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

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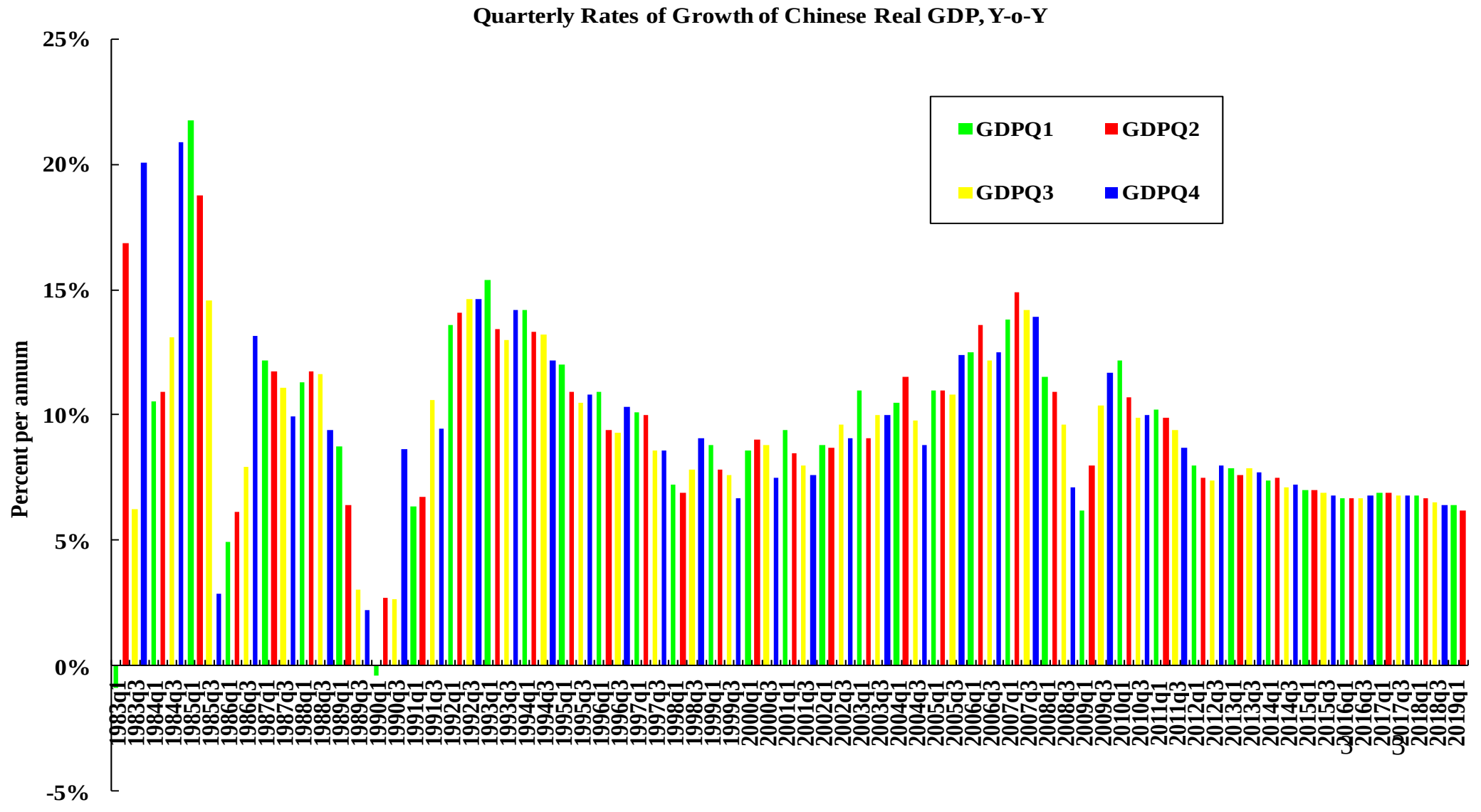
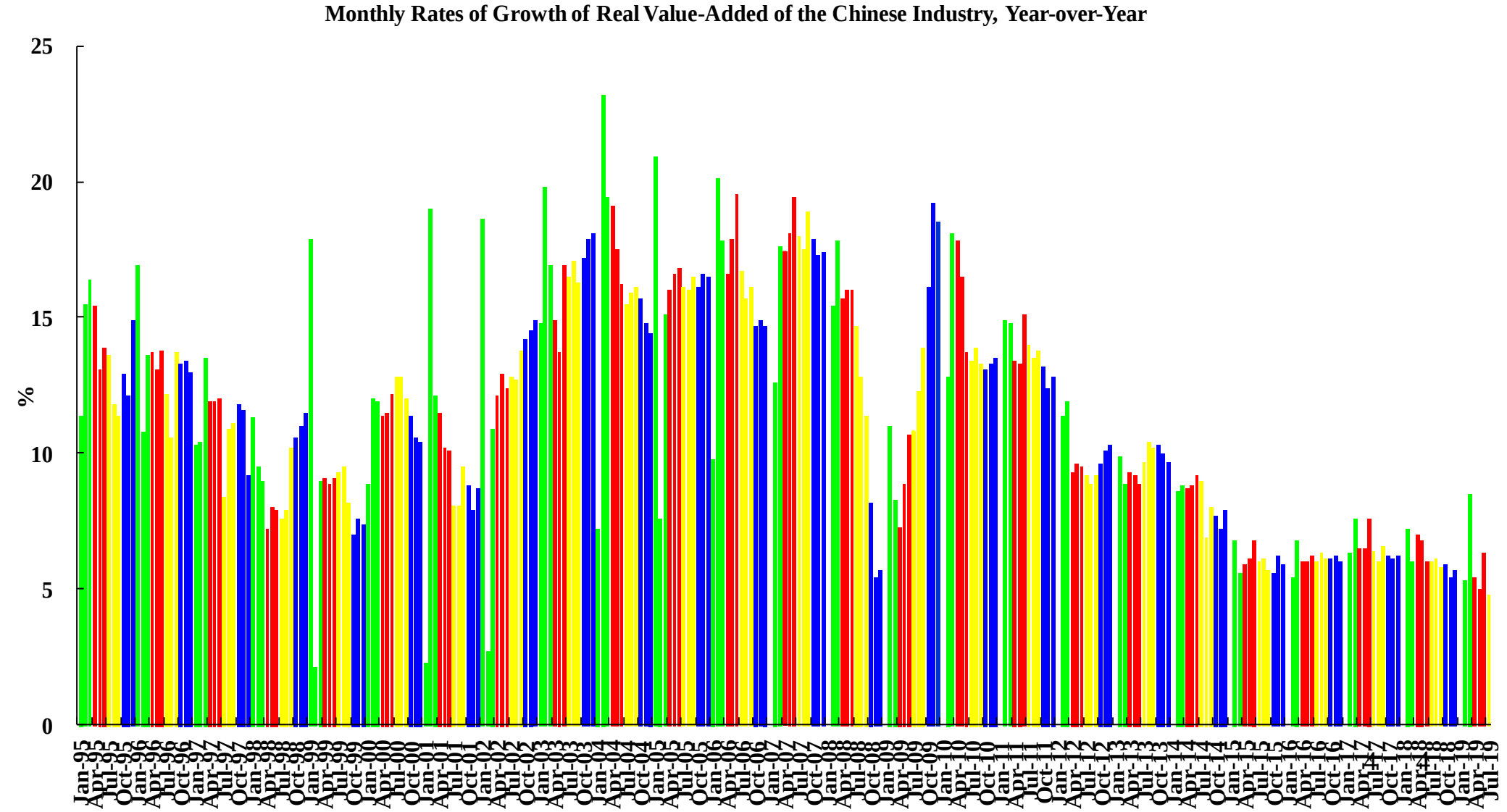
Quarterly Rates of Growth of Chinese Real GDP, Y-o-Y



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



The Different Measurements of the Bilateral Trade Balance

- The official U.S. estimate of the U.S.-China trade deficit in goods only in 2018 is US$419 billion (US$376 billion in2017). The official Chinese estimate is US$324 billion (US$278 billion in 2017).
- 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. There is a built-in bias for a bilateral deficit.
- 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.

The Different Measurements of the Bilateral Trade Balance: A Summary

Summary of Different Measurements of the China-U.S. Trade Balance			
Measurement	**Official Chinese Estimates**	**Our Estimates**	**Official U.S. Estimates**
Goods Only (FOB-CIF)	**323.3**		**419.6**
Goods Only FOB		**356.4**	
Goods and Services	**268.4**		**380.8**
Goods, including Re-Exports, FOB		**350.9**	
Goods, including Re-Exports, FOB, and Services (U.S. Data)		**312.1**	
Goods, including Re-Exports, FOB, and Services (Imports)		**276.0**	

The Relative Benefits from the Bilateral Trade

- However, the gross value of exports does not reflect accurately the real benefits of exports to the exporting country. What really matters is the GDP created by the exports, that is, the domestic value-added generated by the exports, directly and indirectly. (The employment and GNP generated by the exports are also important.)
- 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 direct value-added content of 3.3%. (The GNP generated is even lower since Foxconn is not a Chinese company.)

