

The China-U.S. Trade War and Future Economic Relations

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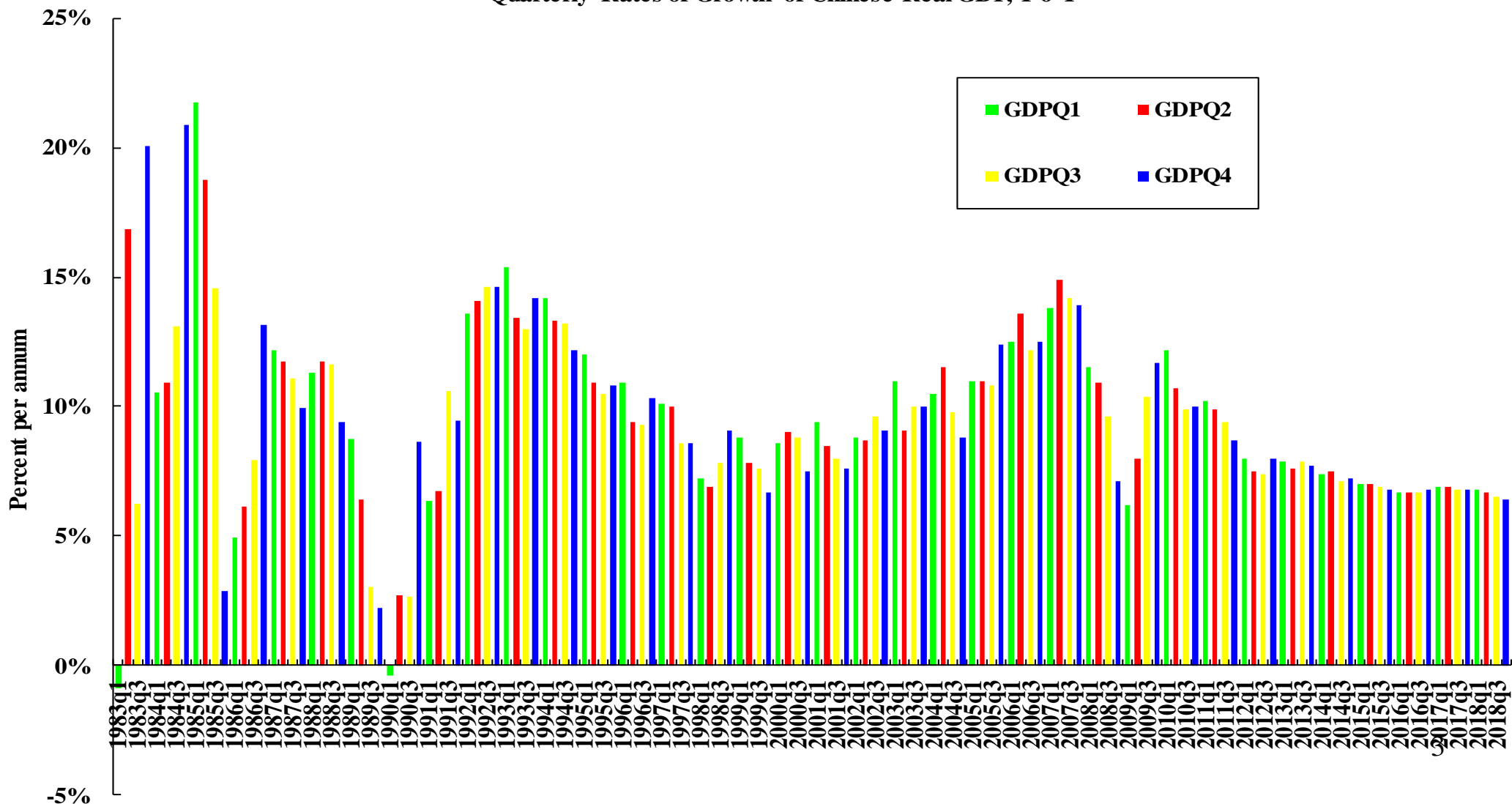
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Introduction

- ◆ The National Bureau of Statistics of China has just reported the whole-year result for the Chinese economy. For 2018 as a whole, the rate of growth of real GDP was 6.6%, exceeding the target of 6.5%. The result also reflects the results of the expectation of a trade war since January 2018 and half a year of U.S. tariffs on Chinese exports to the U.S.
- ◆ The four quarterly year-on-year rates of growth were, from 2018Q1 through 2018Q4, respectively: **6.8%, 6.7%, 6.5% and 6.4%**.
- ◆ Thus far, the trade war does not seem to have done too much noticeable damage to the Chinese economy. The 6.4% rate of growth in 2018Q4 was the lowest rate of growth of the Chinese real GDP since the first quarter of 2009, in the aftermath of the outbreak of the global financial crisis, when it grew 6.2 percent.
- ◆ In the following chart, the quarterly rates of growth of Chinese real GDP, year-on-year, are presented in colour-coded columns (light green for first quarter, red for second quarter, yellow for third quarter and blue for fourth quarter). It is clear from the charts that the rate of growth of Chinese real GDP has stabilised, a soft L-shaped landing.

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

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



Introduction

- ◆ While the immediate direct impacts on the Chinese economy of the China-U.S. trade war have certainly been negative, they are relatively small in real terms and quite manageable for China. There is no need to panic. **The sky is not falling!**
- ◆ But even though the trade war, at least the mutual tariffs, might hopefully end soon, say by early March, economic and technological competition between China and the U.S. is likely to continue for a long time.
- ◆ Moreover, the trade war itself may do damage to the longer-term relations between the two countries.
- ◆ It is also a reflection of the rise of populism, isolationism, nationalism and protectionism almost everywhere in the world, including in the U.S.

Immediate Impacts

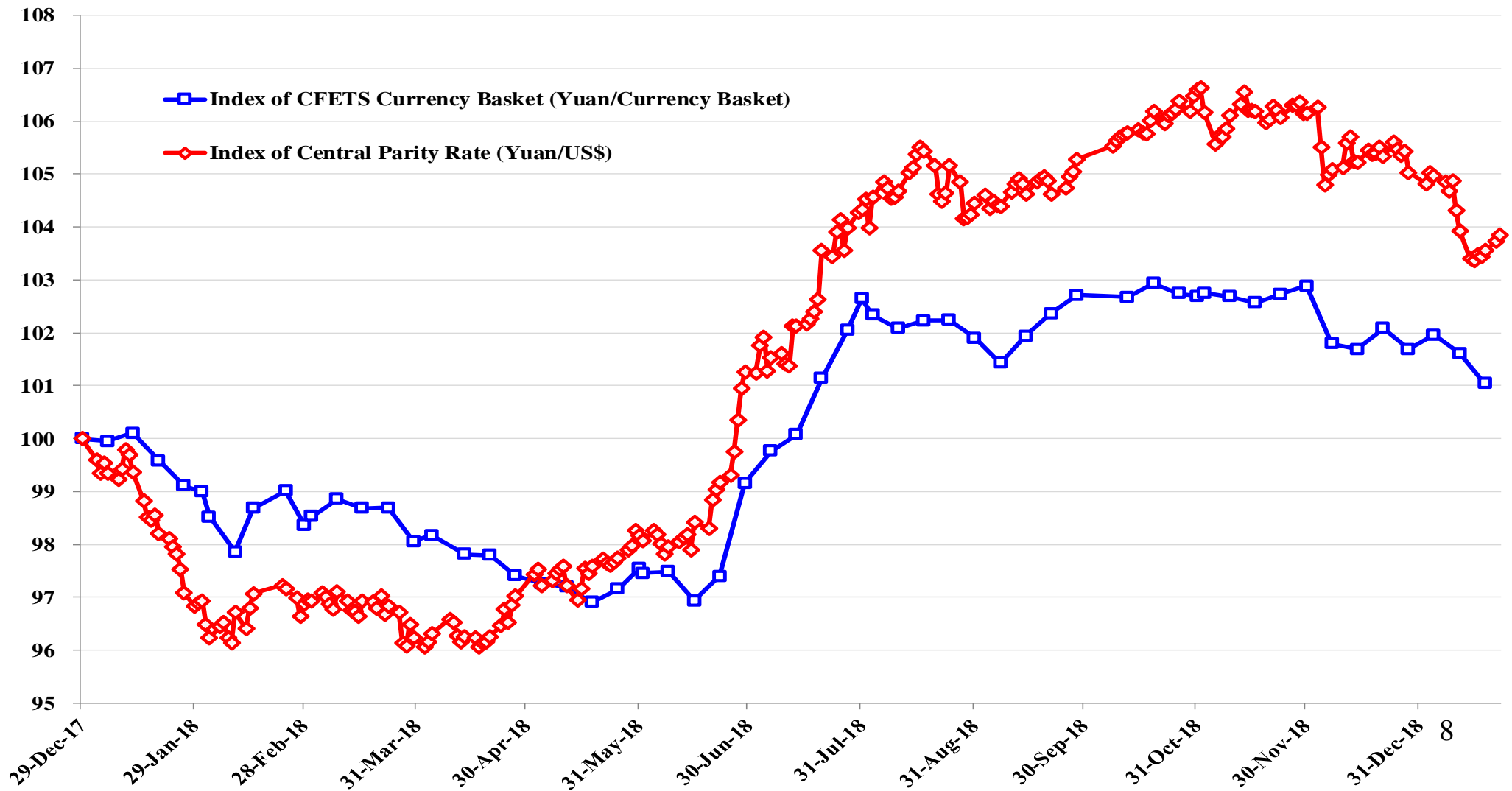
- ◆ The Chinese stock markets have taken a hit. This is an area where the psychological factor dominates. The shares on the Shenzhen Stock Exchange has on average lost 30%, Shanghai 20%, and Hong Kong 10% as of the end of 2018. In contrast, the Standard and Poor 500 Index has not suffered any loss on a whole-year (2018) basis, even though it has begun to fall in 2019.
- ◆ However, the Chinese stock markets are not a good barometer of the state of the Chinese real economy. The majority of Mainland investors are individual retail investors. They are typically short-term traders who tend to leave the market at the first sign of potential trouble. The average holding period of individual Chinese investors is 19 days. The institutional Chinese investors have a slightly--only slightly--longer holding period than the individual retail investors.
- ◆ It should also be borne in mind that the increase in the rate of interest in the U.S. will also affect asset prices around the world negatively.

Immediate Impacts

- ◆ The Renminbi exchange rate has also been affected by the trade war. Relative to the US\$, the Renminbi has devalued by approximately 8% since the end of January 2018 (at one time almost 10%). However, the deviation of the Renminbi central parity rate from the CFETS (China Foreign Exchange Trade System) Index, the exchange rate of a Chinese trade-weighted basket of currencies, has remained within the 3% range. Our focus should be on the central parity rate (onshore rate) rather than the offshore rate and on its relation to the CFETS Index.
- ◆ The Renminbi does not follow the US\$ because the U.S. accounts for only slightly more than 20% of Chinese international trade. For the Renminbi to follow the US\$ when the US\$ rises with respect to other currencies implies that China will raise its price of exports to all her other customers that account for 80% of Chinese exports, which makes very little sense. Similarly, when the US\$ falls with respect to other currencies, if the Renminbi follows the US\$, it will imply that China lowers its price of exports to all her other customers.
- ◆ 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 Renminbi Central Parity Exchange Rate and the CFETS Index

