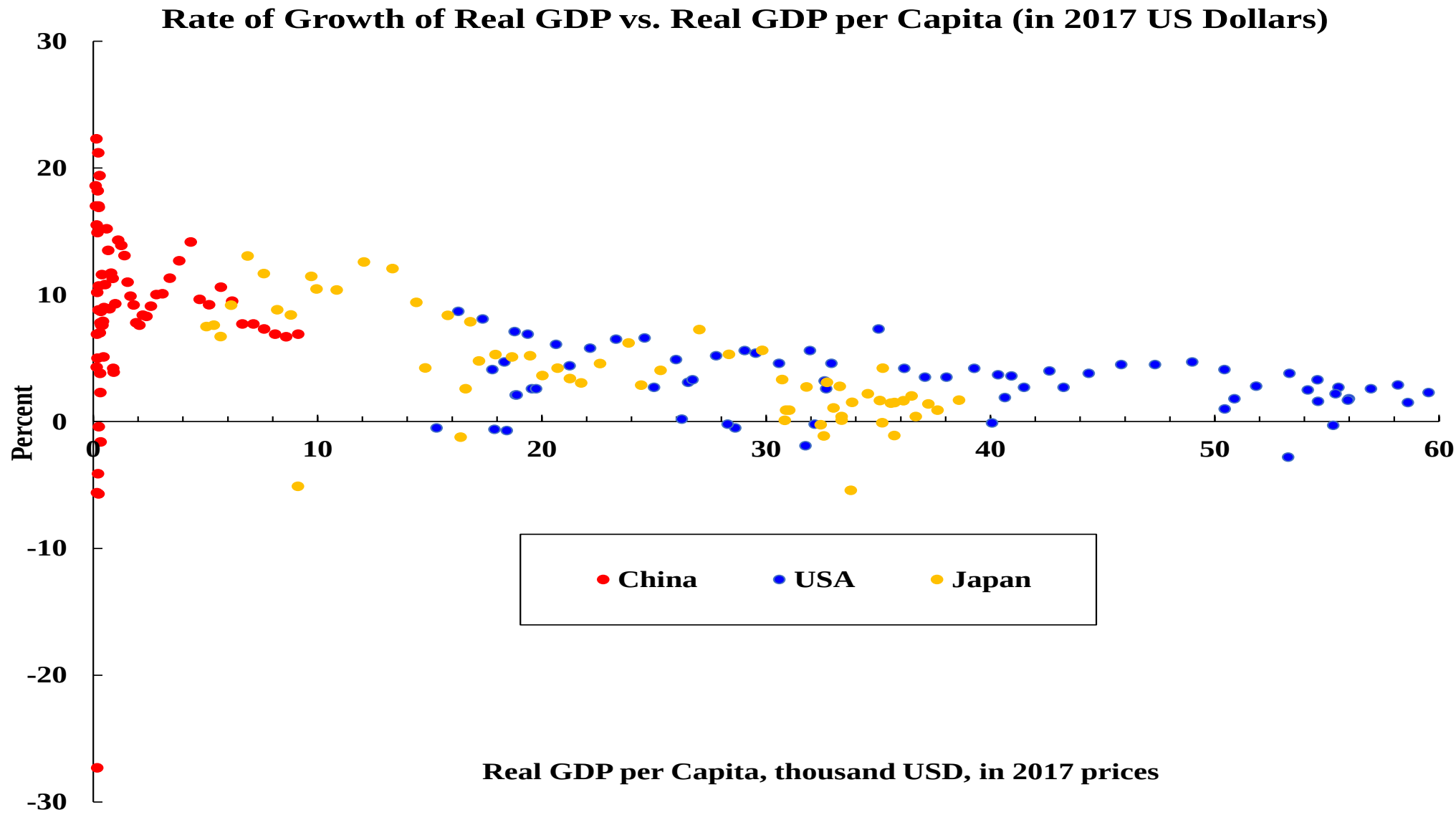
Longer-Term Developments

- Unfortunately, it will take a while before the people at large realise that protectionism is a lose-lose proposition.
- The eventual solution has to be some form of redistribution within each country—taxing the winners to compensate the losers so that everyone wins.
- President Donald Trump also believes that every deal is zero sum--one country's gain must be another country's loss. Moreover, he would like to modify the existing distribution of gains from trade between the U.S. and its trading-partner countries. He believes that the U.S. can achieve much better trade deals by negotiating bilaterally with each single country, taking full advantage of the market size and bargaining power of the U.S. This would work best for the U.S. in a bilateral rather than multilateral context.

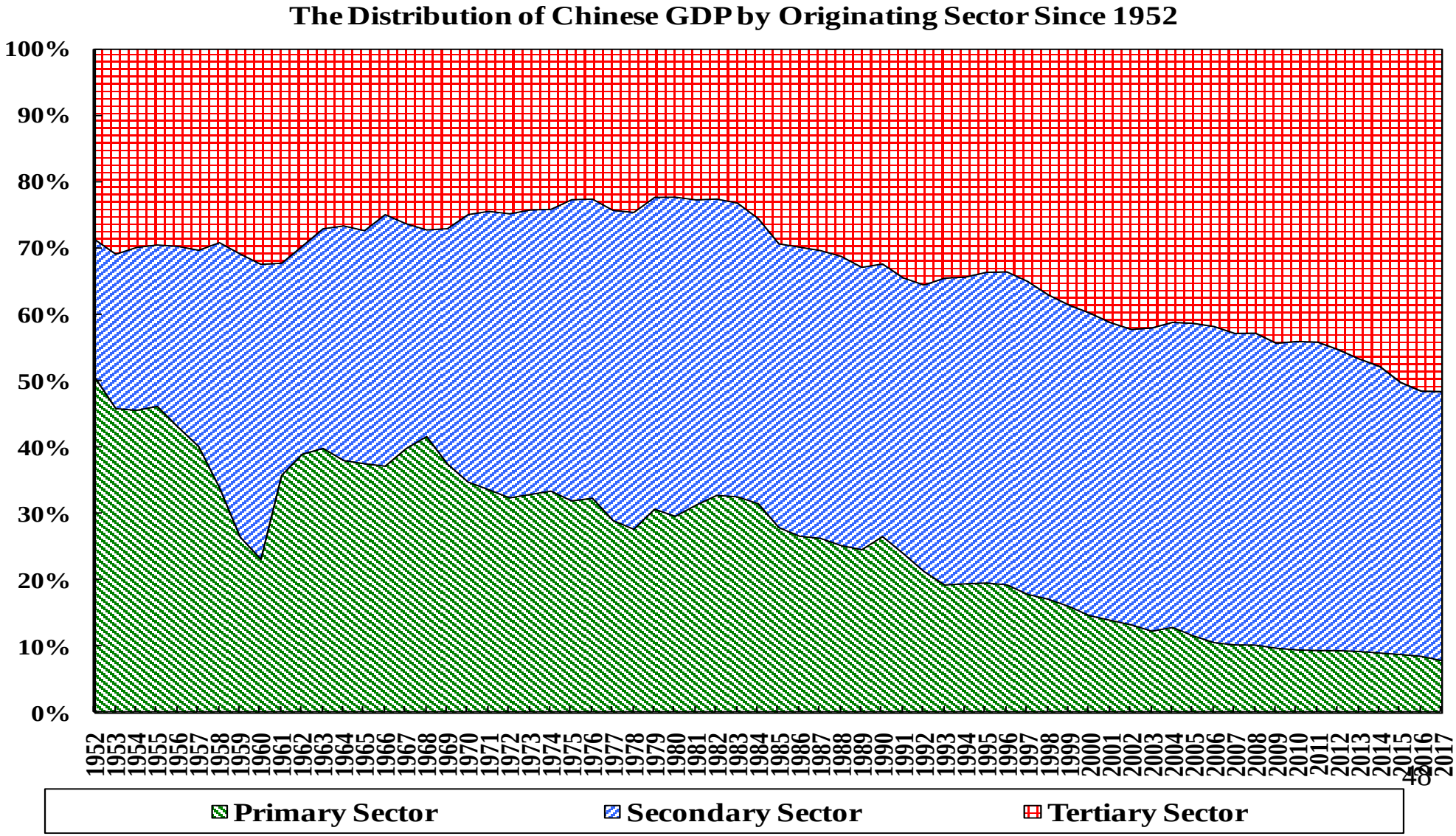
Projections of the Future: Long-Term Forecasts of the Chinese and the U.S. Economies