The Relative Benefits from the Bilateral Trade

- The average direct domestic value-added content of Chinese exports of goods to the U.S. is less than 25%. So that US$100 billion worth of Chinese exports to the U.S., f.o.b., generates directly US$25 billion of Chinese GDP.
- However, the reduction of exports leads to a reduction in the demands for domestic inputs used in their production and the production of consumption goods for their workers, which in turn lead to a second-round reduction in the demands for domestic inputs used in the production of the domestic inputs and final demands.
- 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 affected will eventually increase to 66% cumulatively, with the indirect value-added content being 41%.

The Relative Benefits from the Bilateral Trade

- The average 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, with the indirect value-added content being 37.9%.
- 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$161 billion in 2018, less than 40 percent of the often-mentioned U.S.-China trade deficit in goods only of US$419.6 billion. (The value-added content of exports of services is taken to be 100%.)
- This value-added deficit can be closed with an increase in U.S. exports of goods to China of a gross value of US$181 billion (based on an average value-added content of 88.7%), which is feasible within a few years as discussed below.
- We also note that this figure is based on the official U.S. estimate of its exports of services to China of US$57.2 billion in 2018. The Chinese estimate of U.S. exports of services to China is approximately US$93 billion in 2018, which would reduce the value-added gap to approximately US$125 billion.

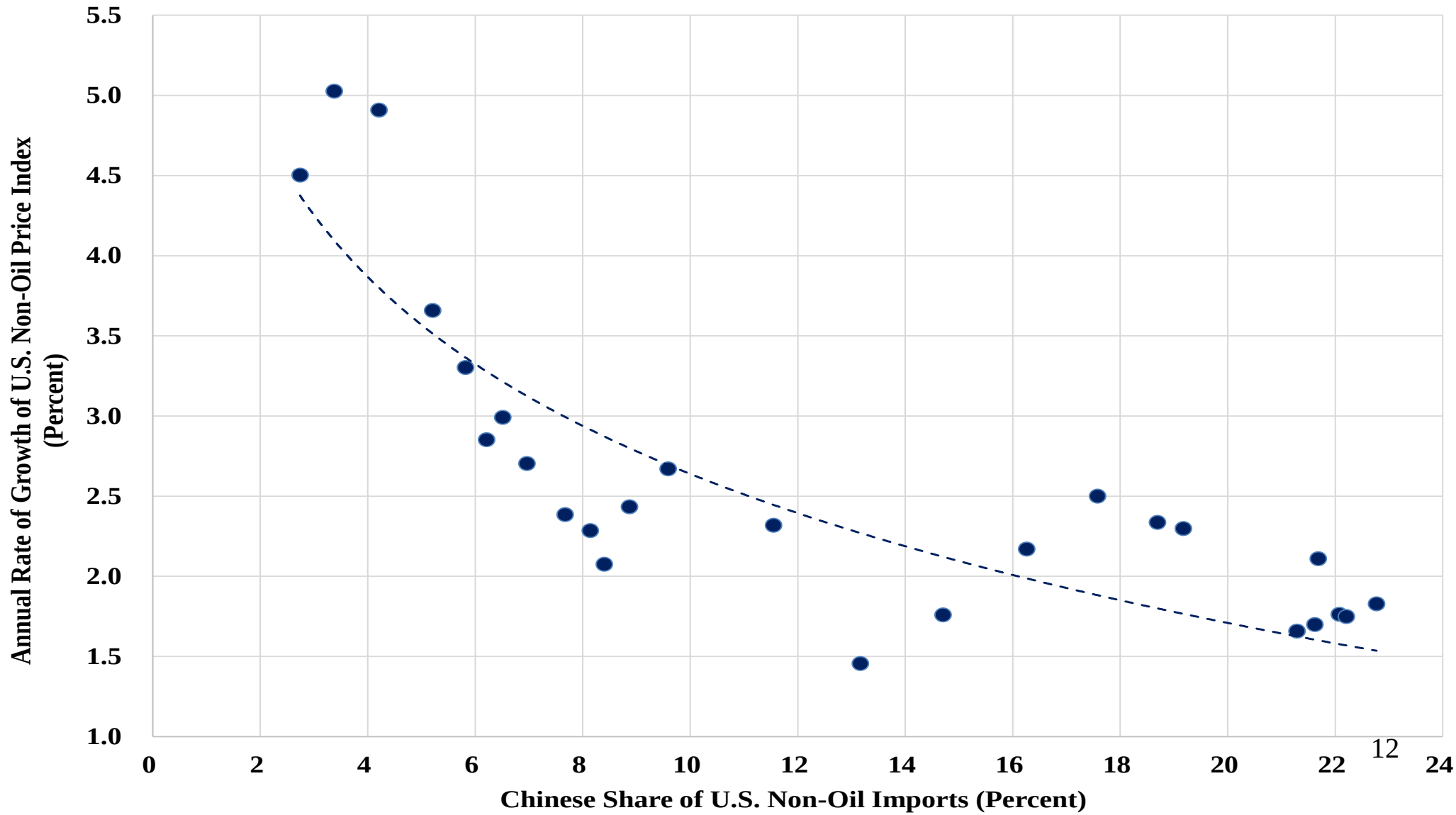
The Relative Benefits from the Bilateral Trade in Terms of Value-Added: A Summary

Summary of Comparisons of Relative Benefits			
Measurement	**China**	**The U.S.**	**Difference**
Direct Value-Add	**159.8**	**128.6**	**31.2**
Indirect Value-Added	**240.2**	**110.5**	**129.8**
Total Value-Added	**400.0**	**239.1**	**161.0**

The Relative Benefits from the Bilateral Trade

- It is difficult to assess whether China or the U.S. 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 to international trade and direct investment 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 (see the following chart).
- Additional benefits for the U.S. include the profits of U.S. corporations earned by their operations within China, such as General Motors, Walmart and Starbucks, 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. They are not reflected in the statistics if they are not repatriated to the U.S.
- Moreover, royalties and license fees paid to subsidiaries of U.S. firms such as Apple and Qualcomm in third-country tax havens such as Ireland and the Netherlands are also not included as income earned by U.S. nationals from China.
- Also not included are the benefits that the U.S. has derived from seigneurage, that is, from being the monopolist provider of the international medium of exchange for international transactions. China is the largest foreign holder of U.S. government bonds and agency securities.

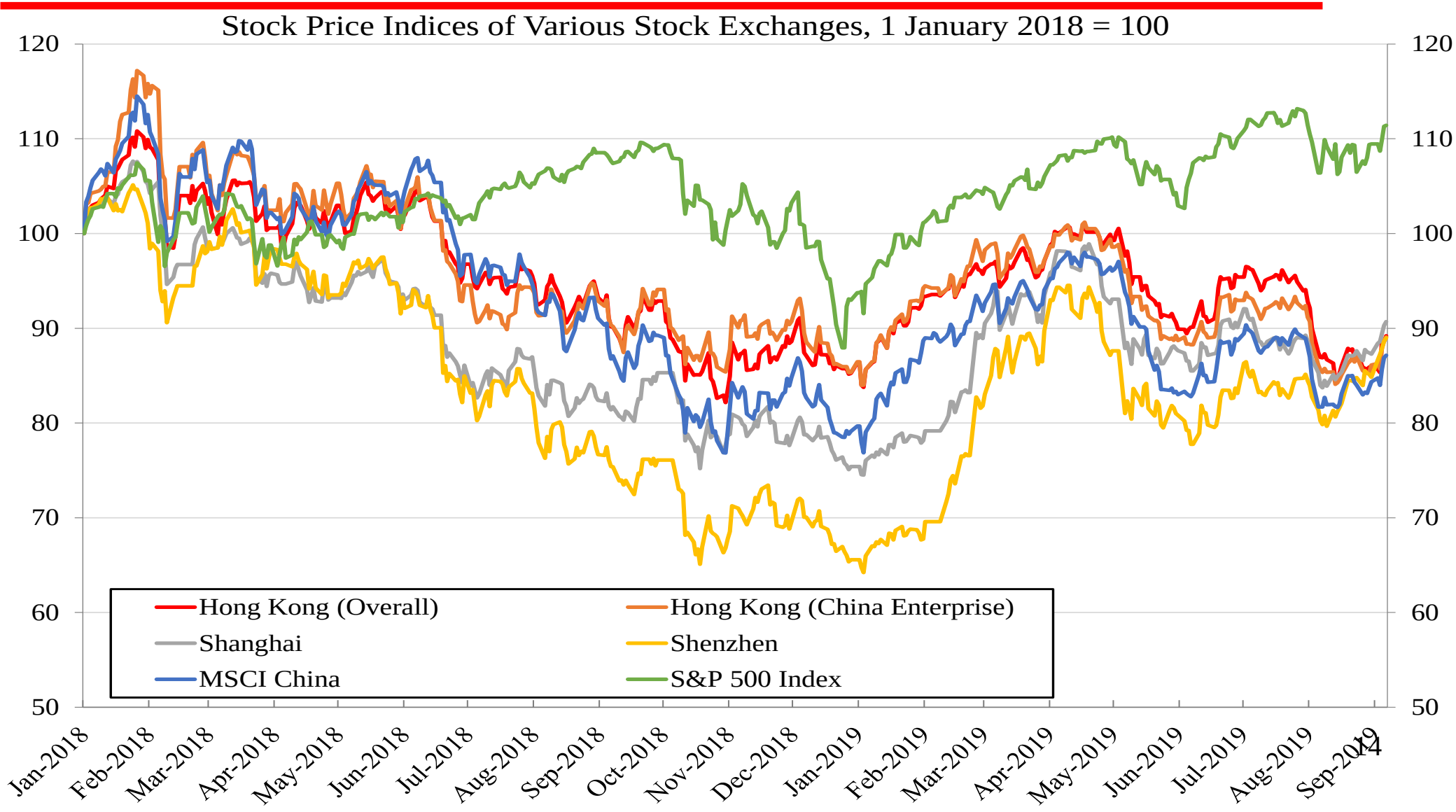
The Rate of Growth of US Non-Oil Price Index and the Chinese Share of Non-Oil Imports