The Central Parity Rate and the CFETS Index, 29 Dec. 2017 = 100

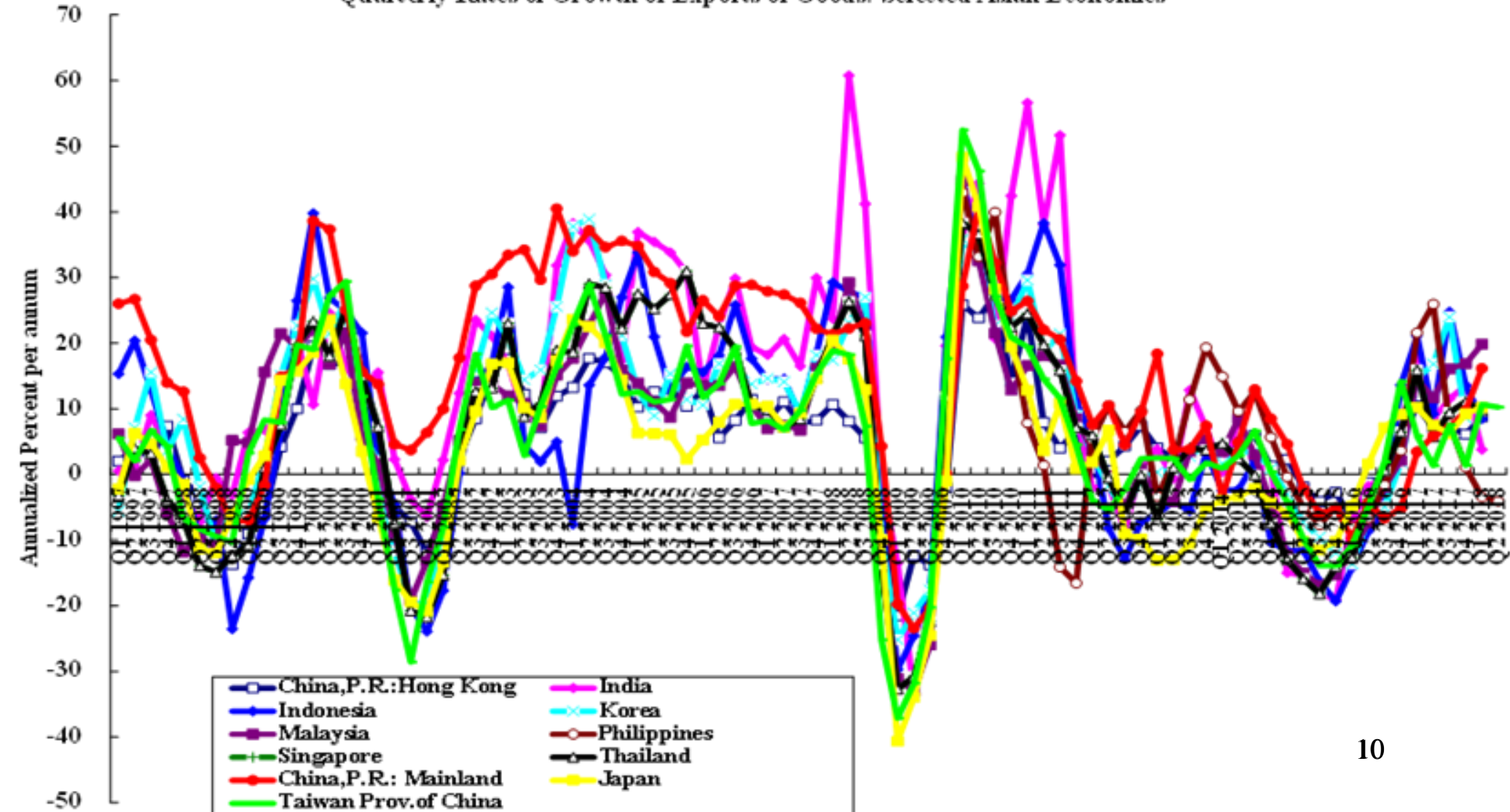


Real Impacts

- ◆ 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 of goods 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).

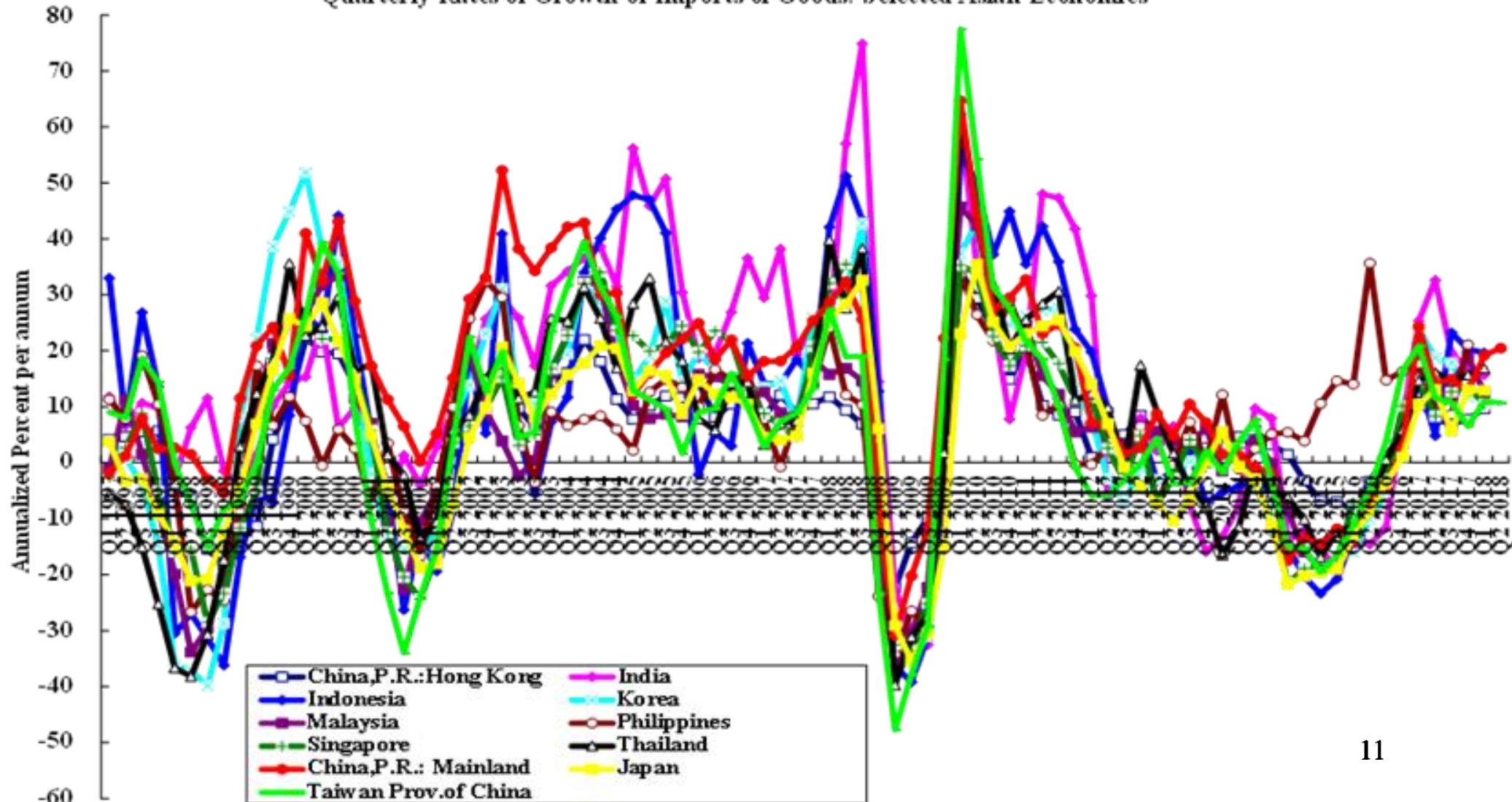
Quarterly Rates of Growth of Exports of Goods: Selected Asian Economies

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

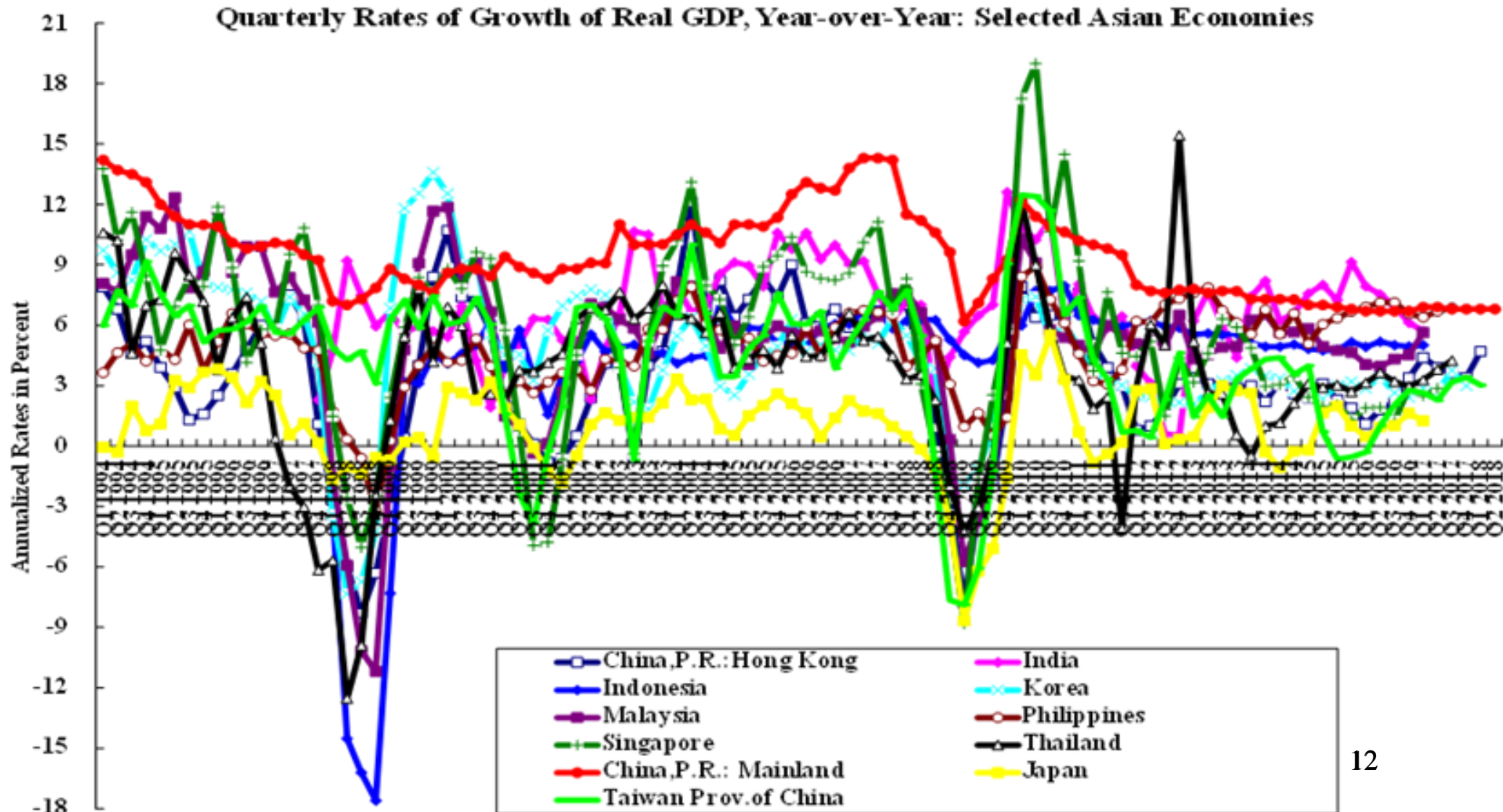


Quarterly Rates of Growth of Imports of Goods: Selected Asian Economies

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



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

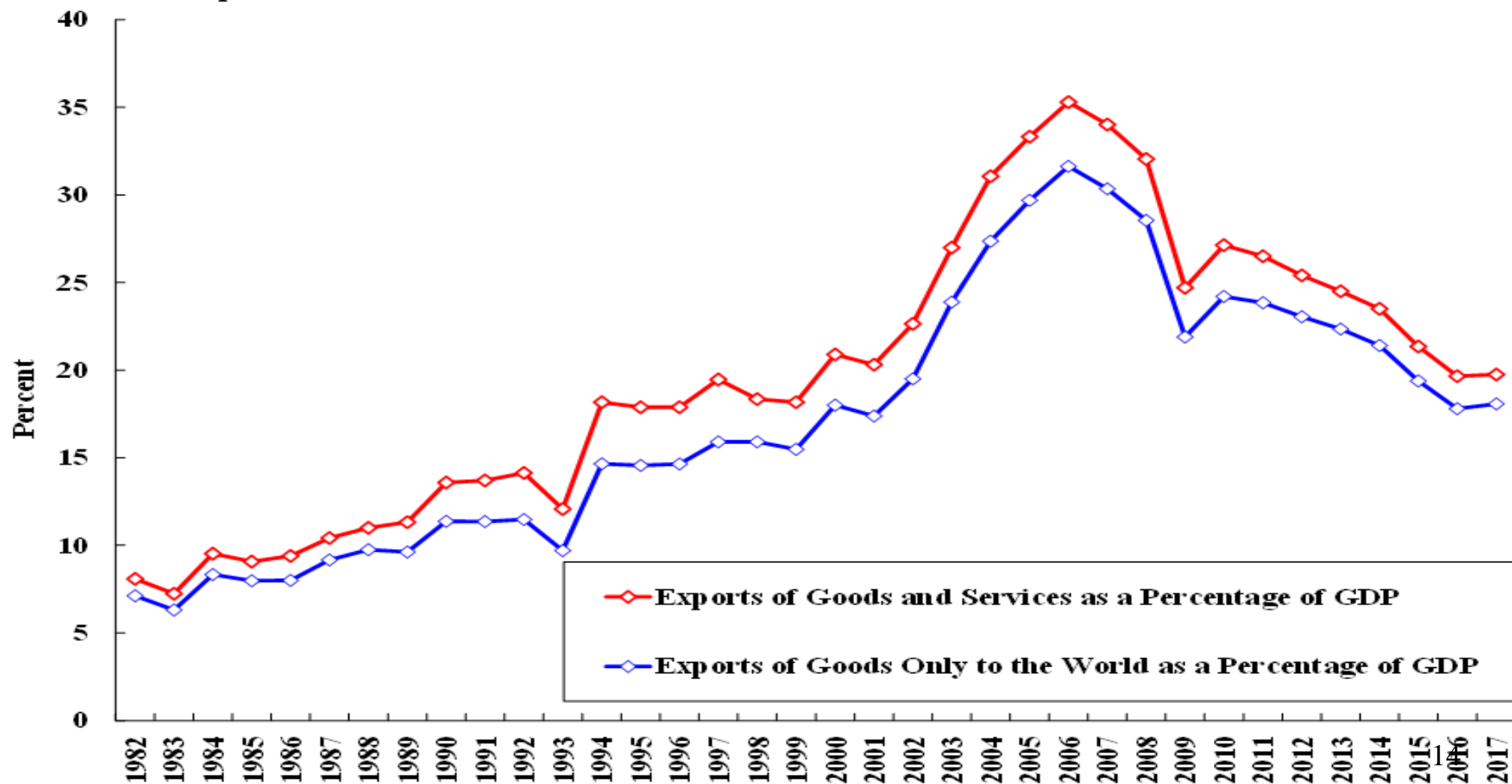


Real Impacts

- ◆ Moreover, Chinese dependence on exports has been declining over the past decade. The share of exports of goods and services 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.