- It is assumed that the Chinese economy will continue to grow above 6% per annum for a few more years, declining gradually to between 5% and 6%, and that the U.S. economy will grow at an average rate of 3% per annum between now and 2050.
- It may be thought that the Chinese economy will be unable to sustain an average annual rate of growth of between 5% and 6% for such a long time. Experience shows that the rate of growth of an economy declines as its real GDP per capita rises. But given the still relatively low level of real GDP per capita in China (US$9,137), and the low level of its tangible capital per unit labour, such a rate of growth should still be possible for at least several decades (see the following chart in which the experiences of China, Japan and the U.S. are compared.)
- In addition, there is still significant surplus labour in the Chinese economy. The share of employment in the primary sector is around 30% whereas the share of GDP originating from the primary sector is below 10%.
- Innovation will eventually become the principal driver of Chinese economic growth, just as it is of the U.S. today.

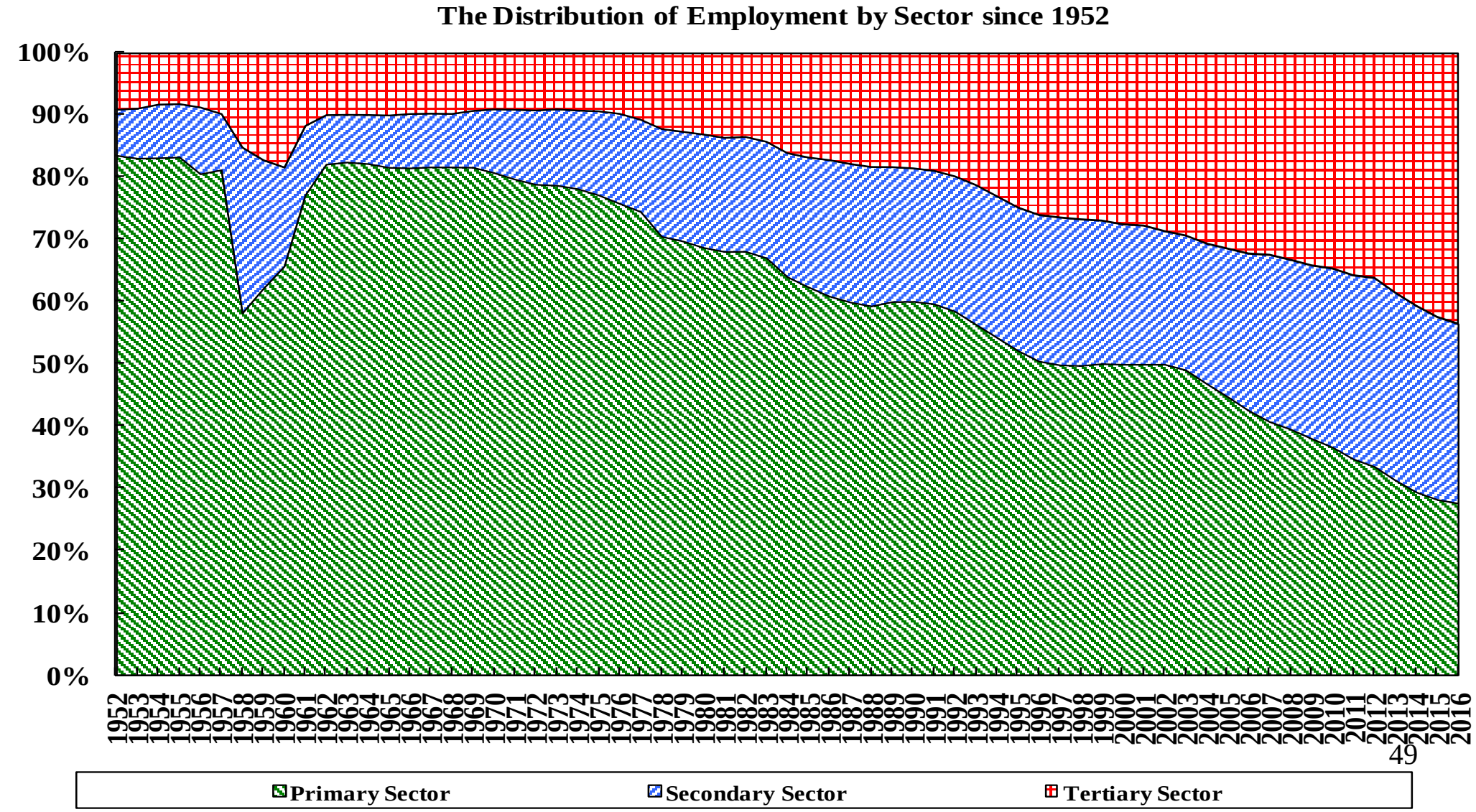
Growth Rate vs. Level of Real GDP per Capita (2017 tril. US$): China, Japan and the U.S.