Immediate Impacts

- The Chinese stock markets have already taken a hit. This is an area where the psychological factor dominates. As of the end of 2018, the shares on the Shenzhen Stock Exchange had on average lost 30%, Shanghai 20%, and Hong Kong 10%. In contrast, the Standard and Poor 500 Index of U.S. stocks did not suffer any loss on a whole-year (2018) basis.
- It should also be borne in mind that the increase in the rates of interest in the U.S. and elsewhere in 2018 would also have affected asset prices around the world negatively, so it was not solely the effect of the China-U.S. trade war.
- At the beginning of 2019, the Chinese stock market continued to fall, until the latter part of January, then it began to rise, buoyed by hopes of a successful conclusion of a China-U.S. trade agreement. However, since May 2019, it has become quite volatile, reflecting the progress or lack thereof of the trade negotiations.
- The Standard and Poor 500 Index also fell at the beginning of 2019, but has also recovered but experienced volatility similar to the Chinese stock market price indices more recently.

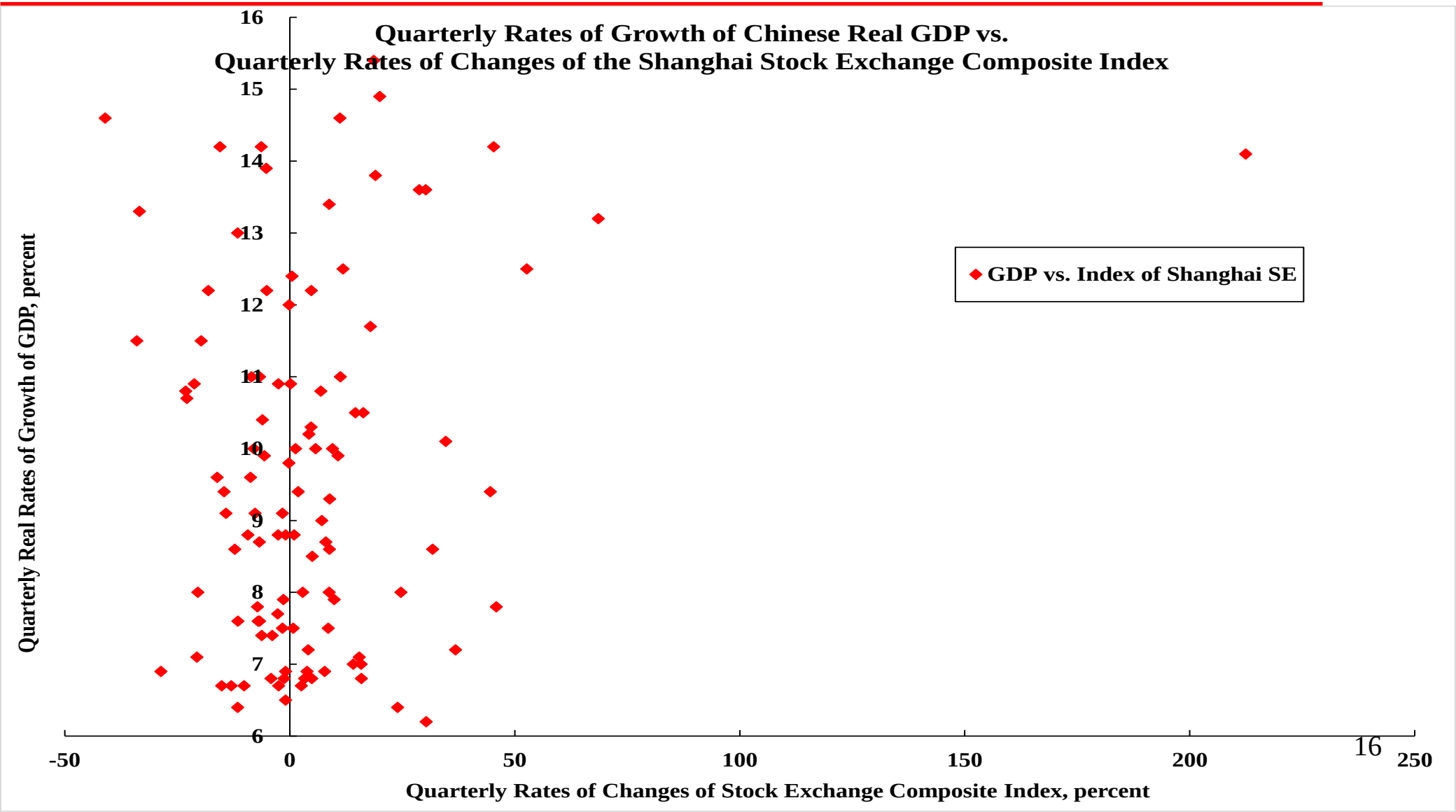
The Chinese, Hong Kong and U.S. Stock Market Indexes, 2018M1 to Date



Immediate Impacts

- However, the Chinese stock markets are not a good barometer of the state of the Chinese real economy. There is essentially no correlation between the rate of growth of Chinese real GDP and the rate of growth of the Chinese stock market price index (see the following scatter diagram between the quarterly rates of growth of Chinese real GDP and the Shanghai Stock Exchange Composite Index).
- The majority (over 80%) of Mainland Chinese 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 less than 20 trading days. The Chinese institutional investors have a slightly longer average holding period of between 30 and 40 trading days.
- The short holding period is due in part to the fact that Chinese publicly listed enterprises pay little or no cash dividends. Investors can make money only through frequent trading and have little incentive to hold a particular stock long term.

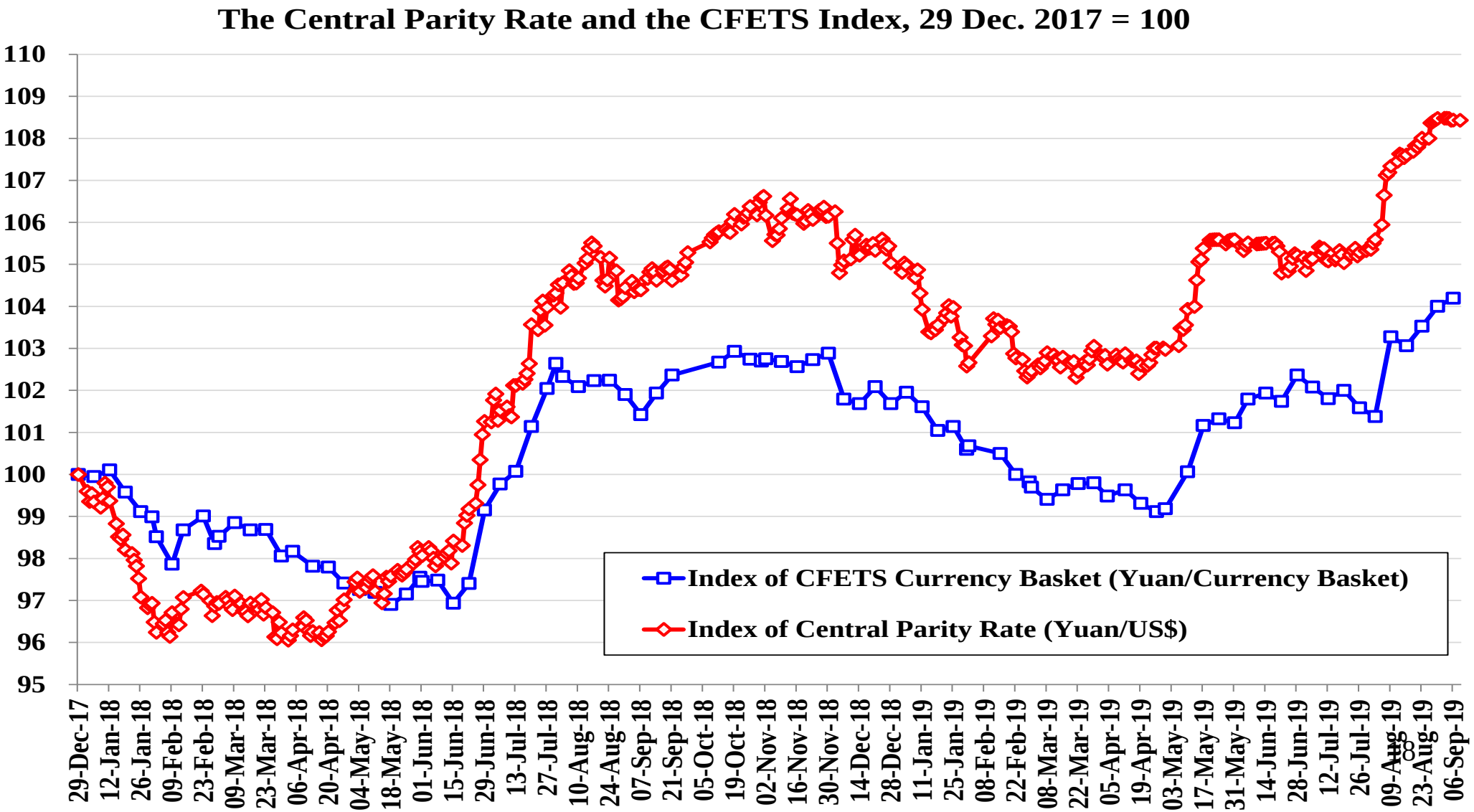
The Quarterly Rates of Growth of Chinese Real GDP versus the Chinese Stock Price Index