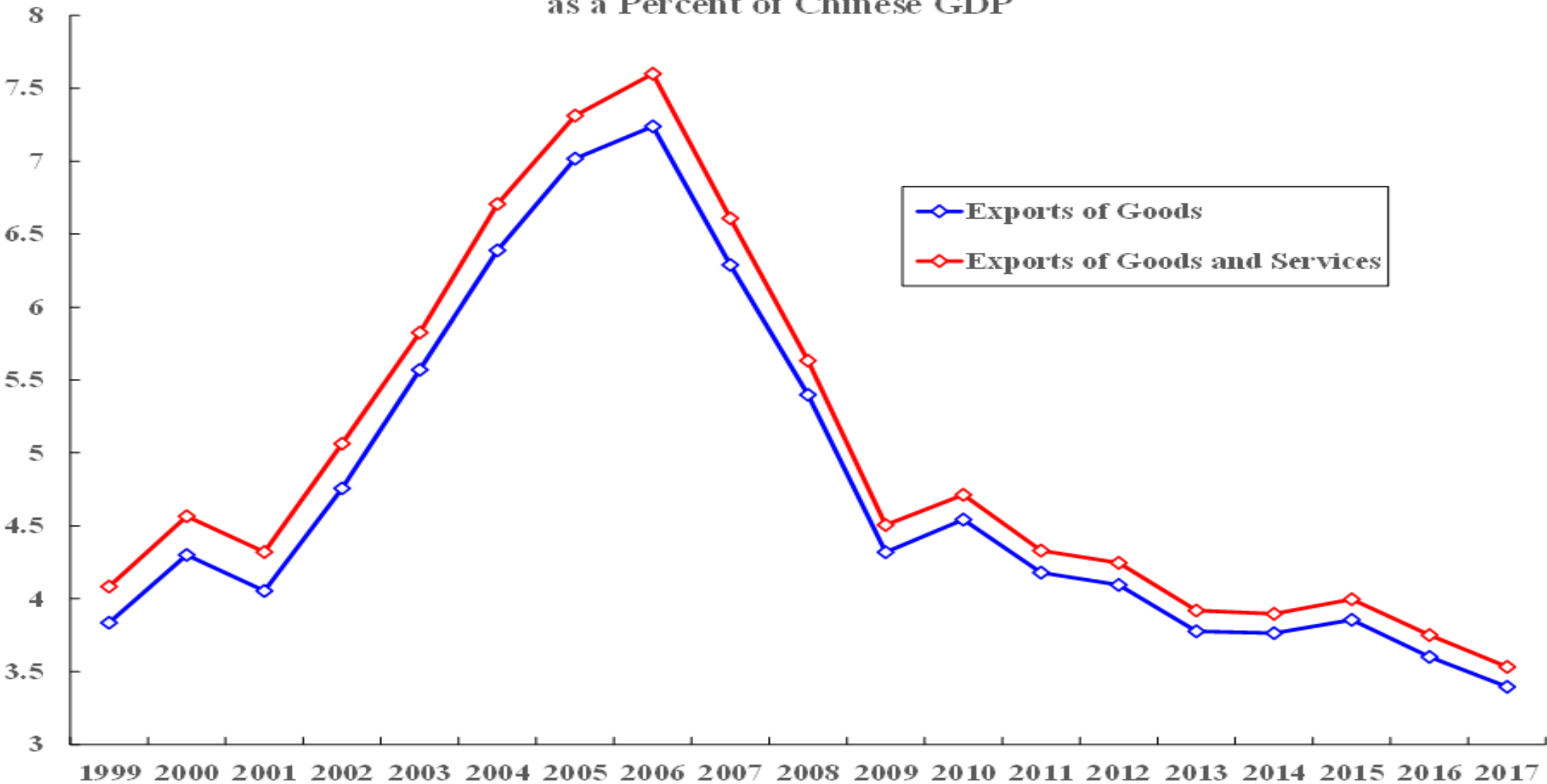
Chinese Exports of Goods and Services and Goods Only as a Percent of Chinese GDP

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



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

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



Real Impacts

- ◆ U.S. tariffs have been imposed on US\$250 billion of U.S. imports of goods from China (arrival value, approximately equal to US\$227 ($250 \times 10/11$) billion of Chinese exports of goods to the U.S., f.o.b. or departure value), equal to half of Chinese exports of goods to the U.S. in 2017.
- ◆ 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 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, especially if the 10% tariff rate is raised to 25%, 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

- ◆ But 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% ($1.7\% \times 0.25$), 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.
- ◆ However, the reduction of exports leads to a reduction in the demand for domestic inputs used in their production, which in turn leads to a second-round reduction in the demand for domestic inputs used in the production of the domestic inputs.
- ◆ 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 will eventually increase to 66 percent cumulatively. This implies ultimately a maximum total loss in Chinese GDP of 1.12% ($1.7\% \times 0.66$). In absolute terms, this amounts to US\$137 billion in 2017 prices.

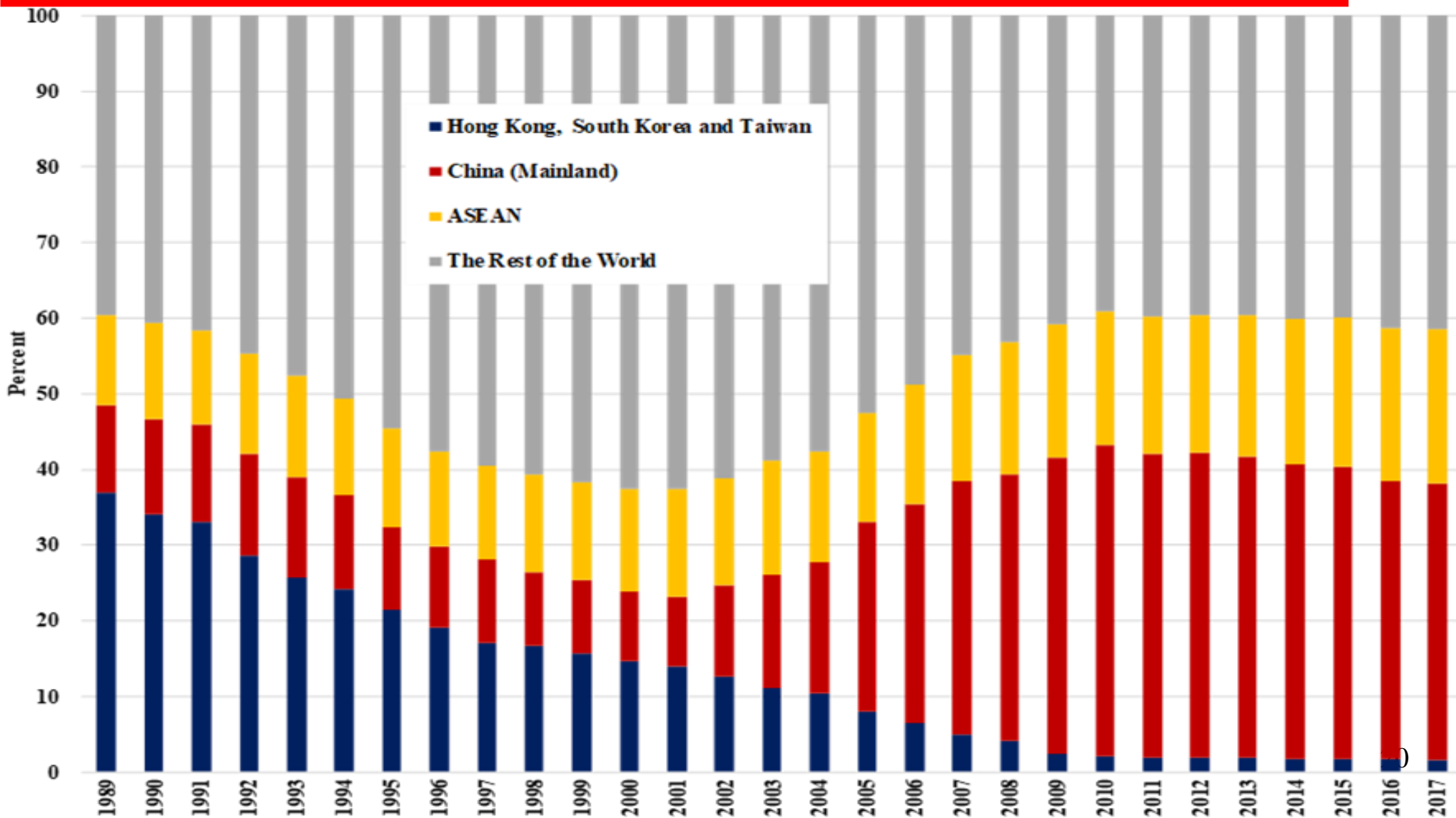
Real Impacts on the Chinese Economy

- ◆ 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 3.7% for the world in 2018 projected by the International Monetary Fund (IMF). The IMF has recently lowered its projected rates of growth of world GDP for 2019 and 2020 to 3.5% and 3.6% respectively.
- ◆ There is also the threat of a 25% tariff on the remaining US\$267 billion Chinese exports of goods to the U.S. Since a 25% tariff is basically prohibitive, if implemented, it will mean the total cessation of Chinese exports of goods to the U.S. The maximum damage that can be done is 2.24% ($3.4\% \times 0.66$) of GDP, which is significant but not intolerable.
- ◆ However, it seems unlikely that the tariffs on this last batch of Chinese exports to the U.S. will be implemented in full because they consist of products such as the Apple iPhones, garments and shoes and packaged semi-conductors. The incidence of the tariffs will be mostly borne by U.S. consumers and producers. (One incidental beneficiary will be Samsung of South Korea whose Galaxy cellphones compete with the iPhones.)

Real Impacts on the Chinese Economy

- ◆ In the longer run, if 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

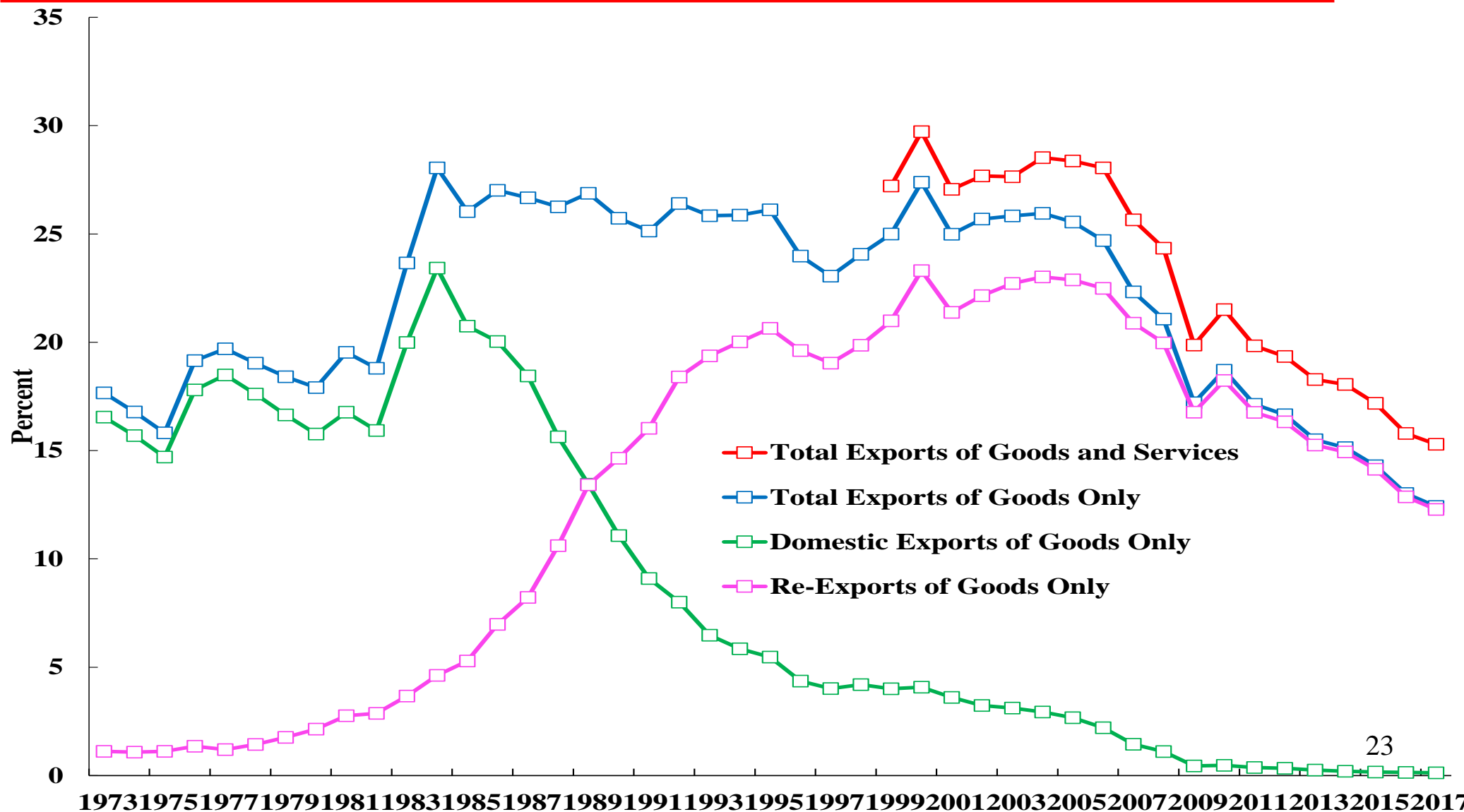
- ◆ Even though the real impacts on the Chinese economy in the aggregate are relatively small, they can be more significant for individual specific municipalities and provinces, especially those oriented towards exports.
- ◆ Guangdong, including Shenzhen, is the largest exporting region in China, followed by Shanghai and then Zhejiang. Even then, Guangdong 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% ($8.7\%/2 \times 0.25$). Such a decline in GDP is perfectly manageable by Guangdong as the real rate of growth of its GDP was 7.5% (Guangdong Statistical Bureau (http://www.gdstats.gov.cn/tjzl/tjgb/201803/t20180302_381919.html, Retrieved 10/2/2019)), and its GDP per capita was US\$12,909 in 2017.
- ◆ If the total cumulative, direct and indirect, effects are included, the loss in Guangdong GDP will rise to 2.87% ($8.7\%/2 \times 0.66$). 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 4.5% per annum.
- ◆ The real GDP of Guangdong Province grew 6.8% in 2018 (Guangdong Statistical Bureau (http://www.gdstats.gov.cn/tjzl/tjkx/201901/t20190129_421942.html, Retrieved 10/2/2019)), a decline of only 0.7 percent from 2017, showing that the the real impacts of the trade war were so far quite small, even for the most export-oriented province. However, the real impact may be higher in 2019 if the U.S. tariffs continue.