The Distribution of Chinese GDP by Sector Since 1952



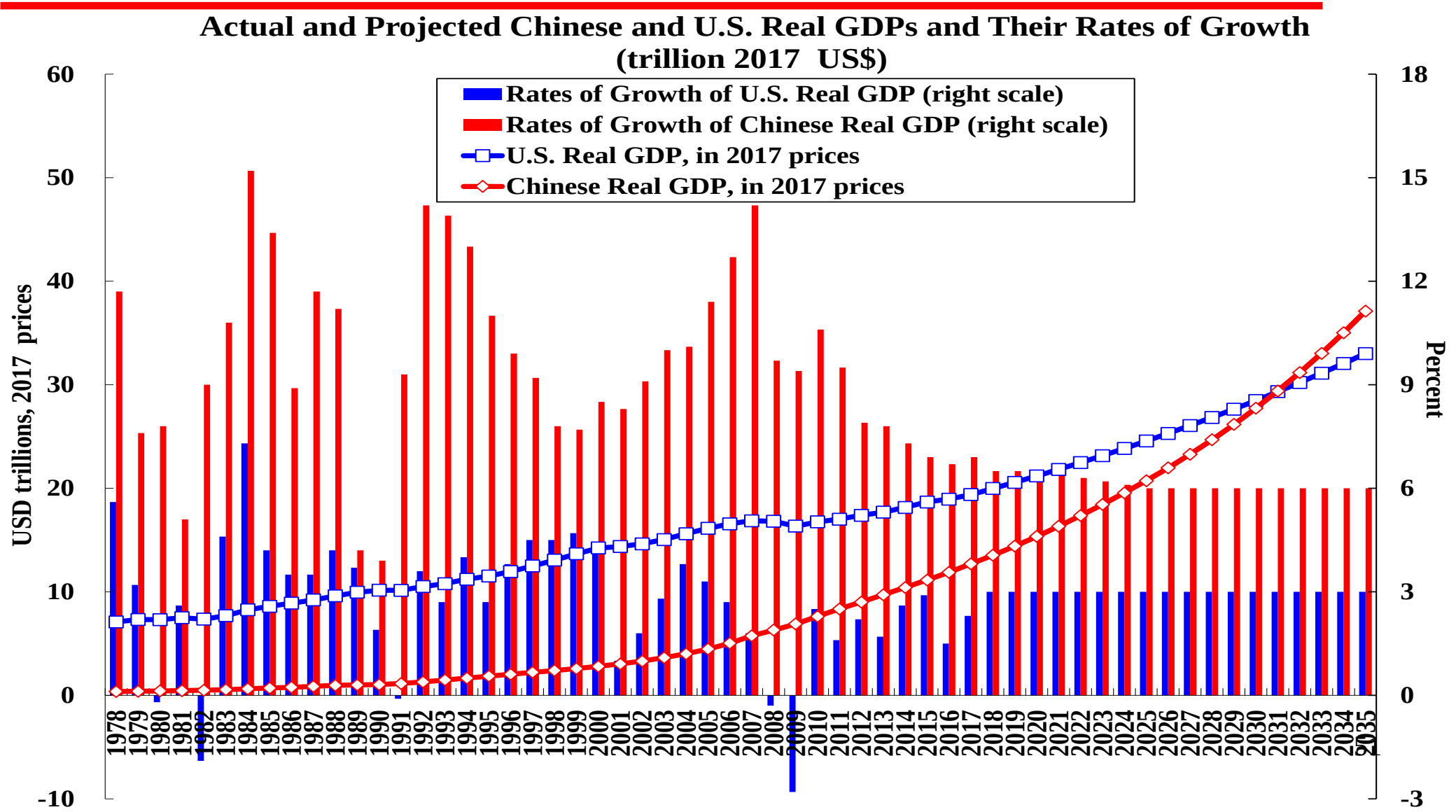
The Distribution of Chinese Employment by Sector Since 1952



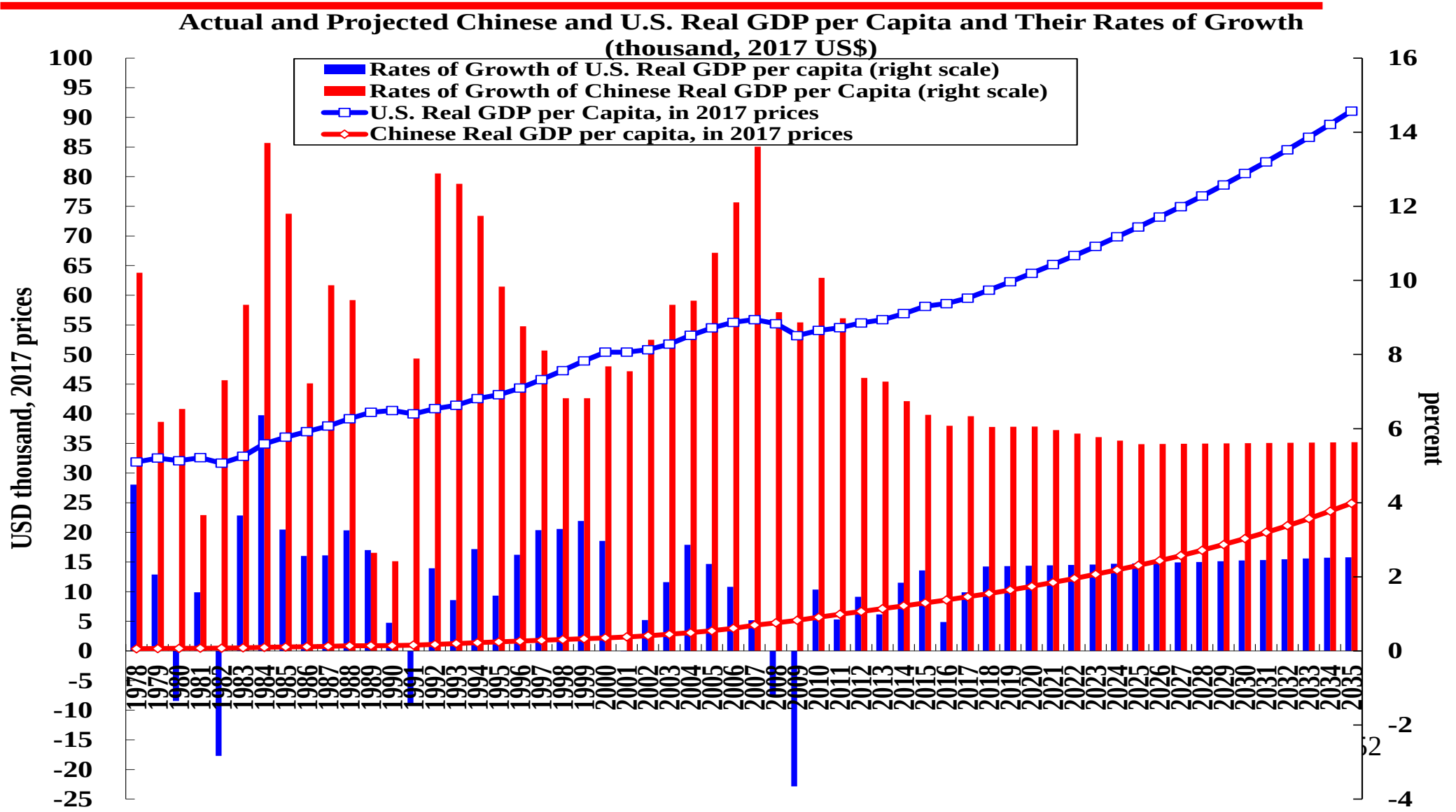
Projections of the Chinese and the U.S. Economies

- In his work report to the Nineteenth National Congress of the Communist Party of China, President XI Jinping identified several Chinese development milestones at 2020, 2035 and 2050.
- The first milestone is to become a moderately well-off society by 2020. Our projections show that by 2020, Chinese real GDP per capita (in 2017 prices) will exceed US$10,898 (compared to US$63,703 for the U.S.).
- Our projections also show that by 2031, Chinese real GDP will surpass U.S. real GDP (US$29.4 trillion versus US$29.3 trillion), making China the largest economy in the world. However, in terms of real GDP per capita, China will still lag behind significantly, with US$20,009 compared to US$82,502 for the U.S.
- By 2050, Chinese real GDP will reach US$82.6 trillion compared to US$51.4 trillion for the U.S. In terms of real GDP per capita, China will reach US$52,870, slightly less than the current level of U.S real GDP per capita, compared to US$134,071 for the U.S.
- It will not be until the end of the 21st Century for the Chinese real GDP per capita to catch up with the U.S. real GDP per capita.