Immediate Impacts

- The Renminbi exchange rate has also been affected by the trade war. In 2018, relative to the US$, the Renminbi devalued by approximately 8% from the end of January 2018 (at one time almost 10%).
- However, the deviation of the Renminbi central parity rate from the CFETS (China Foreign Exchange Trade System) Index, which tracks the exchange rate of a Chinese trade-weighted basket of currencies, has remained within the 3% range. Our focus should be on the central parity rate (onshore rate) rather than the offshore rate and on its relation to the CFETS Index.
- The Renminbi does not follow the US$ any more 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 its other customers that account for almost 80% of its 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 will lower the price of its exports to all its other customers, which also makes little sense.

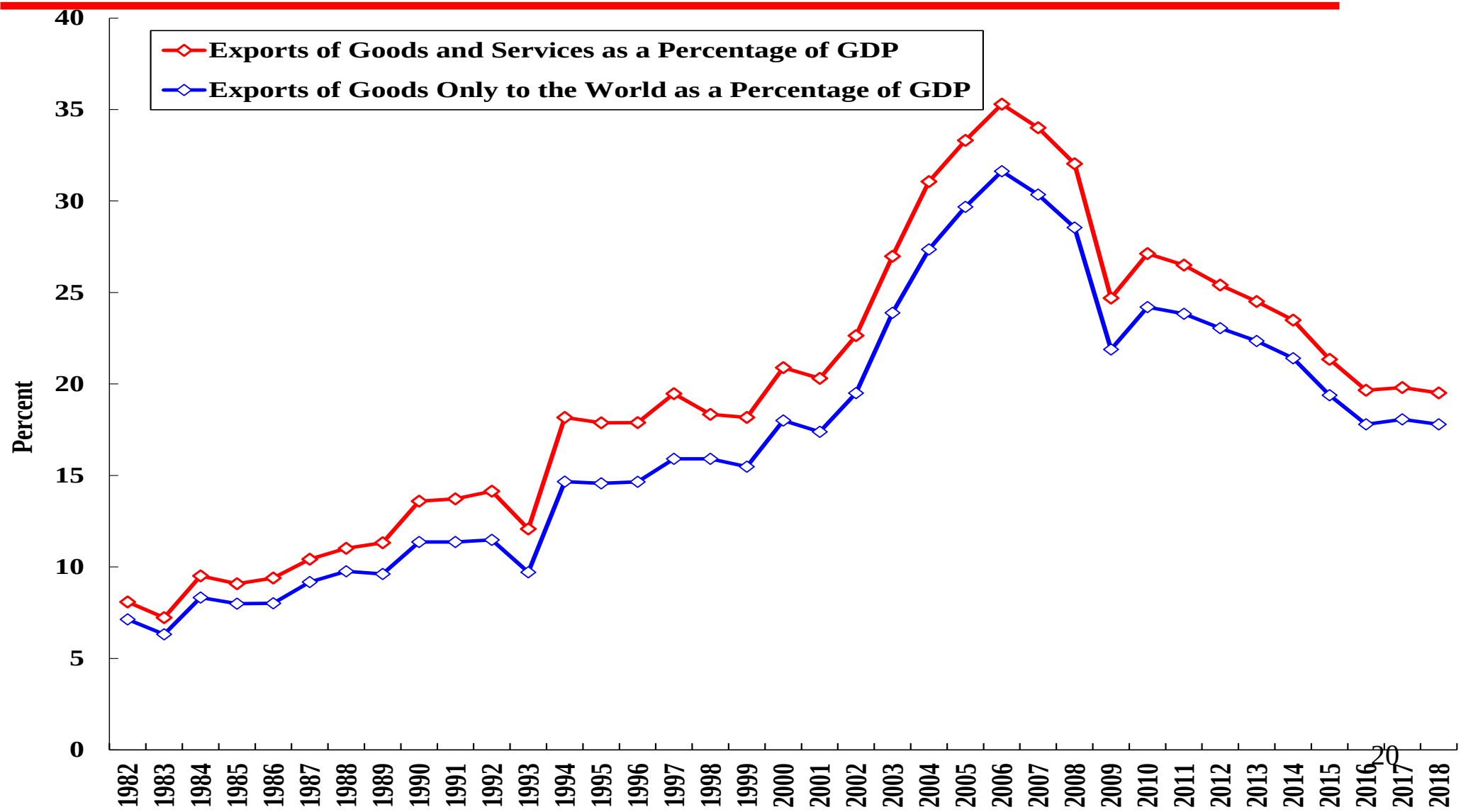
The RMB Central Parity Exchange Rate and the CFETS Index, 29/12/2017 to the Present



The Real Impacts of the Mutual Tariffs on the Two Economies

- Over the past ten years, Chinese dependence on exports has been declining. The share of exports of goods in Chinese GDP has fallen from a peak of 35.3% in 2006 to 19.5% in 2018. The share of exports of goods to the U.S. in Chinese GDP has also fallen by half, from a peak of 7.2% in 2006 to 3.6% in 2018. This sets a cap to the total amount of potential damages to the Chinese economy as a result of the U.S. tariffs. (See the following charts.)
- The 3.6% in 2018 represented an increase from the 3.4% in 2017. However, the increase reflected the acceleration of exports of goods to the U.S. from China in anticipation of the imposition and increases of tariffs. The trend of Chinese exports of goods to the U.S. as a percent of Chinese GDP is downwards.
- During this same period, the growth of Chinese exports to the world and to the U.S. has also slowed significantly. Chinese exports to the world grew at an average annual rate of 23.5% in the decade 1998-2007, but slowed to only 5.9% in the following decade, 2008-2018. Similarly, exports to the U.S. grew at 23.7% per annum in the decade 1998-2008, but slowed to less than 6.6% 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 and Goods to the U.S. as Percent of Chinese GDP