Exports to the U.S. as a Percent of GDP: Hong Kong

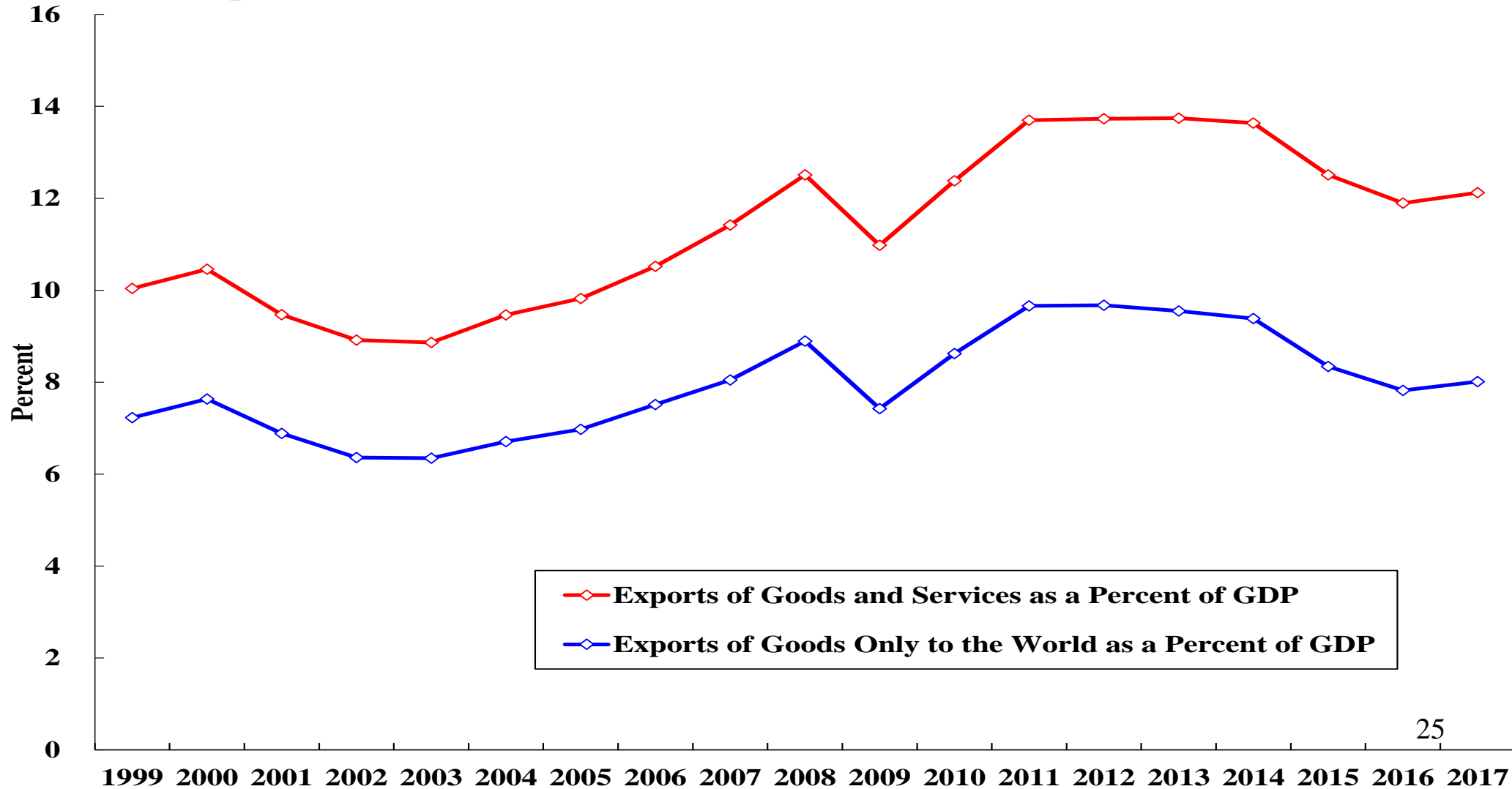


Real Impacts on the U. S. Economy

- ◆ The dependence of the U.S., a large continental economy, on exports is even lower than that of China. 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.

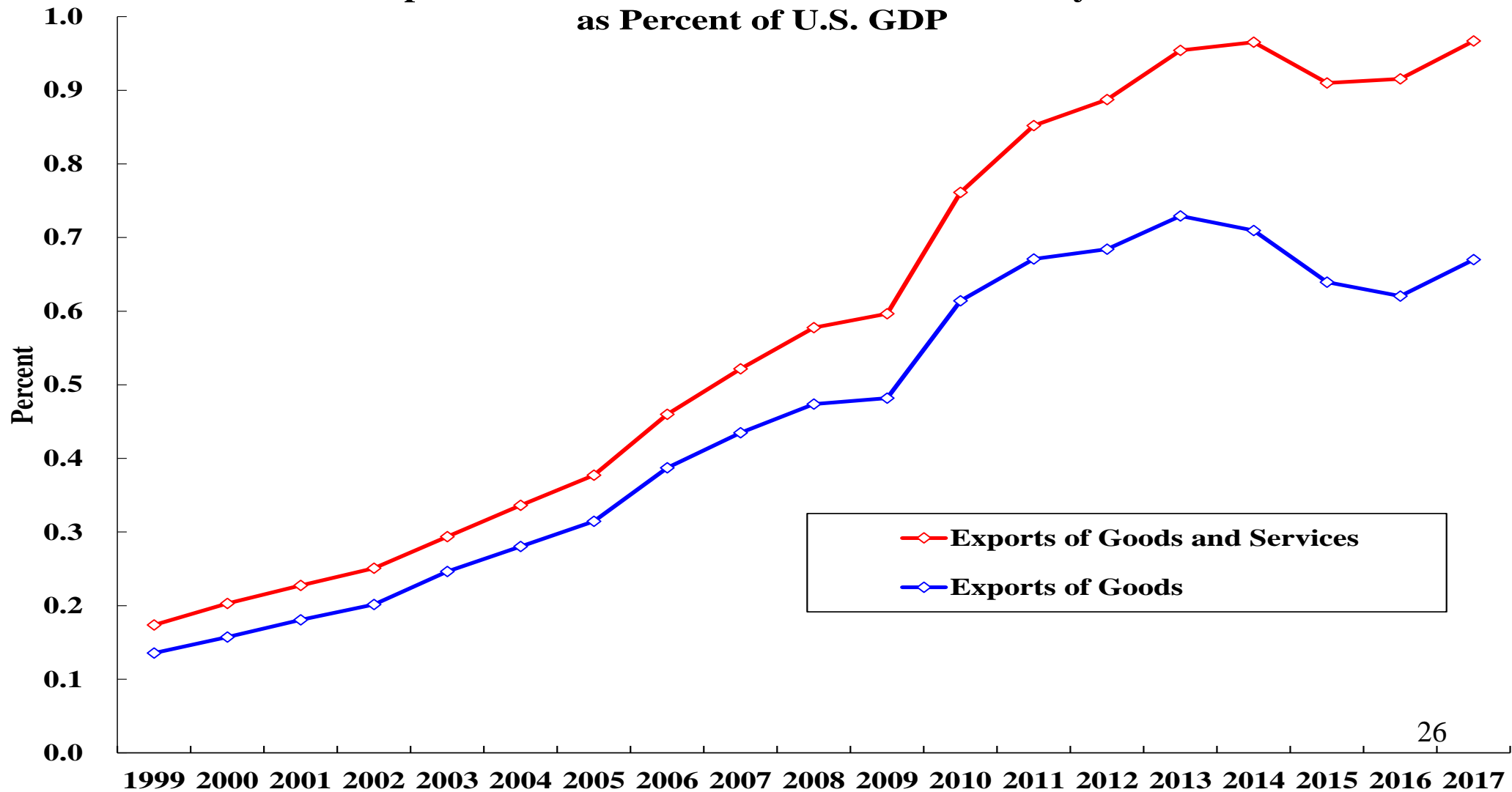
U.S. Exports of Goods and Services and Goods Only as Percent of U.S. GDP

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



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

**U.S. Exports of Goods & 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 the U.S., assuming that all of the exports to China is completely halted by the tariffs, may be estimated in the first instance at 0.34% ($0.67\% \times 0.508$), less than the initial impact on Chinese GDP of 0.43%.
- ◆ Moreover, it is unlikely that all of the U.S. exports of goods will be halted; for example, computer chips will continue to be imported by China in large quantities in the medium term. 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 whole, 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 affected increases to 88.7% cumulatively. This implies ultimately a total loss in U.S. GDP of 0.30% ($0.67\%/2 \times 0.887$), assuming that half of U.S. exports to China will be halted.
- ◆ In absolute terms, this amounts to US\$58 billion (0.30×19.4 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.

Reconstructed China-U.S. Bilateral Trade Balances Based on Gross Value of Exports

- ◆ The official U.S. estimate of the U.S.-China trade deficit in goods only in 2017 is US\$376 billion. The official Chinese estimate is US\$278 billion.
- ◆ However, these numbers suffer from a number of imperfections.
- ◆ First, exports of goods are measured by the exporting country as either f.o.b. (free on board) or f.a.s. (free alongside ship), and imports of goods as c.i.f. (cost, insurance and freight) or customs basis, so that the measured imports of the importing country is always larger than the measured exports of the exports country.
- ◆ Second, they do not necessarily include re-exports via third countries/customs territories such as Hong Kong. This includes both re-exports of Chinese goods to the U.S. and re-exports of U.S. goods to China through Hong Kong.
- ◆ Third, they do not include trade in services, in which the U.S. has a large surplus estimated to be US\$40 billion by the U.S. and US\$54 billion by China for 2017.

Reconstructed China-U.S. Bilateral Trade Balances Based on Gross Value of Exports

- ◆ If all these appropriate adjustments are made, the U.S.-China overall trade deficit in goods and services combined in 2017 may be estimated as US\$ 254 billion. This is still a very large number, but considerably smaller than the often-mentioned U.S.-China trade deficit in goods only of US\$376 billion.

U.S.-China Bilateral Trade Deficit Based on Value-Added of Exports

- ◆ However, as mentioned above, the gross value of exports does not reflect the real benefit of exports to the exporting country. What really matters is the GDP created by the exports, that is, the domestic value-added of the exports.
- ◆ As an example, consider the Apple iPhone, an export of China since it is finally assembled by Foxconn (Hon Hai Precision Industry Co., Ltd. of Taiwan) in China. The value of an iPhone is at least US\$600 whereas the Chinese domestic value-added is less than US\$20, with a value-added content of at most 3.3%.
- ◆ The average direct domestic value-added content of Chinese exports of goods to the U.S. is less than 25%. Including all the indirect, that is, second-, third-, fourth- and higher-round effects of the reduction of Chinese exports, the total domestic value-added content affected will increase eventually to 66 percent cumulatively.