Actual and Projected Levels and Growth Rates of Chinese and U.S. Real GDP (2017 tril. US$)



Actual and Projected Chinese and U.S. Real GDP/ Capita and Their Rates of Growth (1,000 2017 US$)



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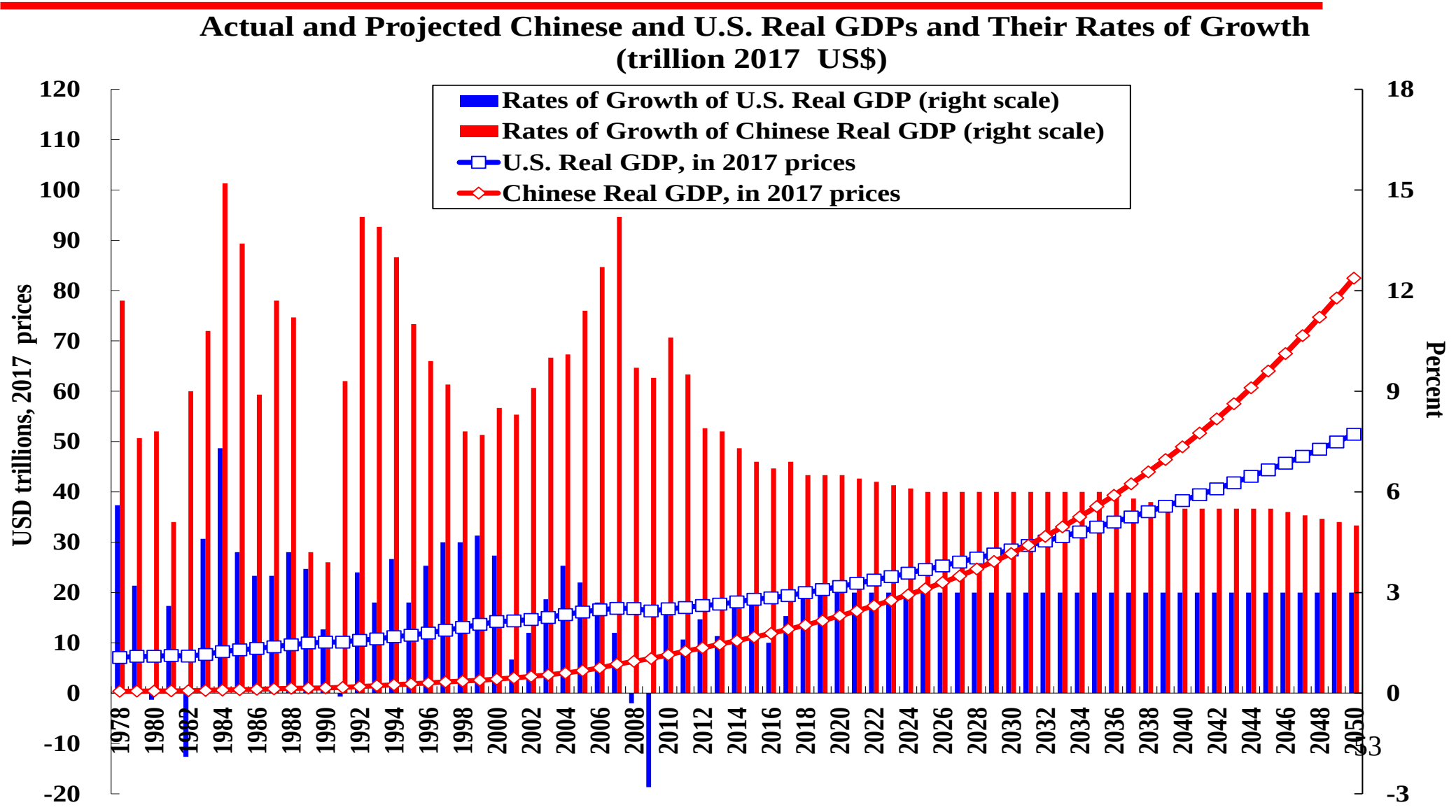

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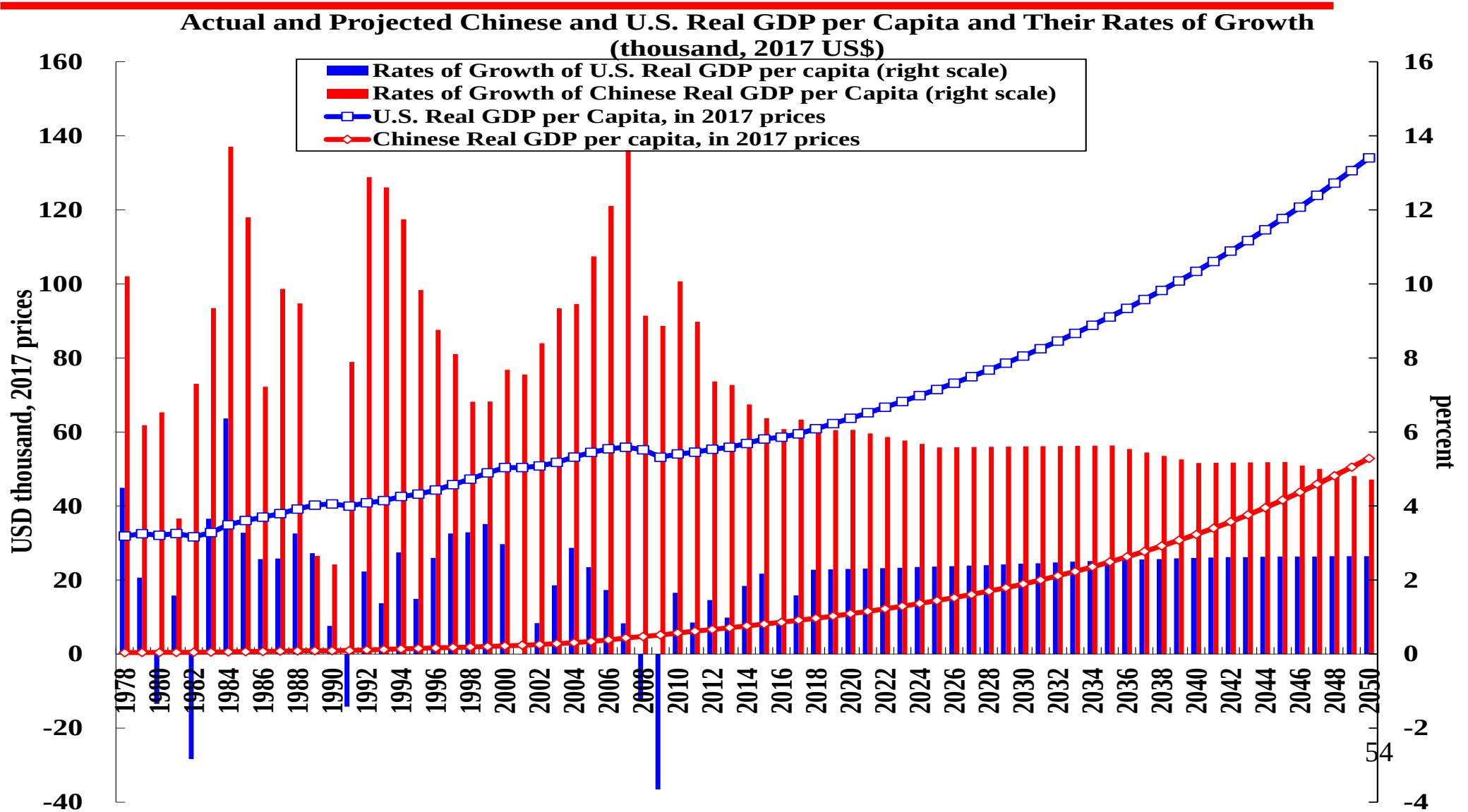