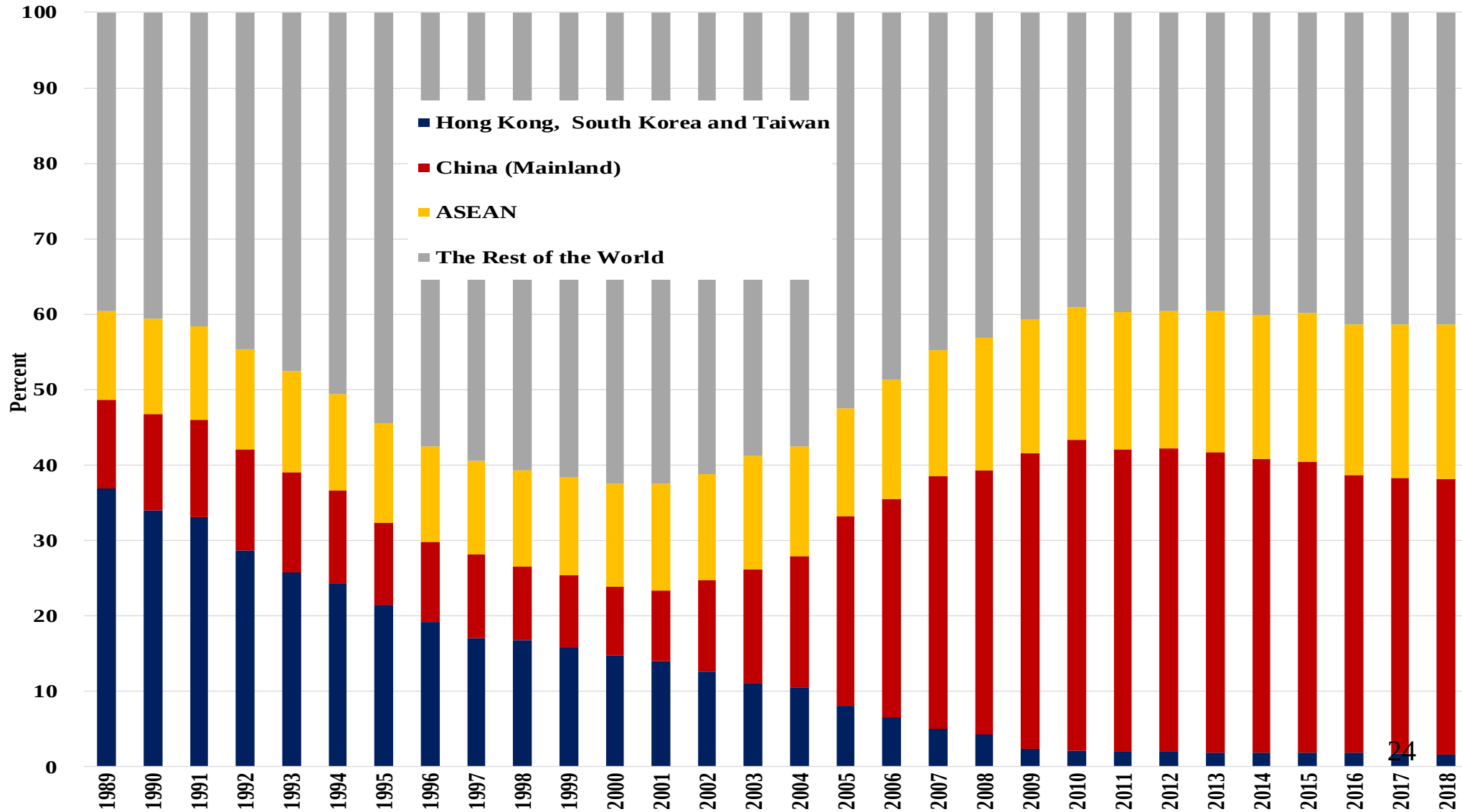
Real Impacts on the Chinese Economy

- Given that the total value-added content of Chinese exports of goods to the U.S. is 66&, and assuming that half of the exports to the U.S. is completely halted, the maximum loss in Chinese GDP may be estimated at 1.2% (3.6%/2 x 0.66). In absolute terms, this amounts to US$156 billion in 2018 prices, a manageable level, especially for an economy growing at an average annual real rate of 6.6 percent and with a per capita GDP of US$9,415 in 2018.
- If all of Chinese exports of goods to the U.S. is halted, the reduction in Chinese GDP would amount to 2.4%, significant, but still tolerable.
- It is instructive to recall what transpired during the Global Financial Crisis of 2008-2009, which was triggered by the collapse of Lehman Brothers in the U.S. in September 2008. Chinese exports of goods to the world and to the U.S. declined by 16.0% and 12.5% respectively in 2009, with a total decrease of Chinese exports of US$230 billion (in 2009 prices), approximately the same magnitude as half of Chinese exports of goods to the U.S. in 2019. Yet the Chinese real GDP still managed to grow 9.7% and 9.4% in 2008 and 2009 respectively. What this shows is that a decline in Chinese exports of goods of this magnitude is still quite manageable for the Chinese economy.

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 if an agreement can be struck between it and the U.S.
- 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 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).
- In 1989, the Chinese share of U.S. imports of apparel was 11.7 %, compared with a share of 35.9% from Hong Kong, South Korea and Taiwan combined, with the ASEAN accounting for 11.9%. In 2018, the Chinese share has declined from its peak of 41.2% in 2010 to 36.6% and the Hong Kong, South Korea and Taiwan share has declined to 1.6%, whereas the ASEAN share has risen to 20.5%. 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.

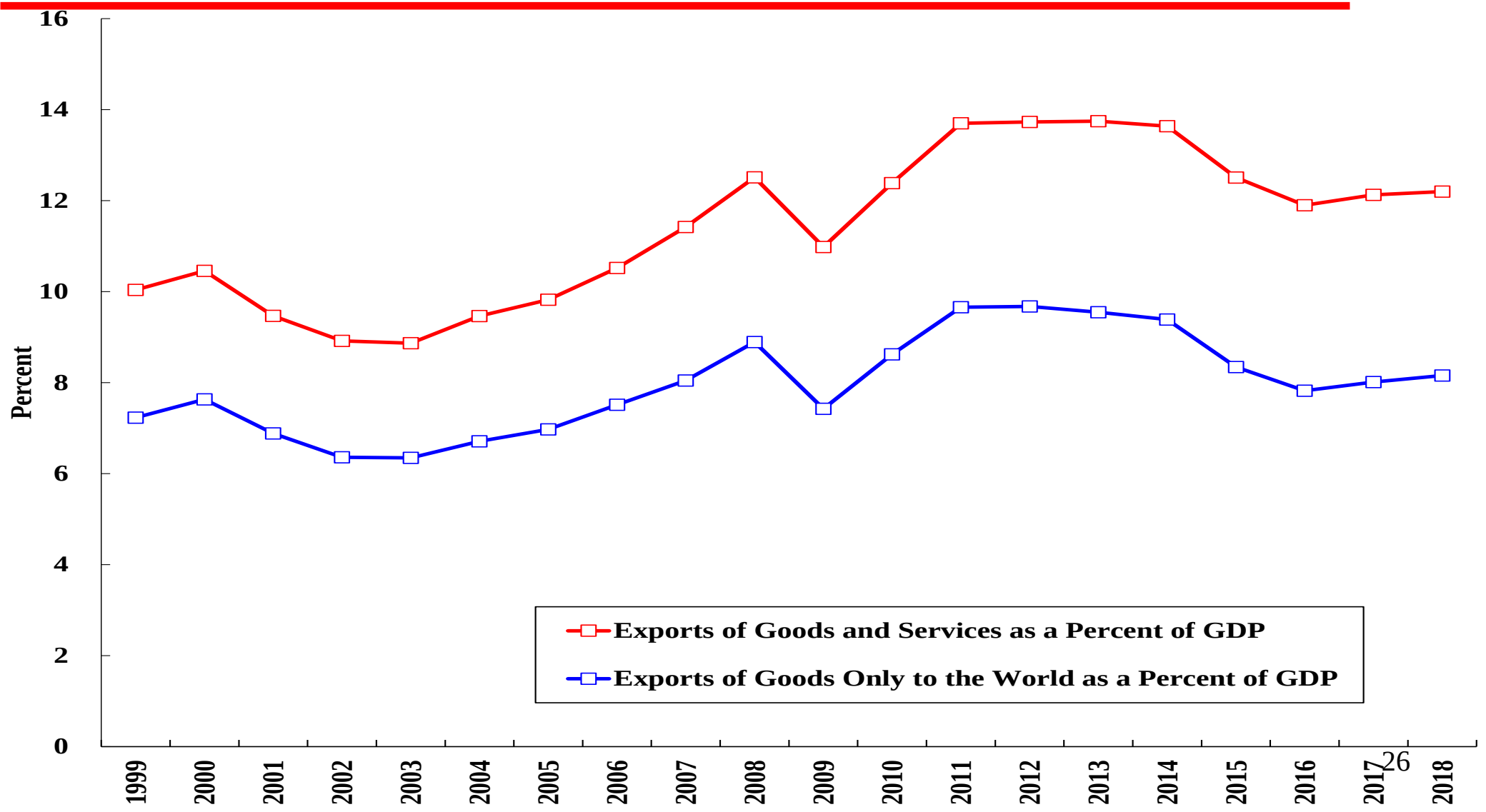
The Distribution of U.S. Apparel Imports by Countries and Regions of Origin