U.S.-China Bilateral Trade Deficit Based on Value-Added of Exports

- ◆ The direct domestic value-added content of U.S. exports of goods to China may be estimated to be 50.8%. Including all the indirect, that is, second-, third-, fourth- and higher-round effects of the reduction of U.S. exports of goods, the total domestic value-added affected increases to 88.7% cumulatively.
- ◆ Using these estimates of the domestic value-added contents of Chinese and U.S. exports of goods to each other, the U.S.-China trade deficit in goods and services combined in terms of total value-added may be estimated as US\$111 billion in 2017, less than a third of the often-mentioned U.S.-China trade deficit in goods only of US\$376 billion. Closing a value-added trade gap of this magnitude within a few years appears quite feasible.

U.S.-China Bilateral Trade Deficit Based on Value-Added of Exports



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 as initiatives aimed in part at containing China. 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 in the aggregate, 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 21st 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 insufficient 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. Today, China grants the largest number of patents in the world, over 300,000 a year. And Chinese inventors and discoverers, just like their foreign counterparts, will want their intellectual property rights protected.

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, including the sharing of the technology. 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.

Longer-Term Developments

- ◆ Forced transfer of technology is fast becoming a moot issue because of recent Chinese liberalisation measures, including the abolition of the joint-venture requirement. For example, in the automobile manufacturing industry, Tesla has been able to establish a wholly-owned subsidiary in Shanghai to manufacture electric cars; BMW has been able to increase its ownership stake in its Chinese automobile-manufacturing joint-venture to 75 percent; 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. Allianz of Germany has been allowed to establish a wholly-owned insurance holding company in China. If a foreign direct investor is not required to take an equal domestic joint-venture partner, there is no transfer of technology, and certainly no forced transfer of technology.
- ◆ The expectation is that China will continue to open its economy to trade in goods and services and to both inbound and outbound direct investment₃₈

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.
- ◆ The best solution is for China to grant national treatment to all foreign direct investors on a reciprocal basis (with national security consideration being the only exception).
- ◆ Commercial cyber-thefts should be vigorously prosecuted, with the collaboration and cooperation of both governments.

Longer-Term Developments

- ◆ The rise of populist, isolationist, nationalist 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 instinctively and naturally oppose economic globalisation and free trade.
- ◆ In addition, it is also instinctive and natural 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

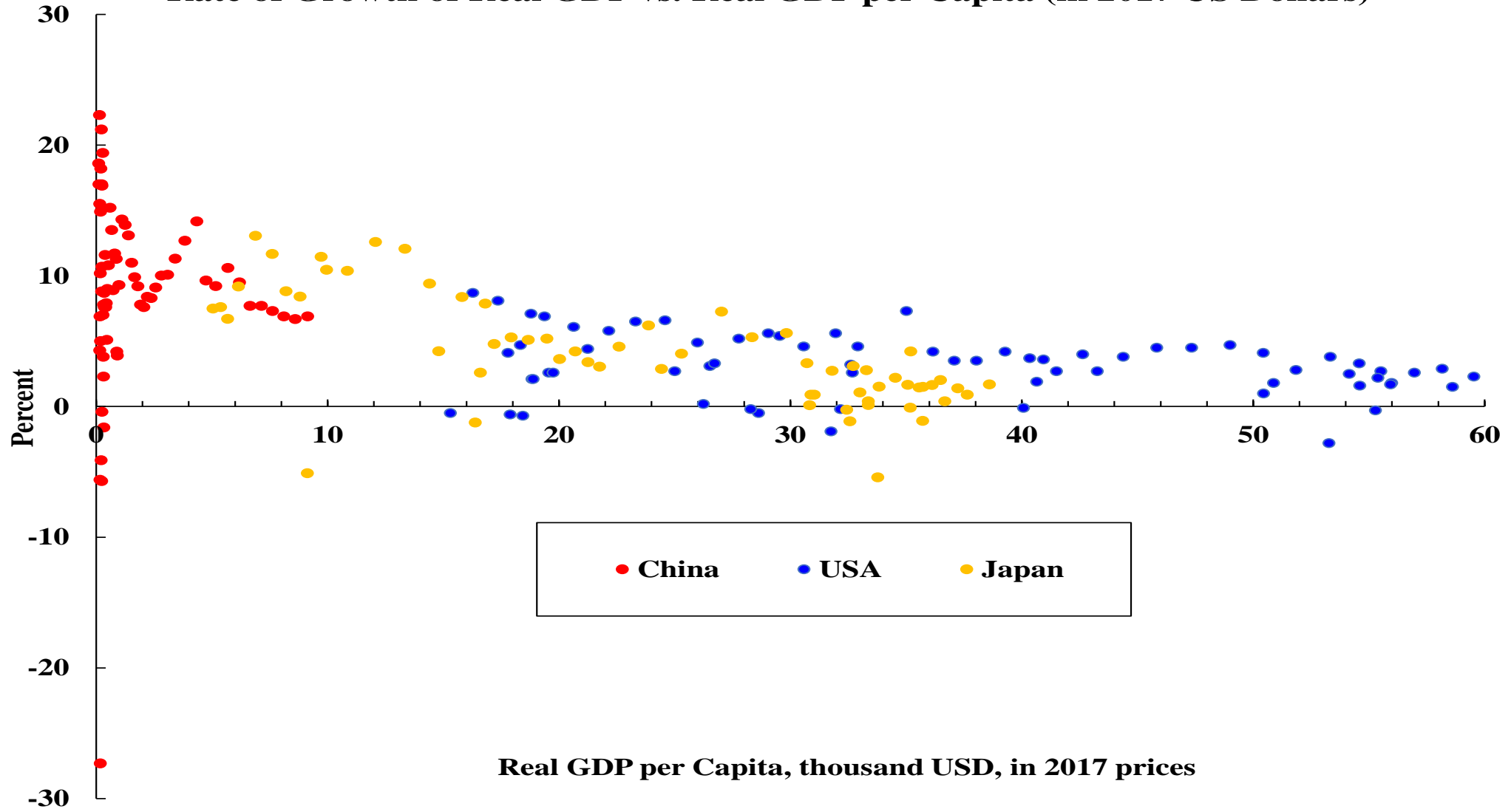
- ◆ Another issue is that of “state-owned enterprises (SOEs)”. I believe Chinese SOEs are here to stay. One should be specific as to why one objects to SOEs. It can be either behaviour, for example, anti-competitive behavior such as predatory pricing, or attempting to monopolise the market, etc.; or it can be government subsidies. It is much more effective and productive to focus on behaviour and the presence of government subsidies. Otherwise, if all firms, domestic (state-owned or private), joint-venture and foreign firms are granted national treatment, it will be a level playing field for all. (National security considerations will be the only acceptable exception.)
- ◆ Basic research will be financed and supported by the government and non-profit organization as is done in all countries including the U.S.

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

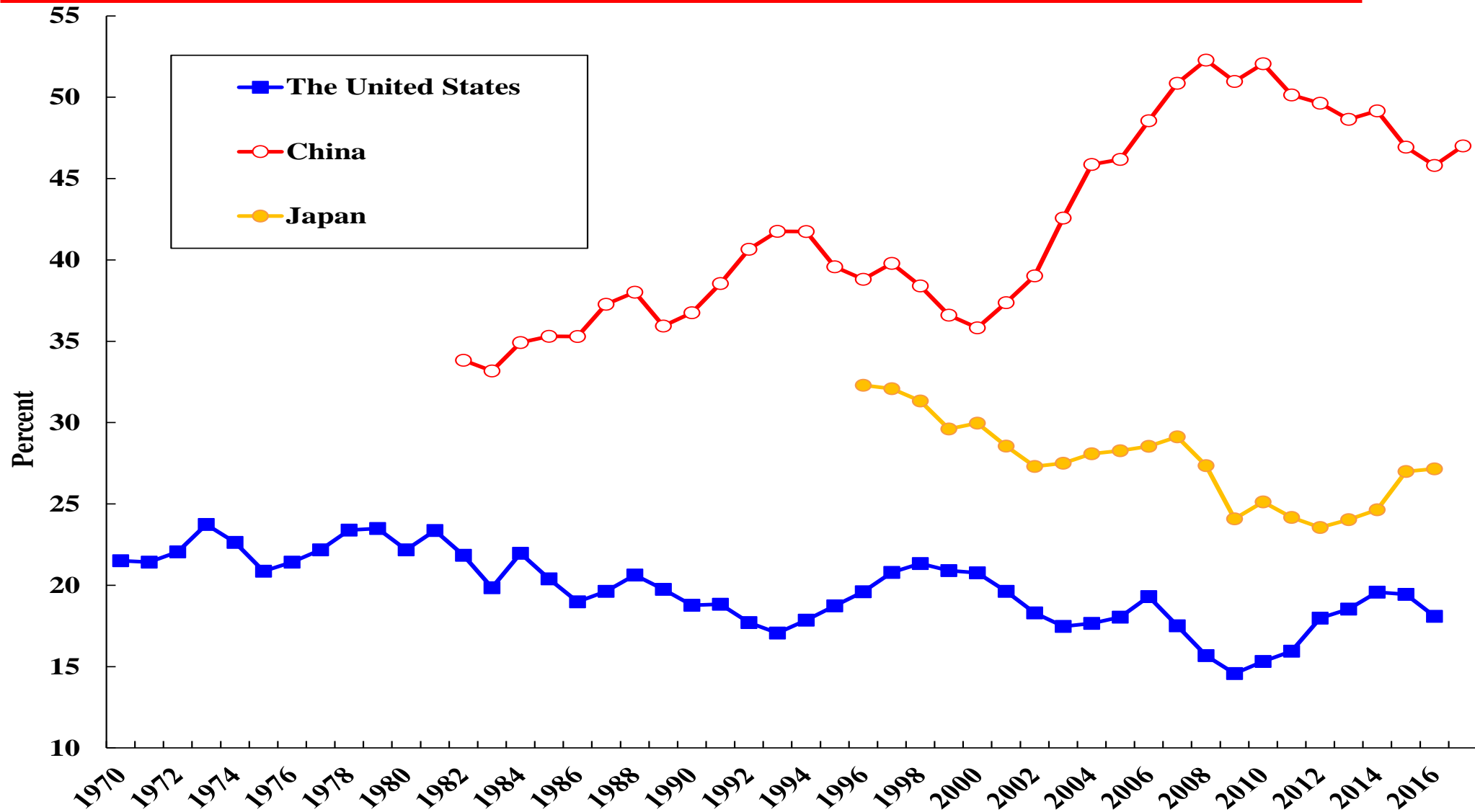
- ◆ It is assumed that the Chinese economy will continue to grow above 6% per annum for a few more years, declining gradually to between 5% and 6%, and that the U.S. economy will grow at an average rate of 3% per annum between now and 2050.
- ◆ It may be thought that the Chinese economy will be unable 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, and the low level of its capital per unit labor, 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.)
- ◆ The Chinese national savings rate is very high, which enables a very high investment rate. The capital-labour ratio of the Chinese economy is still very low compared to the U.S. and Japan. There is a great deal of room to grow.
- ◆ In addition, there is still significant surplus labor 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%.

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

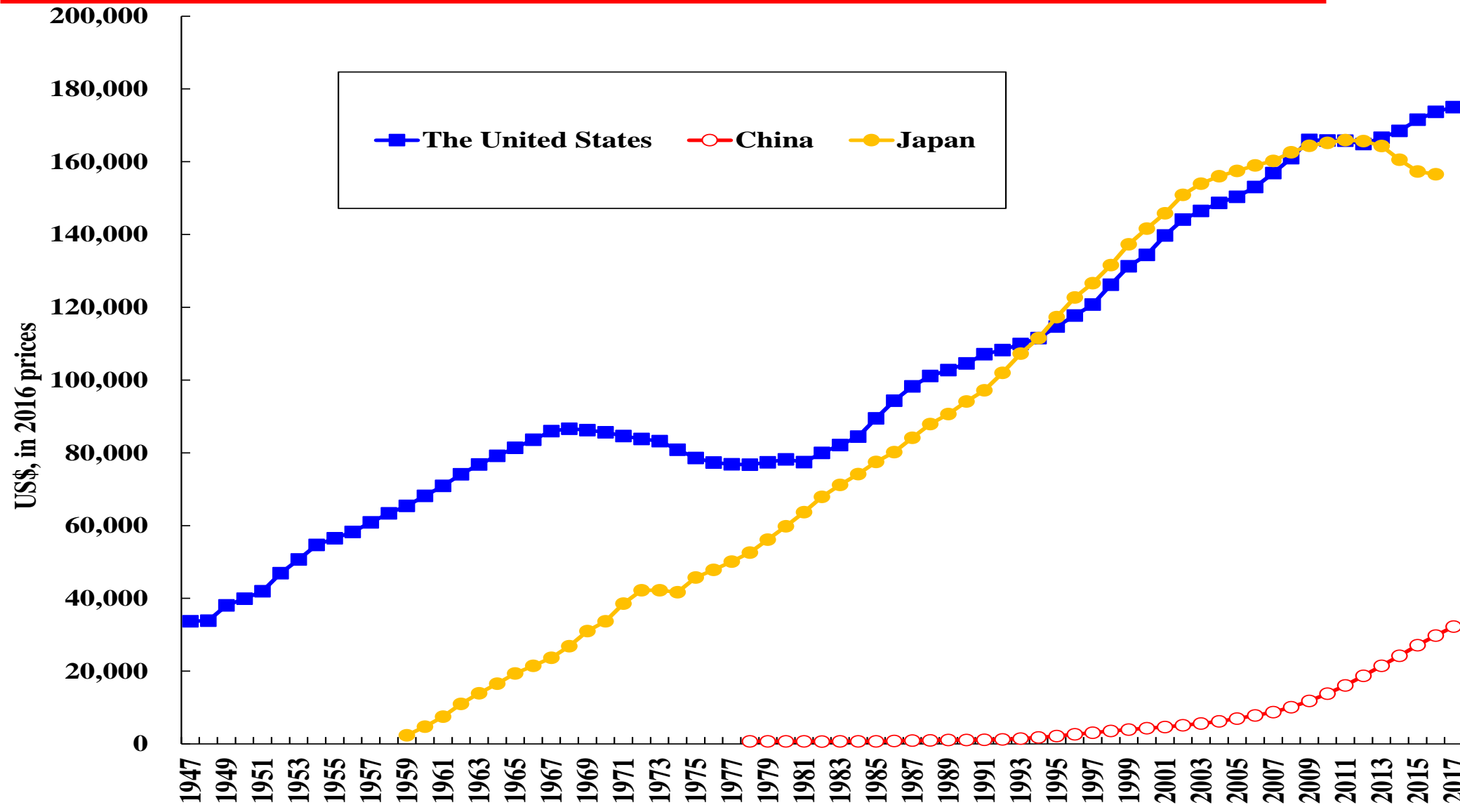
Rate of Growth of Real GDP vs. Real GDP per Capita (in 2017 US Dollars)