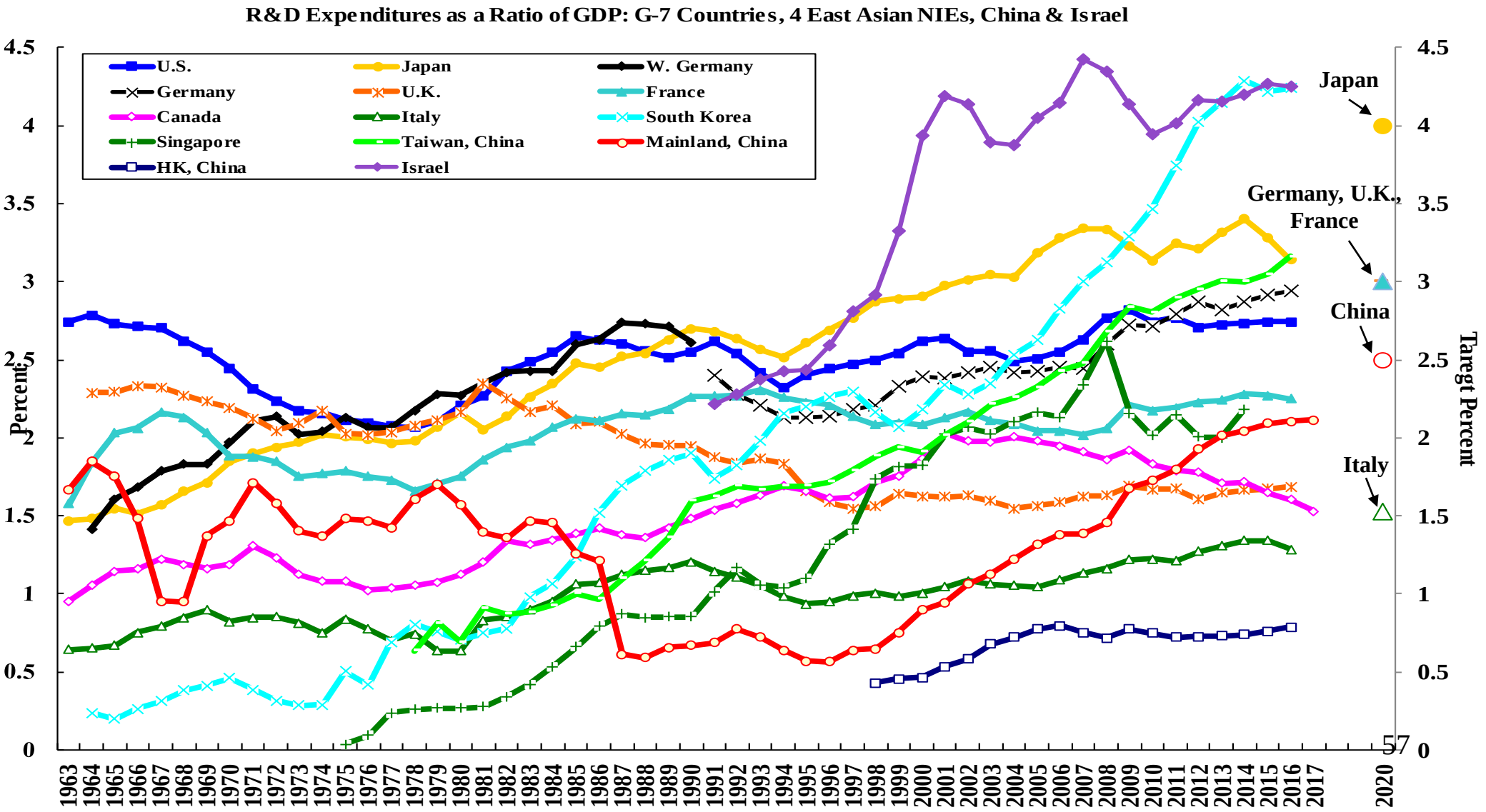
Technological Competition

- Technological competition is motivated by national security considerations as well as commercial considerations.
- No individual or firm will want to give away or sell its core competence. In old China, masters typically do not teach their apprentices everything, unless they are male lineal descendants.
- It should therefore not be surprising that nations will protect their core competences,
- In the case of the atomic bomb—the former Soviet Union developed it independently; China developed it independently, without any foreign assistance; India, Pakistan and even North Korea developed their nuclear bombs independently.
- China will have to develop its own advanced semiconductor, artificial intelligence, and aircraft industries as it may not be able to import the best available from other countries.

Investment in Intangible Capital (Human and R&D Capital)

- Investment in intangible capital (human capital and Research and Development (R&D) capital) is indispensable for innovation.
- The annual expenditure on R&D as percentages of GDP are presented for selected economies in the following chart.
- The chart shows that the U.S. has consistently invested a relatively high percentage of its GDP in R&D, averaging 2.5% since 1963. The East Asian economies, including Mainland China, has been catching up fast, with the exception of Hong Kong.
- China is expected to reach its target of 2.5% of GDP in 2020, approximately the same as the average U.S. share. However, it will still be below the expected or targeted levels of the European countries, Japan and South Korea.