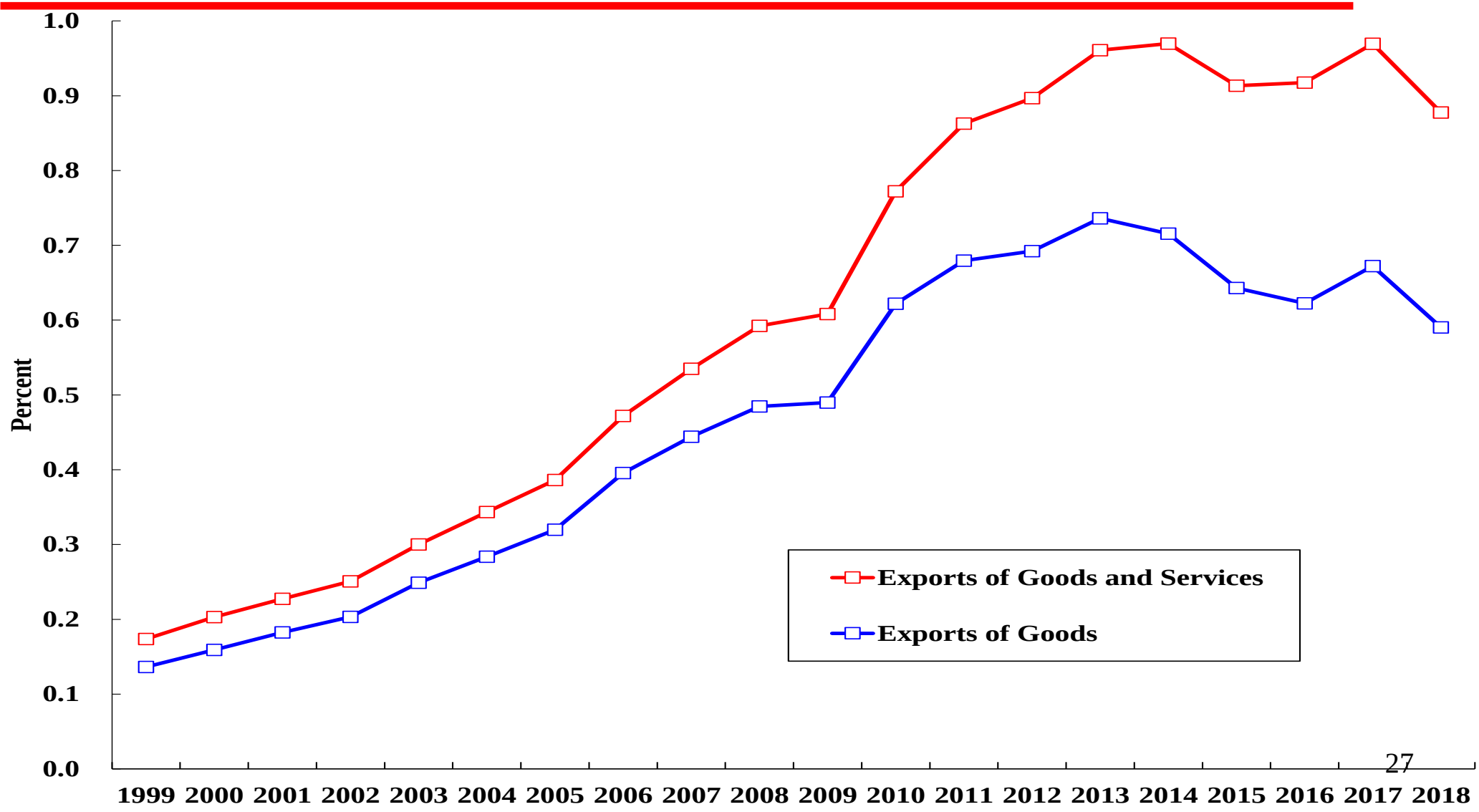
Real Impacts on the U. S. Economy

- The degree of 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 12.2% in 2018. The exports of goods alone as a share of GDP was only 8.2%.
- In 2018, the shares of U.S. exports of goods and services and goods alone to China in U.S. GDP declined from 0.97% to 0.88% and 0.67% to 0.58% respectively, reflecting the effects of the trade war (all of which were borne by the exports of goods). In absolute value, the exports were respectively US$180 billion and US$121 billion in 2018, much lower than those of Chinese exports to the U.S. However, the shares of U.S. exports of both goods and services and goods only to China have been rising over time until more recently.
- At the present time, Chinese tariffs have been imposed on US$110 billion of U.S. exports of goods, with rates up to 25%. The tariff rates have recently been adjusted upwards on approximately US$75 billion worth of U.S. exports to China.

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



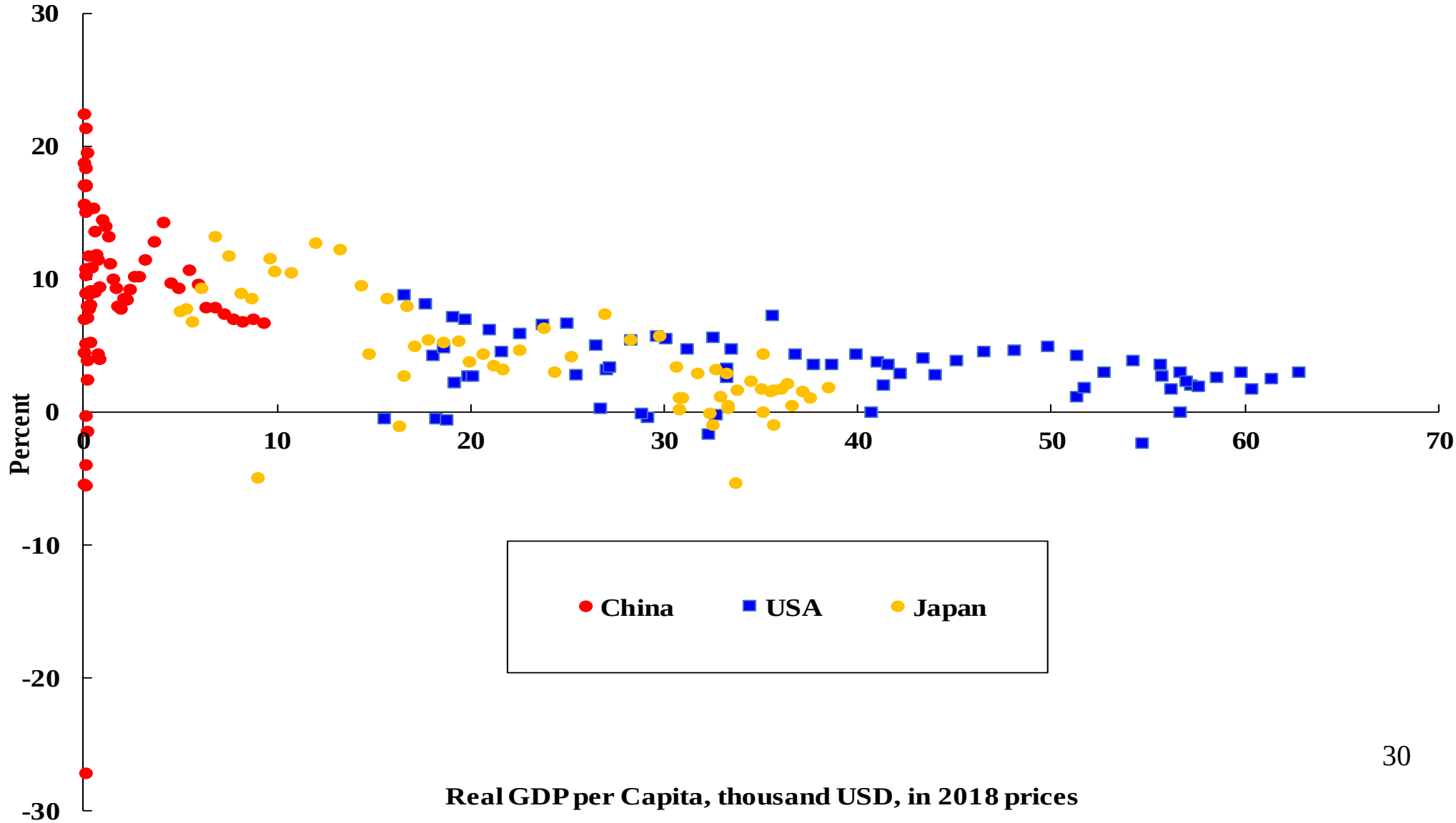
Real Impacts on the U. S. Economy

- 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 the U.S., assuming that all of its exports to China is completely halted by the tariffs, may be estimated in the first instance at 0.29% (0.58% x 0.508), less than the initial impact on Chinese GDP of 0.43%, based on the assumption that half of Chinese exports of goods to the U.S. will be halted.
- 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. (The price elasticity is low.) Suppose only half of U.S. exports of goods to China is halted, it would amount to a loss of U.S. GDP of 0.145% (0.29%/2). This is not significant for the U.S. economy, which grew 2.9% in 2018. U.S. GDP per capita is approximately US$62,609. The U.S. economy can easily weather a reduction of 0.145% in its rate of growth.