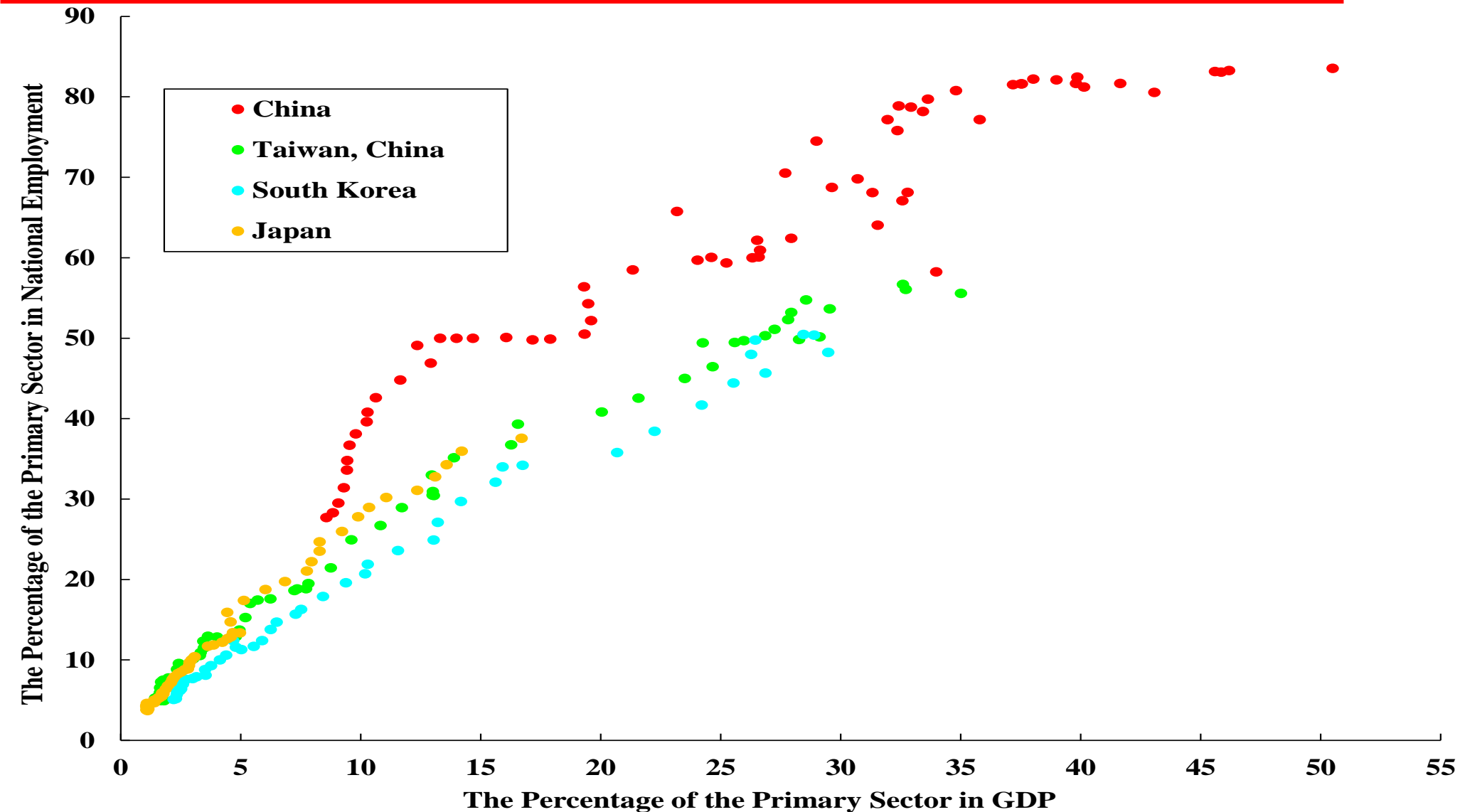
Comparison of National Savings Rates: China, Japan and the U.S.



Comparison of Capital-Labour Ratios: China, Japan and the U.S.

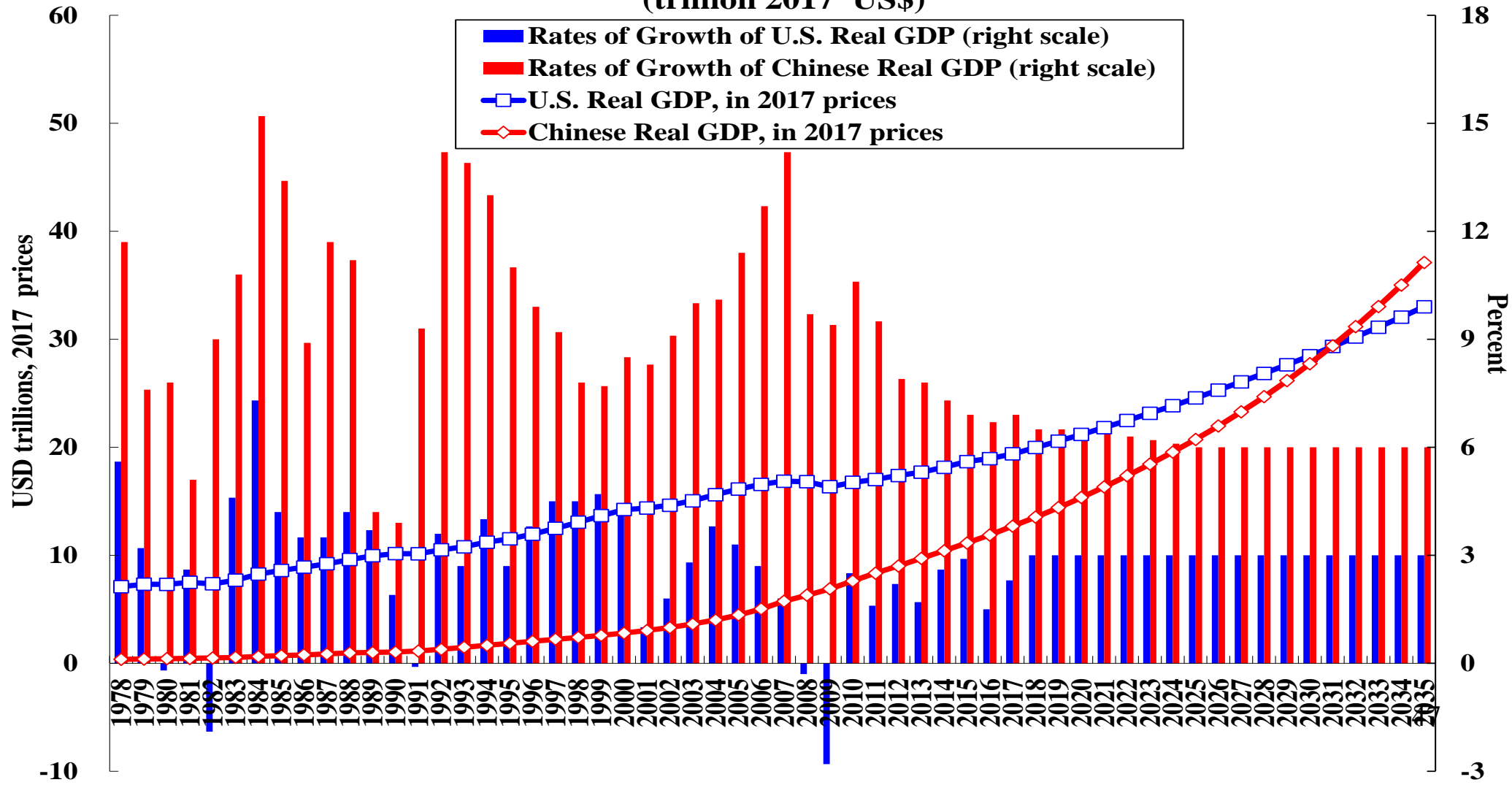


Scatter Diagram between the Shares of Employment and GDP of the Primary Sector



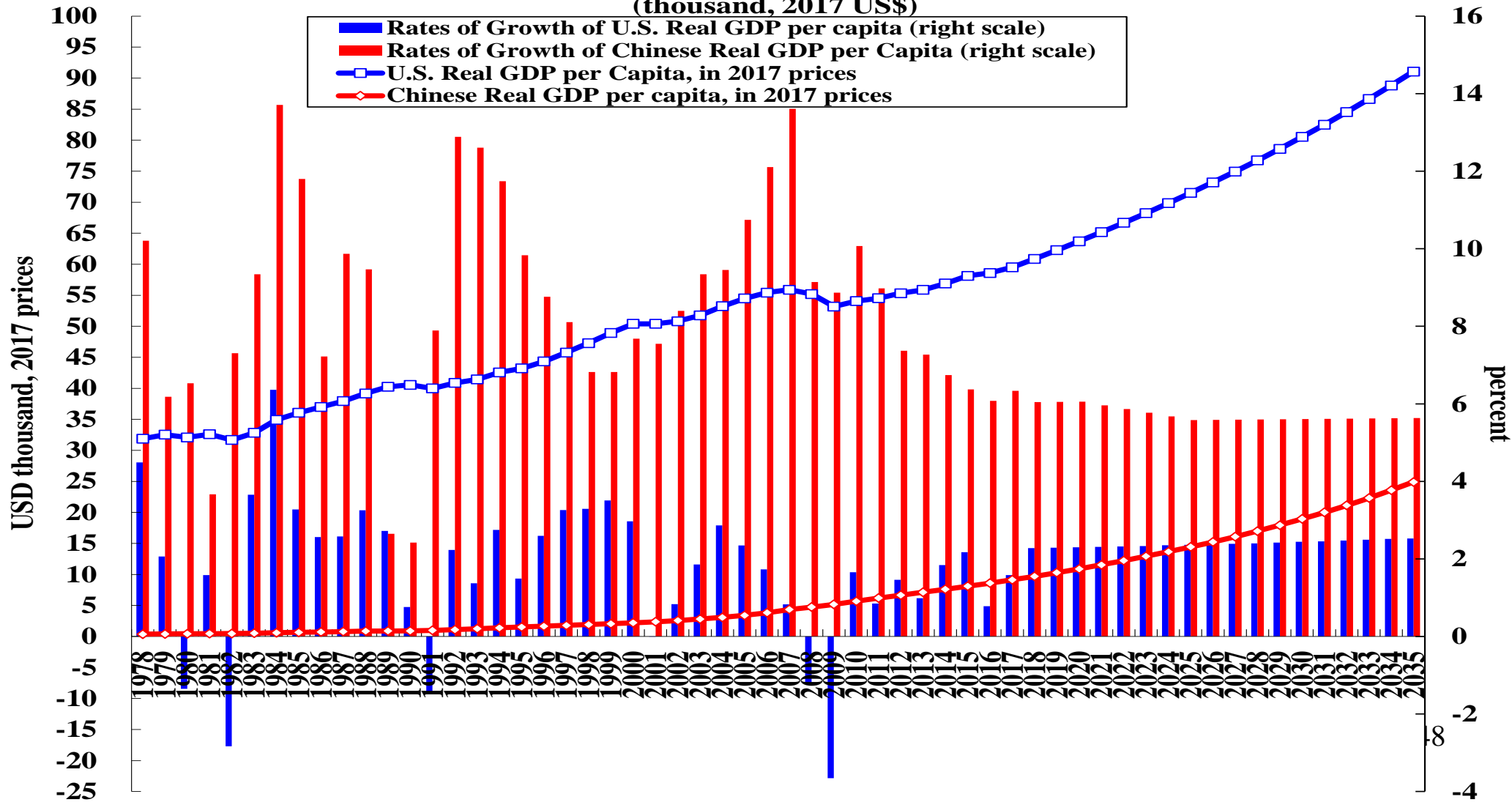
Actual and Projected Levels and Growth Rates of Chinese and U.S. Real GDP (2017 tril. US\$)