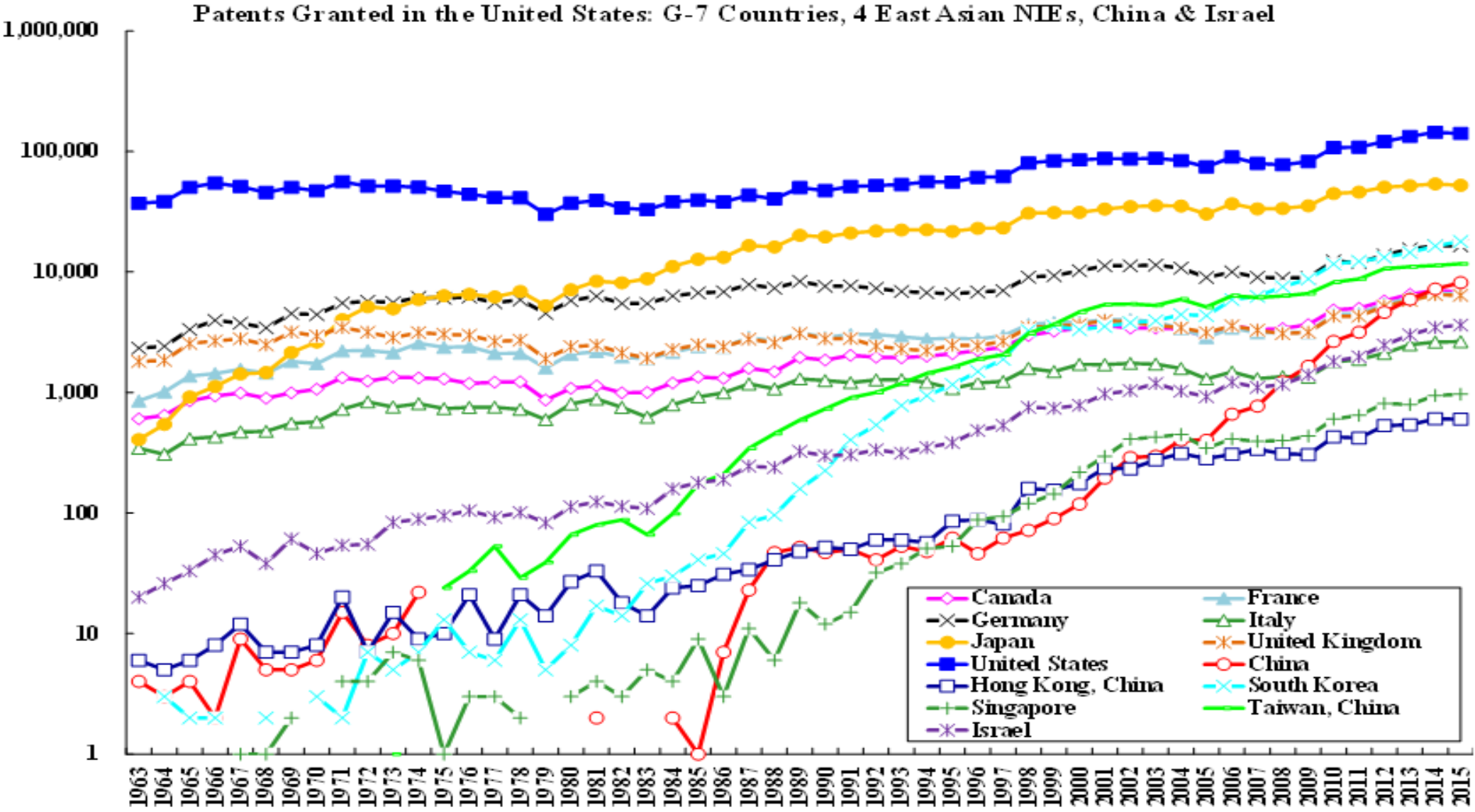
R&D Expenditures as a Share of GDP and Their Target Levels at 2020: G-7 Countries, 4 East Asian NIEs, China & Israel



Investment in Intangible Capital (R&D Capital)

- One indicator of the potential for technical progress 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 140,969 patents granted in 2015, followed by Japan, with 52,409. (Since these are patents granted in the U.S., the U.S. may have a home advantage; however, for all the other countries and regions, the comparison across them should be fair.)
- The number of patents granted to Mainland Chinese applicants each year has increased from the single-digit levels prior to the mid-1980s to 8,166 in 2015.
- The economies of South Korea and Taiwan, granted 17,924 and 11,690 U.S. patents respectively in 2015, were far ahead of Mainland China. In contrast, the number of U.S. patents granted to Hong Kong nationals was only 601 in 2015.

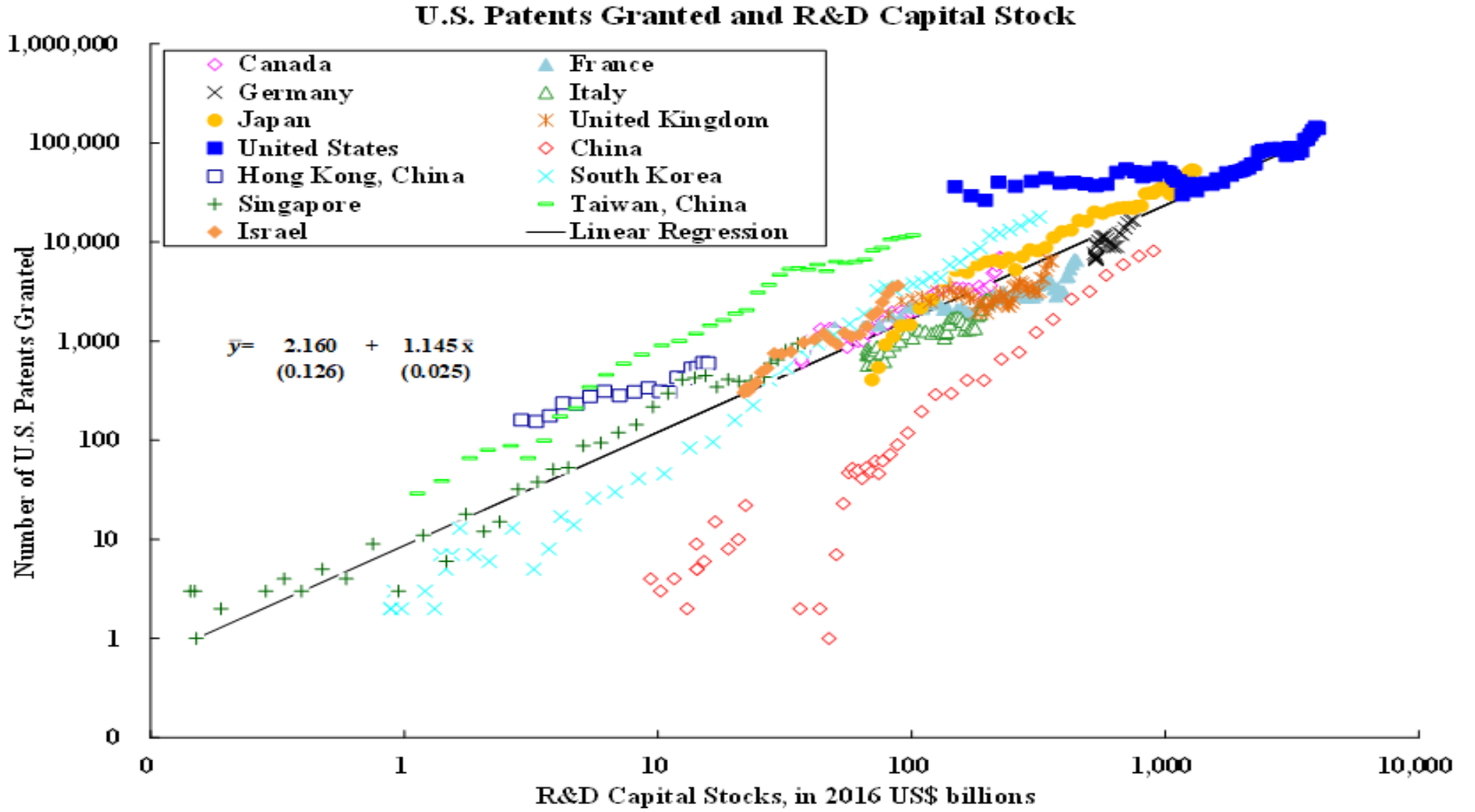
Patents Granted in the United States: G-7 Countries, 4 East Asian NIEs, China & Israel