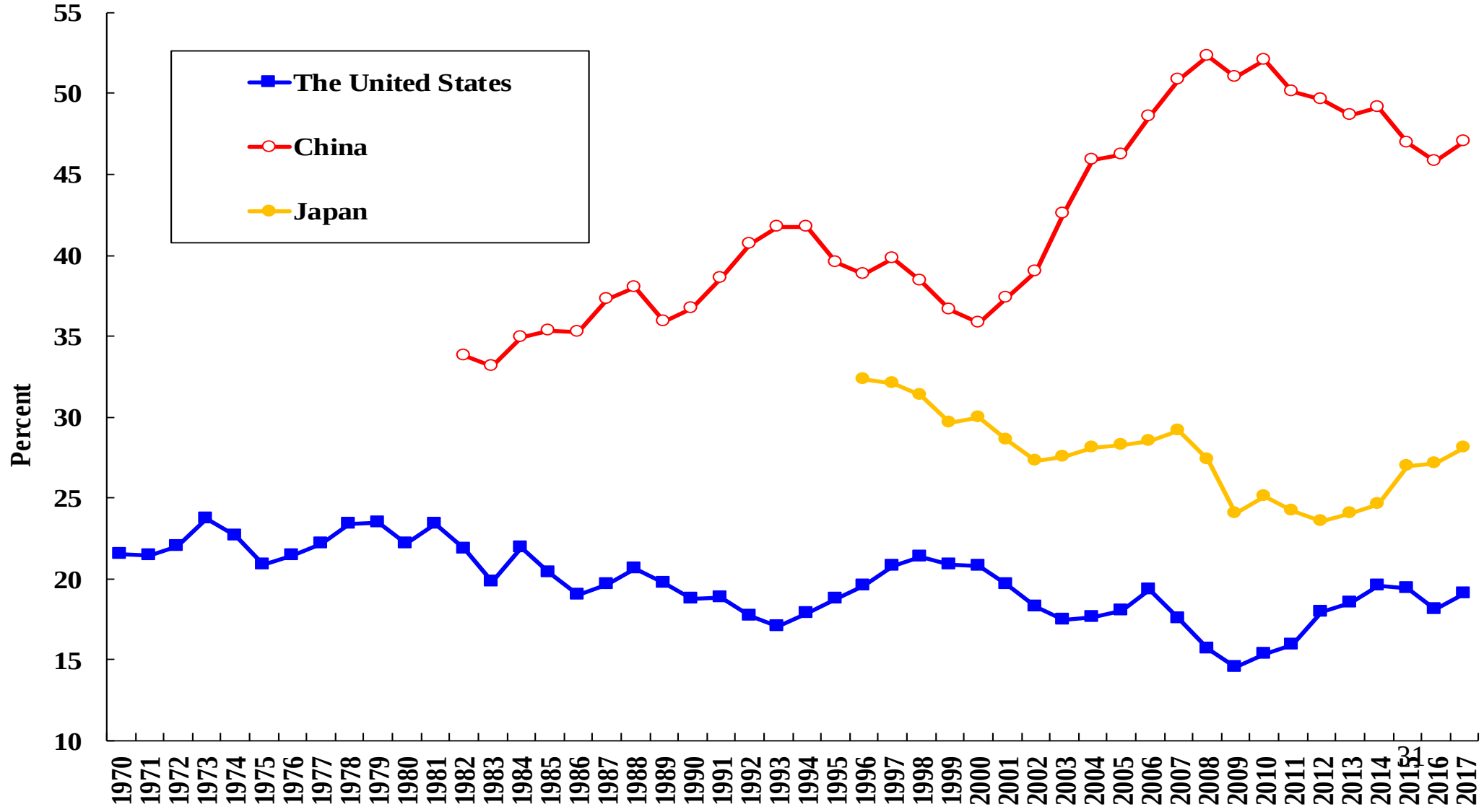
Real Impacts on the U. S. Economy

- 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 0.26% (0.58%/2 x 0.887), assuming that half of U.S. exports to China will be halted.
- In absolute terms, this amounts to US$53.3 billion (0.26 x 20.5 trillion) in 2018 prices, much less than the estimated Chinese loss in terms of GDP of US$156 billion.
- Thus, in both absolute and relative terms, the Chinese losses in real GDP will be much higher than those of the U.S.
- 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 for 2017. This surplus may be in jeopardy if China-U.S. relations deteriorate further.

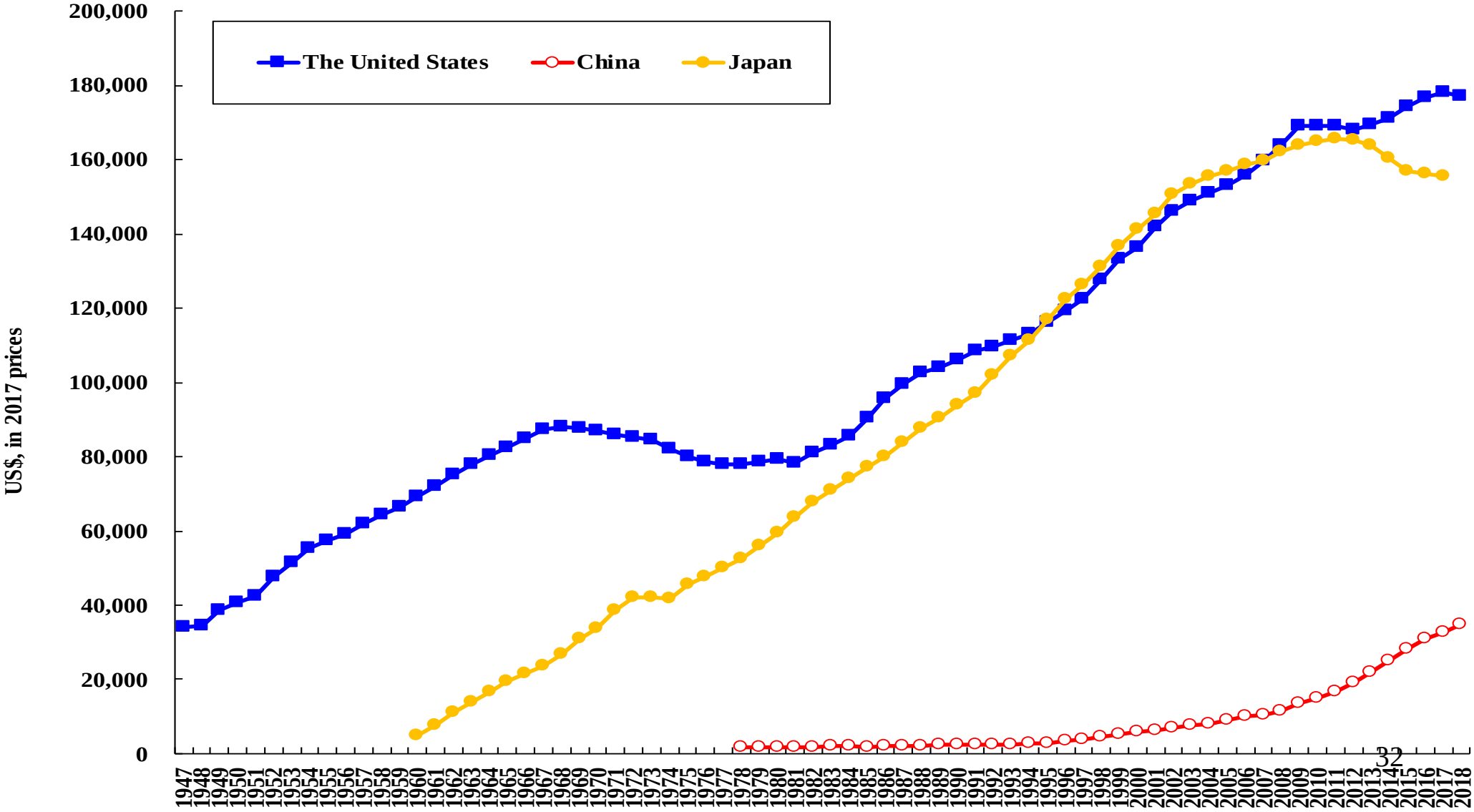
Growth Rate vs. Level of Real GDP per Capita (2018 tril. US$): China, Japan and the U.S.



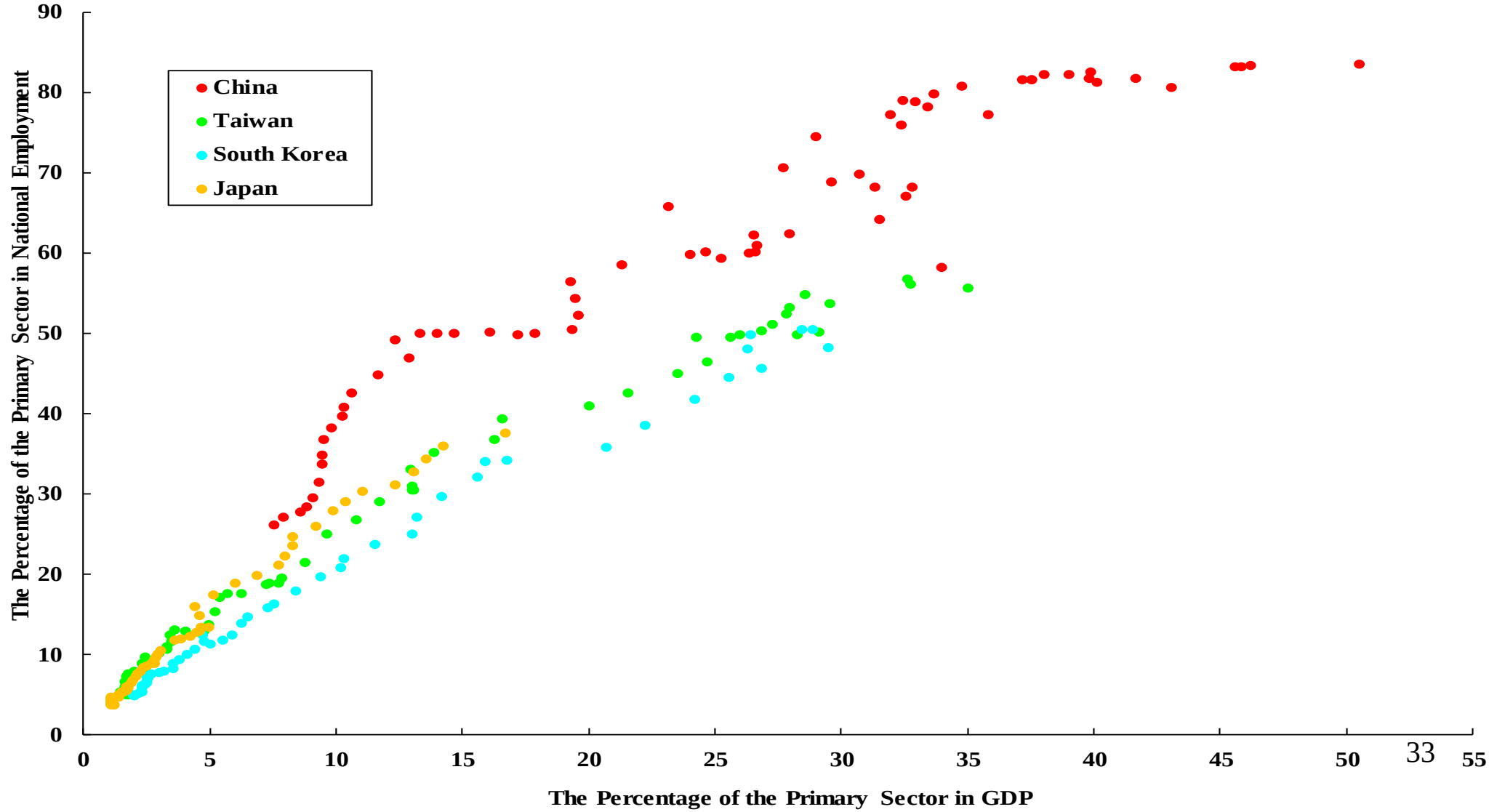
Comparison of National Savings Rates: China, Japan and the U.S.