**Actual and Projected Chinese and U.S. Real GDPs and Their Rates of Growth
(trillion 2017 US\$)**



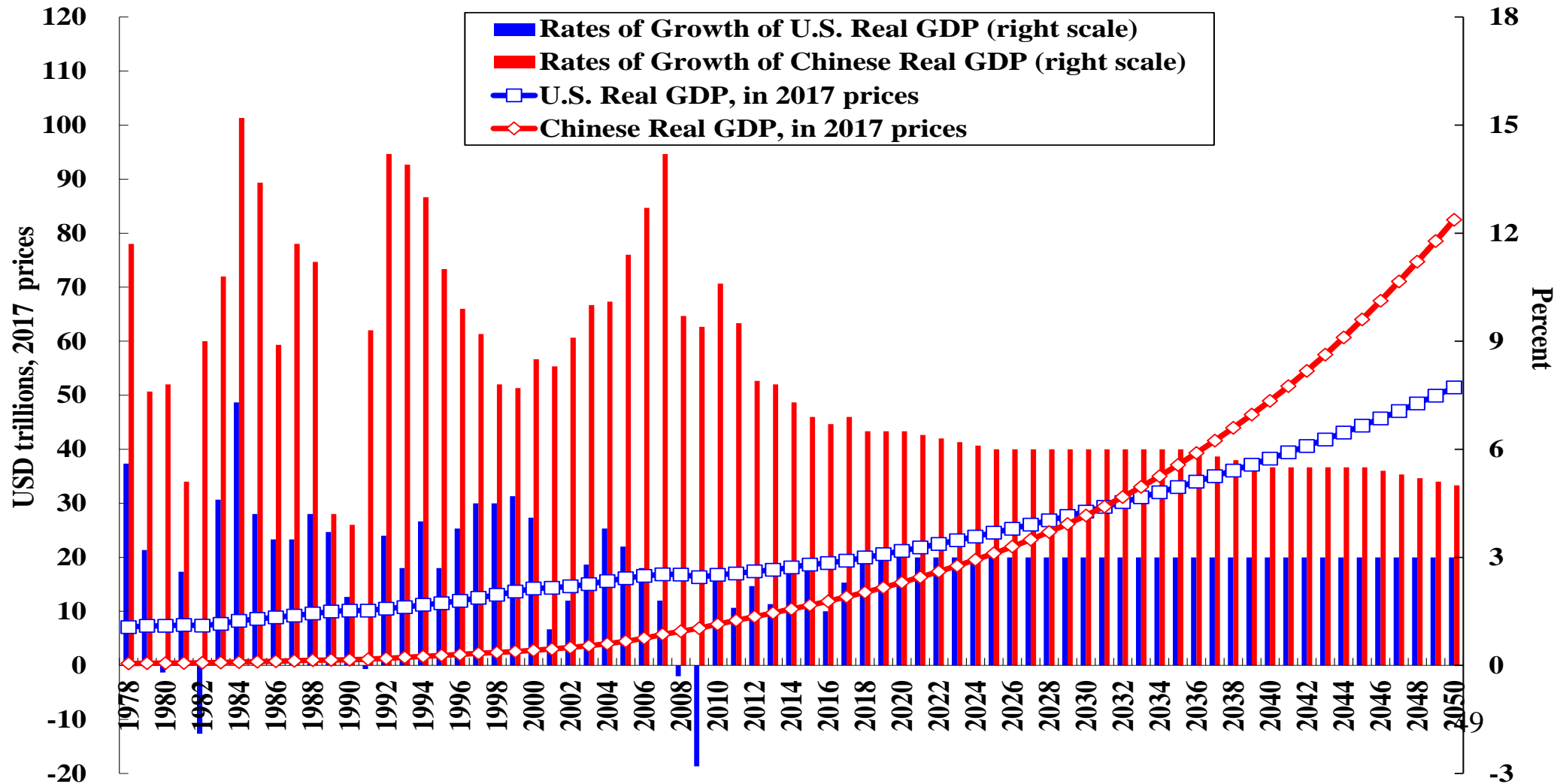
Actual and Projected Chinese and U.S. Real GDP/ Capita and Their Rates of Growth (1,000 2017 US\$)

Actual and Projected Chinese and U.S. Real GDP per Capita and Their Rates of Growth
(thousand, 2017 US\$)



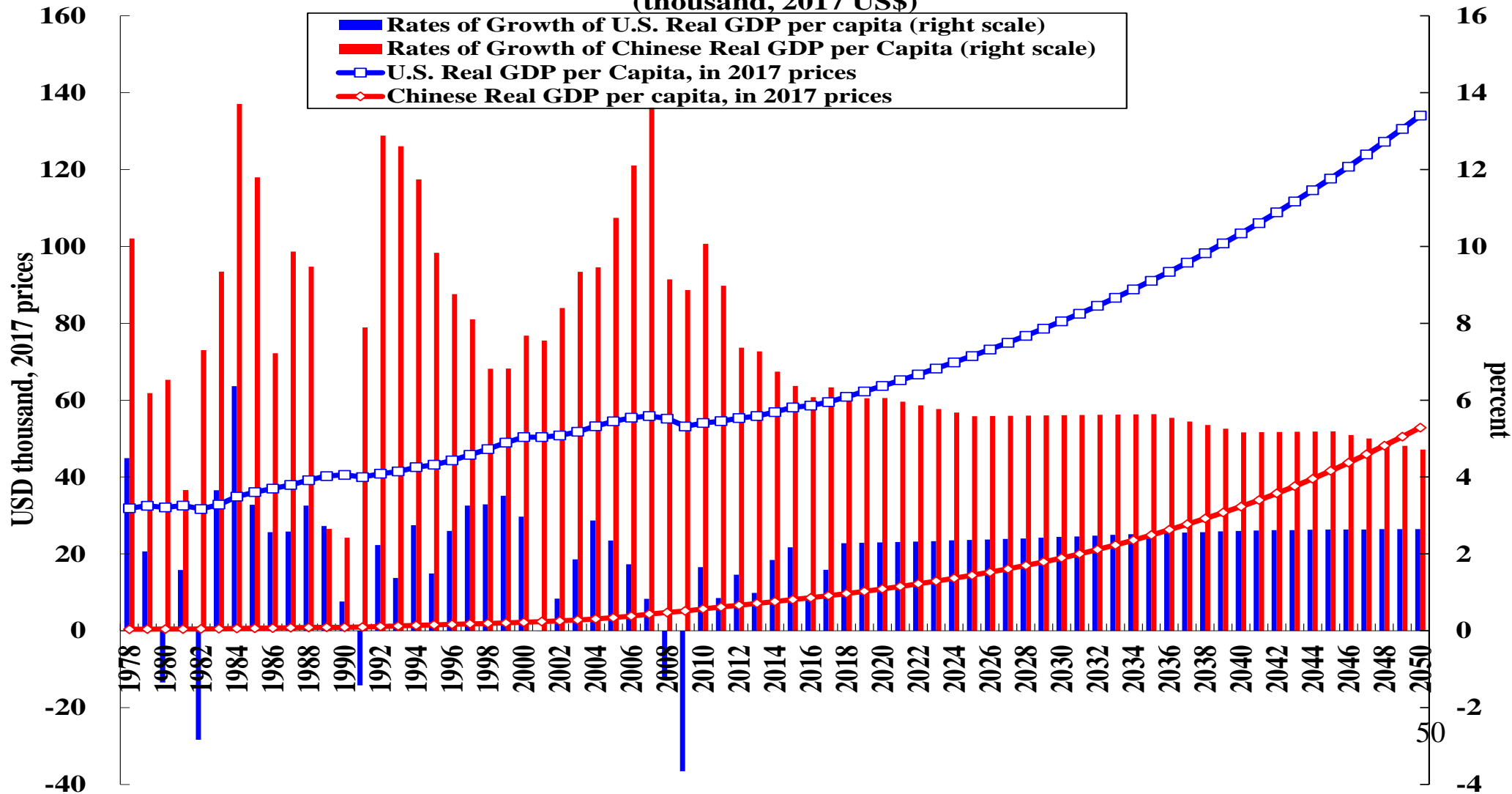
Actual and Projected Levels and Growth Rates of Chinese and U.S. Real GDP (2017 tril. US\$)

Actual and Projected Chinese and U.S. Real GDPs and Their Rates of Growth
(trillion 2017 US\$)



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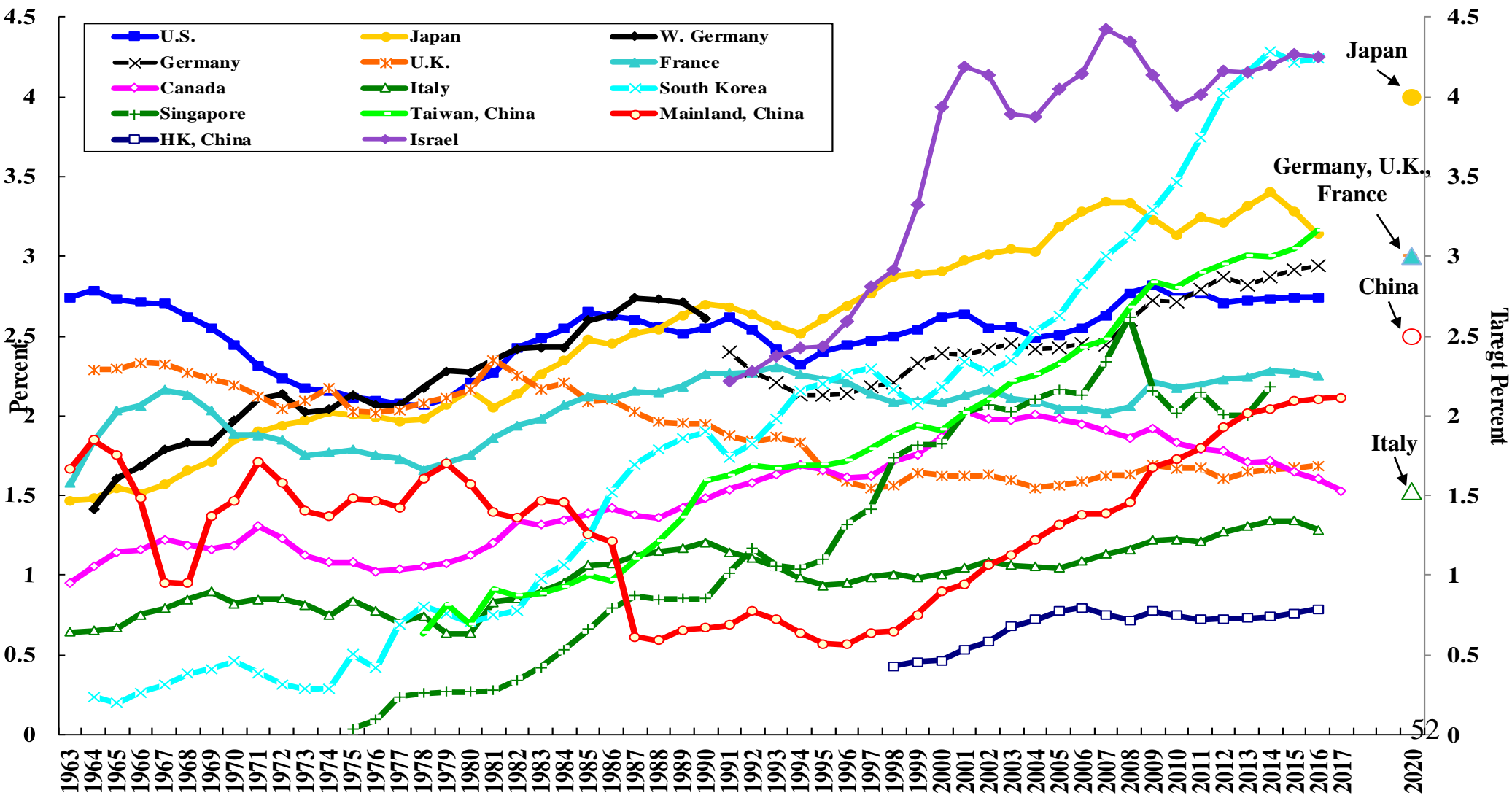