Investment in Intangible Capital (R&D Capital)

- The R&D capital stock, defined as the cumulative past real expenditure on R&D less depreciation of 10% per year, is an useful indicator of innovative capacity. R&D expenditure should quite properly be treated as investment since R&D efforts generally take years to yield any results.
- The R&D capital stock 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 U.S. patents granted is plotted against the R&D capital stock of that year for each economy).
- The chart shows clearly that the higher the stock of R&D capital of an economy, the higher is the number of patents granted to it by the U.S.

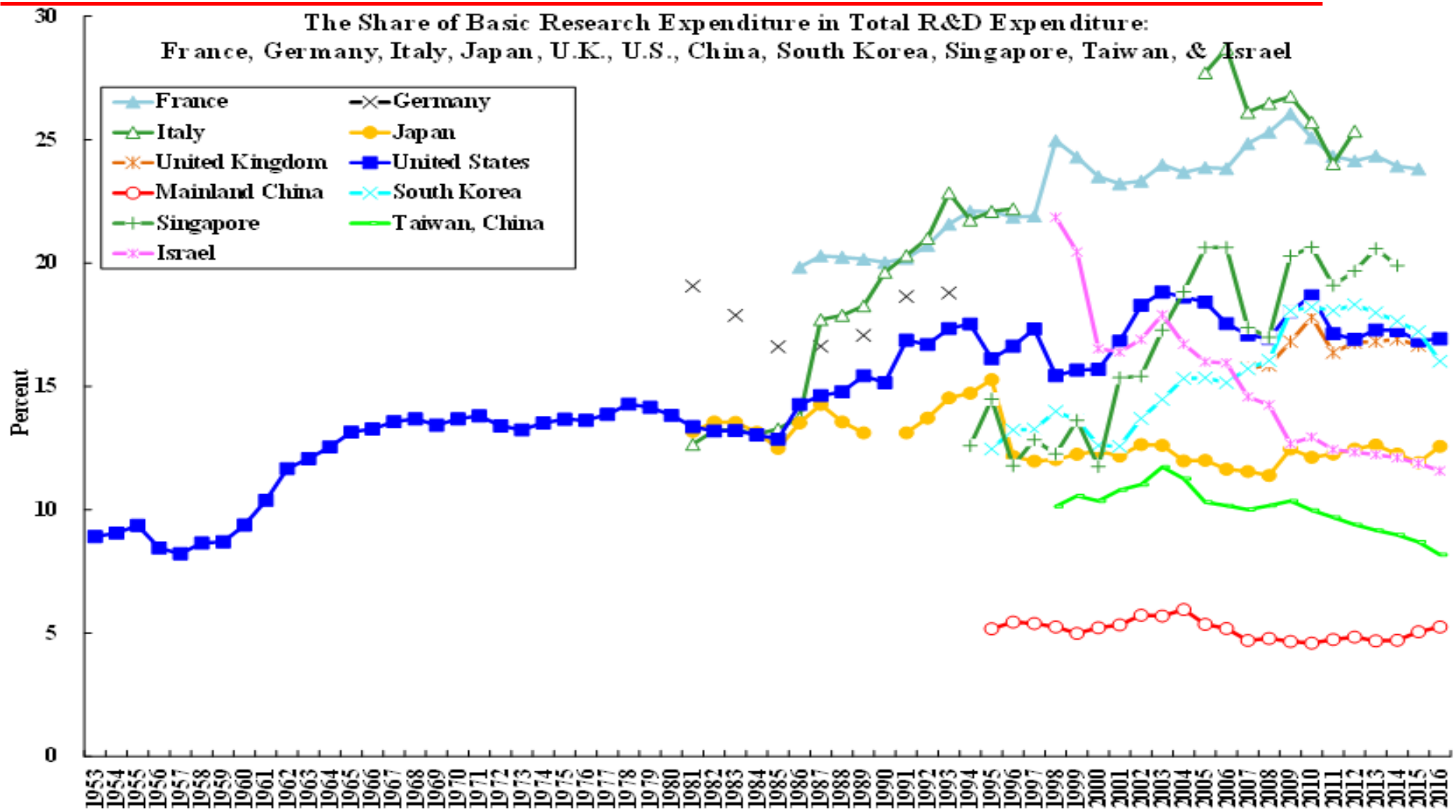
U.S. Patents Granted and R&D Capital Stocks: G-7 Countries, 4 EANIEs, China & Israel