Technological Competition

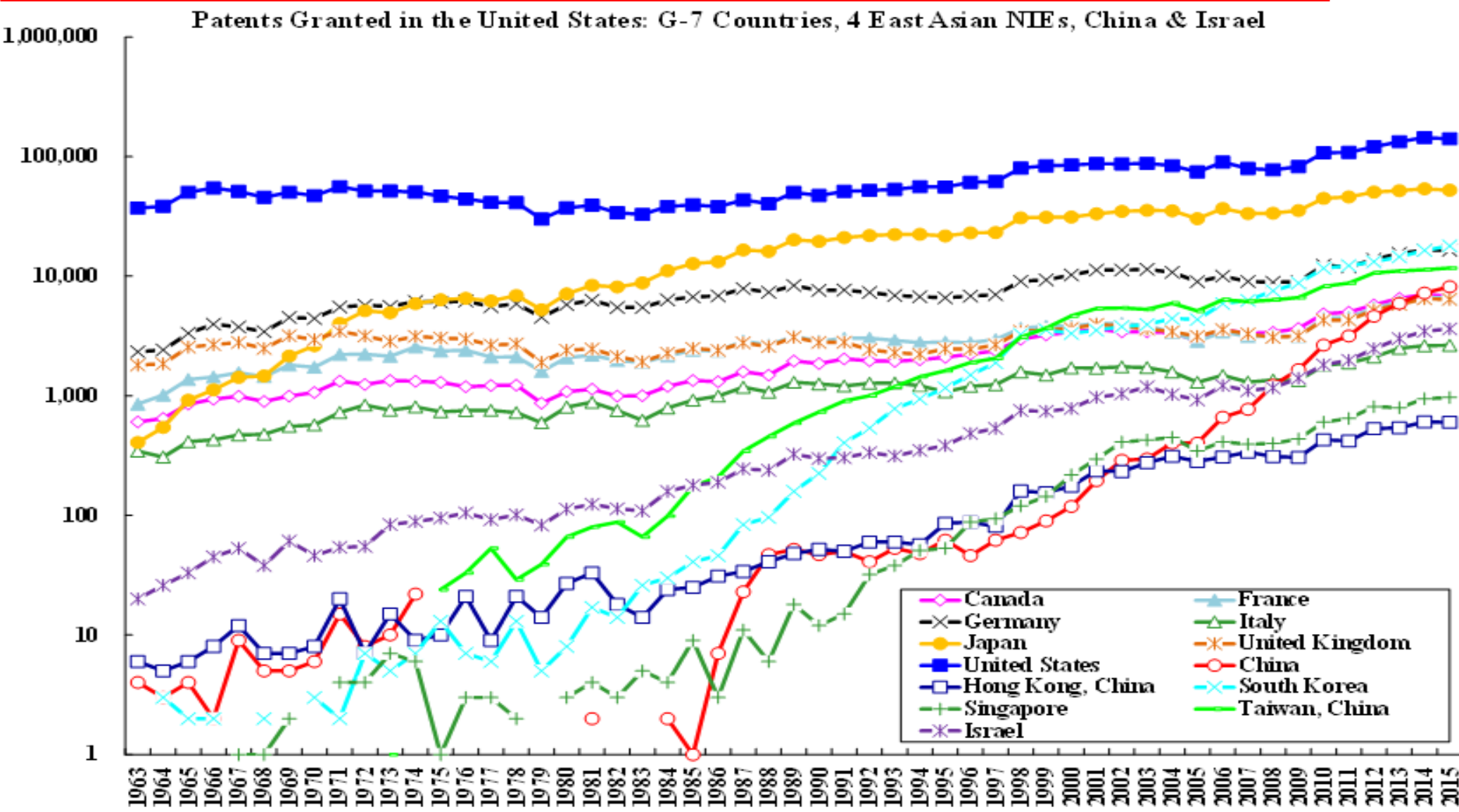
- ◆ Technological competition is motivated by commercial considerations as well as national security considerations.
- ◆ No individual or firm will want to give away or sell its core competence. In old China, masters typically do not teach their apprentices everything, unless they are male lineal descendants.
- ◆ 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.

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

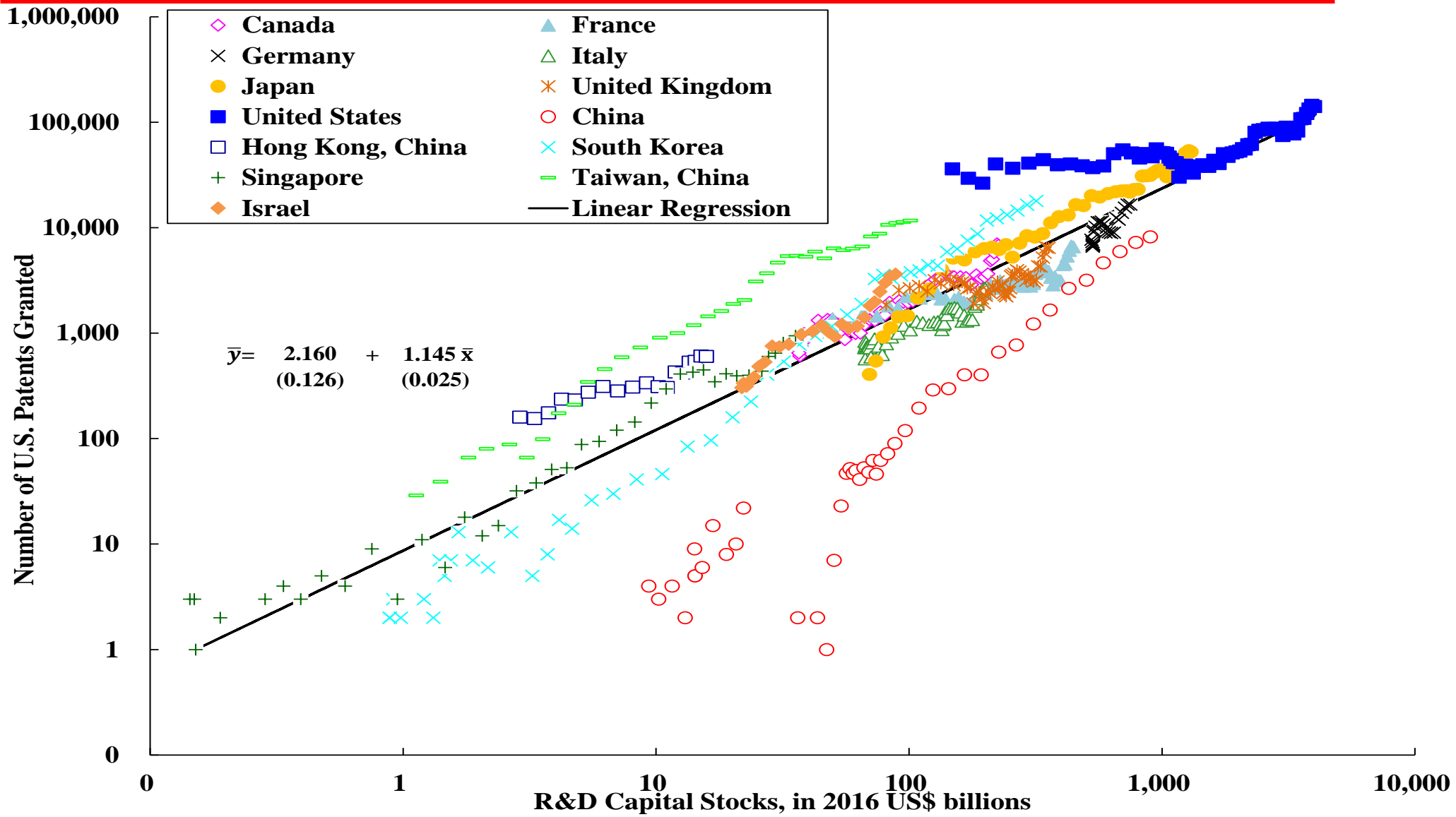
R&D Expenditures as a Ratio of GDP: G-7 Countries, 4 East Asian NIEs, China & Israel



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

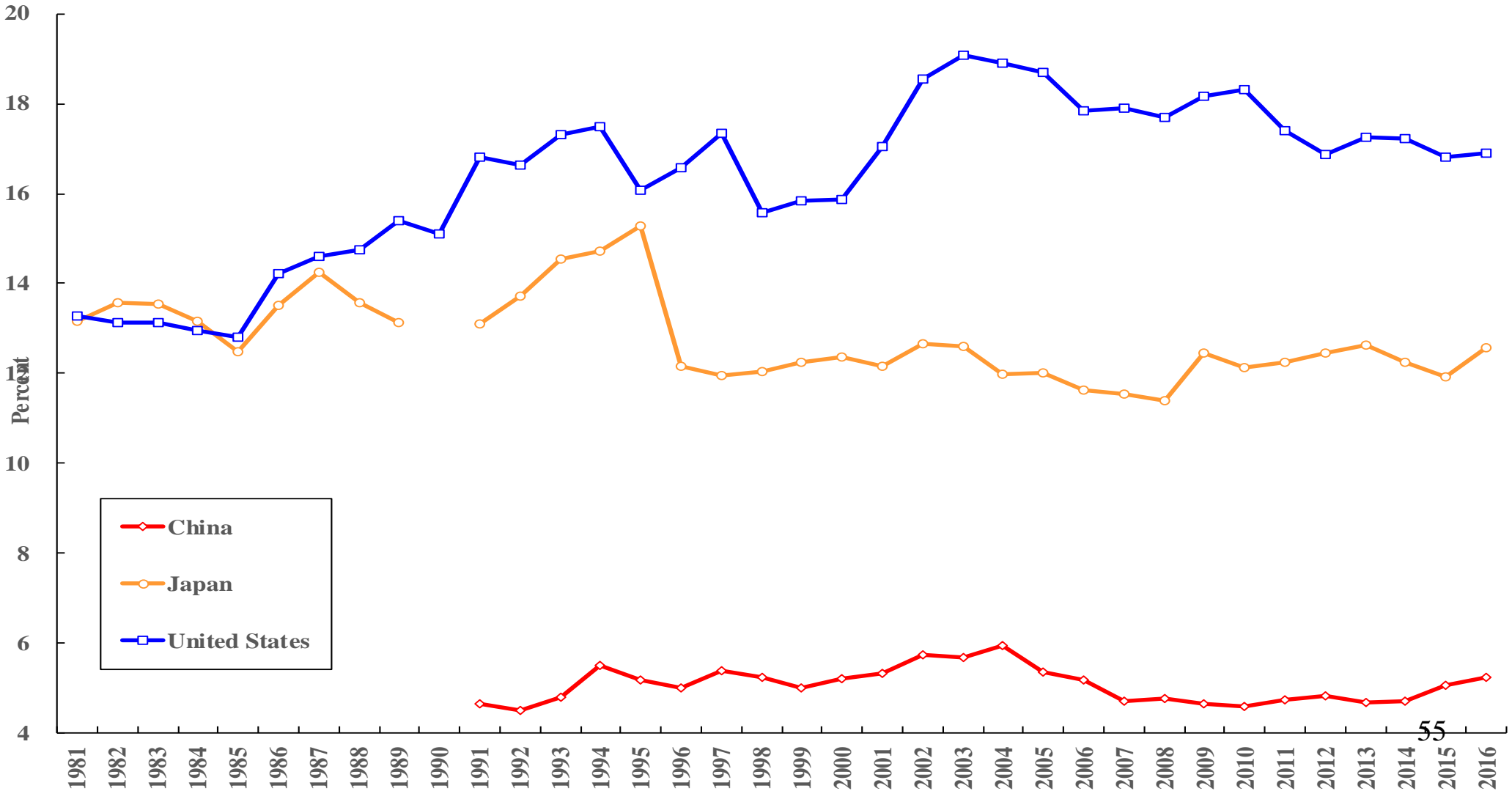


U.S. Patents Granted and R&D Capital Stocks: G-7 Countries, 4 EANIEs, China & Israel



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

Basic Research Expenditure as a Percentage of Gross Expenditure on R&D



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 exporting the newly developed liquefied natural gas from Alaska and shale oil from the continental U.S. and by producing and exporting meat (beef, pork and poultry) instead of feed grains (corn and soybeans) to China. 56

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 through their secondary listings on Chinese stock exchanges.

Promoting Mutual Economic Interdependence

- ◆ It is difficult to assess which country has benefitted more from their economic relations. China has been able to lift 740 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. It is the “new normal”. The trade dispute is only a symptom of the potential possible conflicts between the two countries.
- ◆ 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.
- ◆ To reduce the probability of an armed conflict between China and the U.S. down the road, China-U.S. relations must be carefully managed going forward. 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, in 1870, 1914 and 1939, is not possible today.

Concluding Remarks

- ◆ China and the rest of the world, except possibly the U.S., will 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.
- ◆ China should avoid turning inward or becoming isolated. It should continue to open its economy to international trade and both inbound and outbound direct investment, by lowering tariffs, reducing non-tariff barriers and offering national treatment to foreign direct investors on a reciprocal basis.
- ◆ Maintaining good economic relations with the rest of the world, in particular, with the European Union, ASEAN, Japan and Russia is a must for China going forward.

Concluding Remarks

- ◆ If China and the U.S. cooperate and work together, many global problems such as prevention of climate change and denuclearisation, can be solved. The U.S. can invite China to join its Mars mission and share the cost, estimated to be on the order of several hundred billion U.S. dollars. If the two countries compete in a friendly way, much innovation is possible, as in the competition to build the fastest super-computer. The two countries should aim to become **competitive partners!**