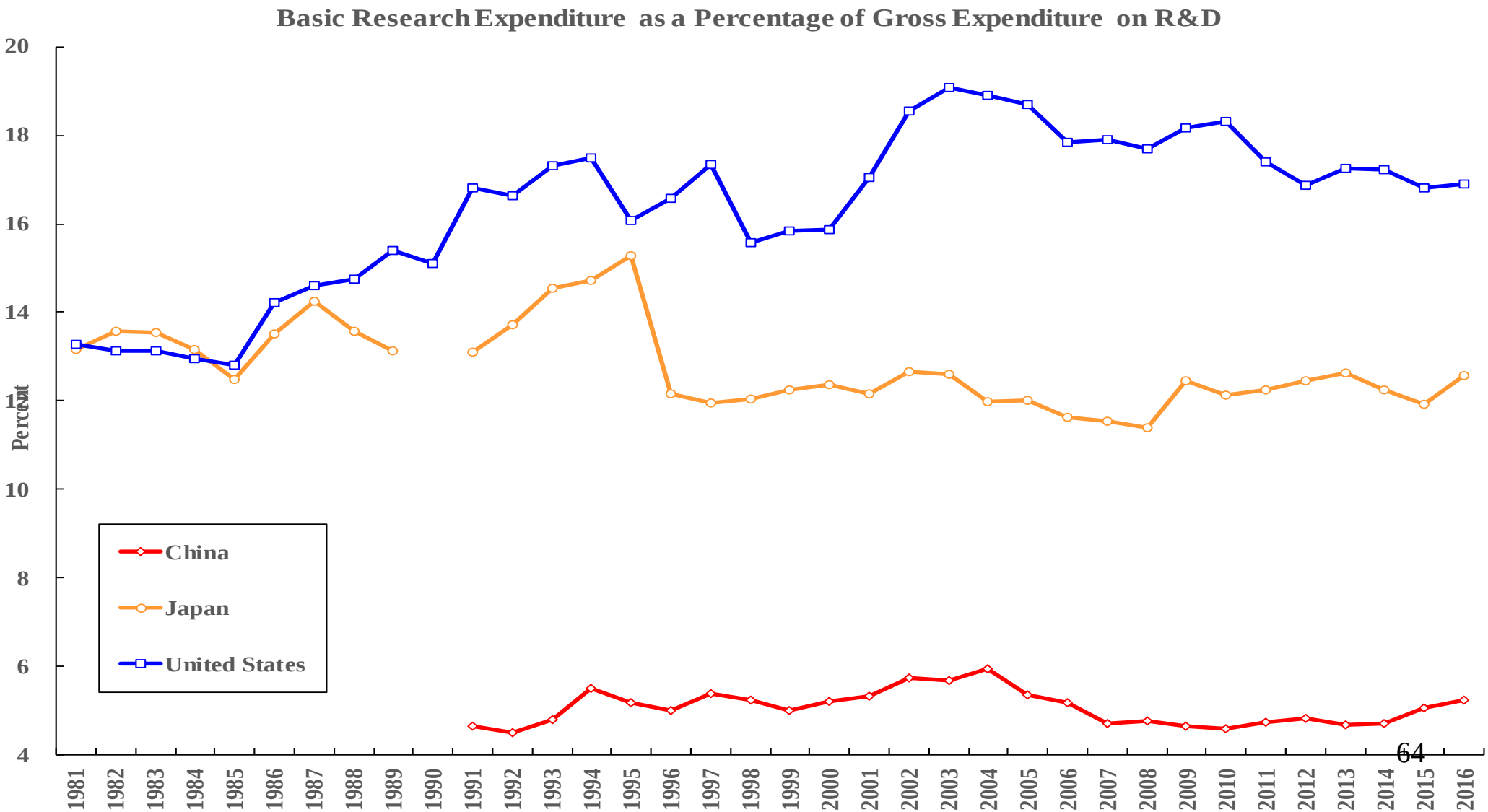
Investment in Intangible Capital (R&D Capital)

- In order for break-through discovery or invention to be made, there must be significant investment in basic research.
- Basic research is by definition patient and long-term research. The rate of return, at any reasonable discount rate, will be low. It must therefore be financed by the government or non-profit institutions and not by for-profit firms.
- The atomic and hydrogen bombs, the nuclear reactors, the internet, the packets transmission technology and the browser are all outcomes of basic research done many years ago.
- However, Chinese investment in basic research has remained low relative to the other major countries (see the following chart). China devoted only 5 percent of its R&D expenditures to basic research, compared to the more than 15 percent of the U.S.

Basic Research Expenditure as a Share of Total R&D Expenditure: Selected Countries



Basic Research Expenditure as a Share of Total R&D Expenditure: Selected Countries



Investment in Intangible Capital (R&D Capital)

- Another problem with Chinese technological development is the frequent duplication of research and development (R&D) efforts. This wastes valuable resources and may even delay significantly the achievement of the R&D objectives.
- An example is the development of an advanced semiconductor manufacturing capability in China. The basic bottleneck in China is not funding, but the scarcity of qualified engineers and scientists. If there are too many such parallel projects going on simultaneously, none of them will have sufficient qualified manpower to make it a success. It will also amount to a huge waste of resources as the establishment of a new manufacturing facility will typically require a minimum of several billion U.S. dollars.

Promoting Mutual Economic Interdependence

- The problem with a trade war is that there are no real winners—both countries lose because the feasible choices open to each of them are reduced.
- Exporters in both countries will be hurt because of the reduction in their exports, and importers in both countries will see their businesses decline. And the consumers and producers who rely on imported goods and inputs in both countries will have to pay higher prices.
- A better way to narrow the U.S. trade deficit with China is for the U.S. to increase its exports of goods and services to China, especially newly created goods and services, for example, by producing and exporting meat (beef, pork and poultry) instead of feed grains (corn and soybeans) to China, and exporting the newly developed liquefied natural gas from Alaska and shale oil from the continental U.S.

Promoting Mutual Economic Interdependence

- Another fast-growing component of U.S. exports of services to China that has huge potential for expansion is education and tourism. The expenditures of Chinese students (currently totalling 350,000) and tourists in the U.S. have been rising rapidly. Moreover, their presence in the U.S. can enhance the understanding between the Chinese and American people and improve long-term ties. U.S. students and tourists in China can also play the same role.
- A further area of significant potential win-win collaboration is the deployment of the excess Chinese savings in the U.S. for the financing of the renovation and upgrading of U.S. basic infrastructure as well as the augmentation of the equity capital of U.S. corporations.

Promoting Mutual Economic Interdependence

- It is difficult to assess which country has benefitted more from their economic relations. China has been able to lift 600 million of its citizens out of poverty, initially through the vast expansion of export-oriented jobs in China that result from China's opening up and accession to the World Trade Organisation (WTO).
- However, the U.S. consumers have benefitted from two decades of low prices for their consumer goods. Had U.S. imports from China stayed at 1994 levels, the U.S. Consumer Price Index would have been 27 percent higher in 2017, or approximately 1 percentage point higher annually.
- Additional benefits for the U.S. include the profits of U.S. corporations earned by their operations within China, such as General Motors and Walmart, as well as the sales of Apple i-phones, which since they are finally assembled within China, are not considered U.S. exports to China.
- This also does not include the benefits that the U.S. has derived from seigneurage, that is, from being the provider of the international medium of exchange.

Concluding Remarks

- The competition between China and the U.S., whether friendly or unfriendly, can be assumed to be an ongoing and long-term one. The trade dispute is only a symptom of the potential possible conflicts between the two countries.
- To reduce the probability of an armed conflict between China and the U.S. down the road, both countries should promote greater mutual economic interdependence, to make their relations win-win, so that a war between them would be unthinkable, just as another war between France and Germany, which fought three wars between them (1870, 1914 and 1939) is not possible today.
- Graham Allison, a professor at the Kennedy School of Harvard University, has written about the inevitability of a China-U.S. war. As a rising power challenges the dominance of an established power, the established power is likely to respond with force. He refers to this "inevitability" as the "Thucydides Trap", drawing on the book by Thucydides, History of the Peloponnesian War.

Concluding Remarks

- China and the rest of the world, except possibly the U.S., will probably continue to uphold the current multilateral trading system under the World Trade Organisation (WTO). After all, they have all benefitted and will continue to benefit from it.
- However, China-U.S. relations, and in fact, China's relations with the rest of the world, in particular with the European Union and Russia, must be carefully managed going forward.