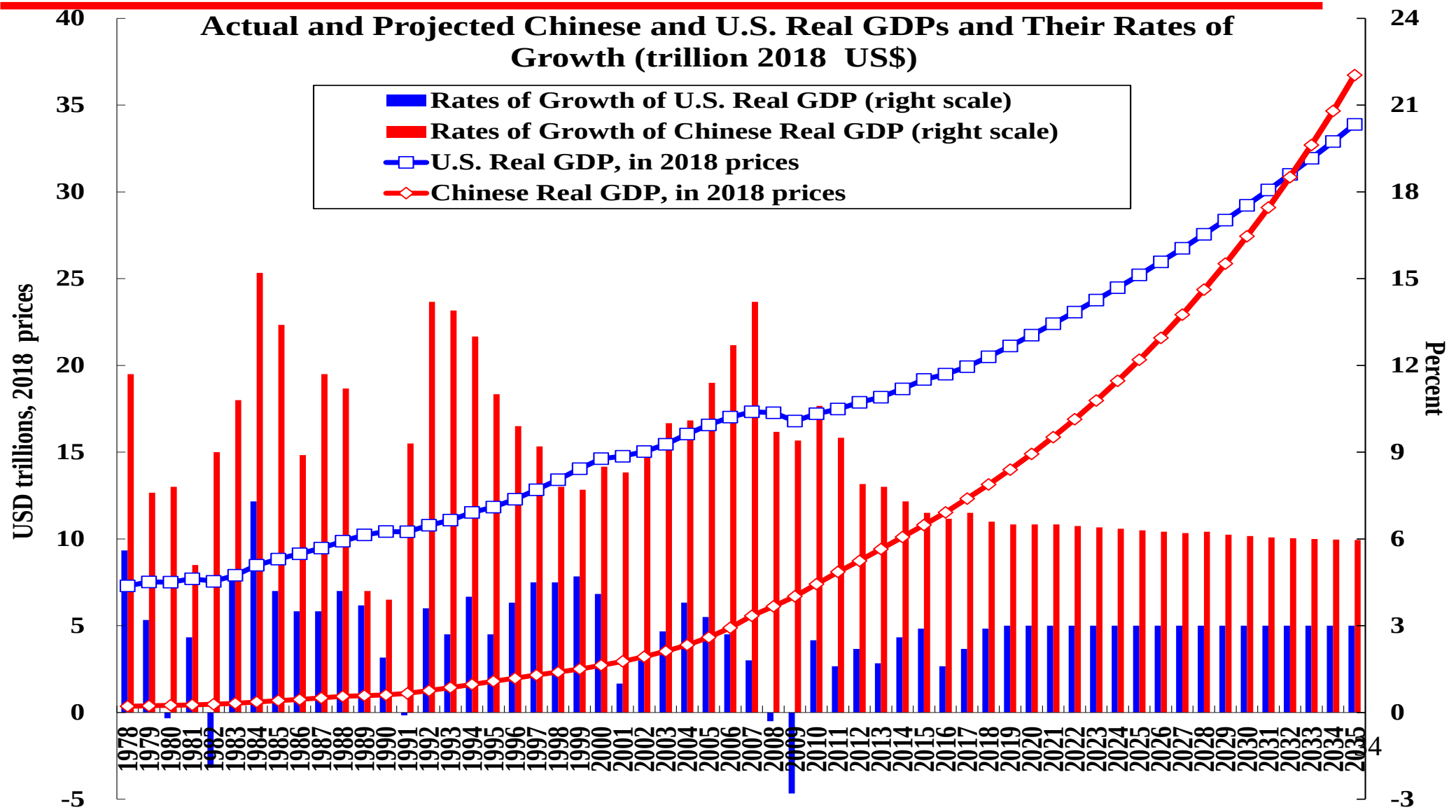
Comparison of Capital-Labour Ratios: China, Japan and the U.S.



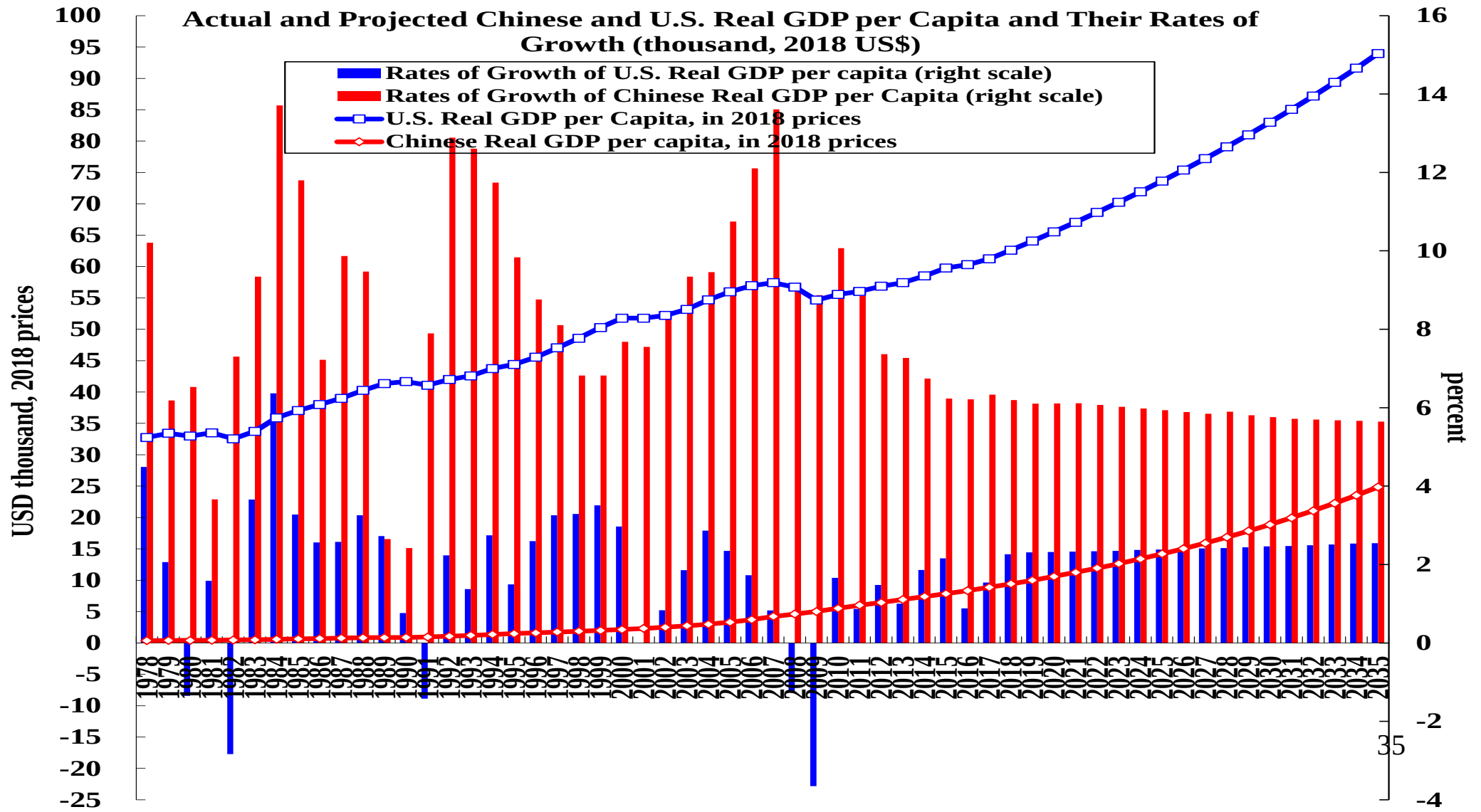
Scatter Diagram between the Shares of Employment and GDP of the Primary Sector



Actual and Projected Levels and Growth Rates of Chinese and U.S. Real GDP (2018 tril. US$)



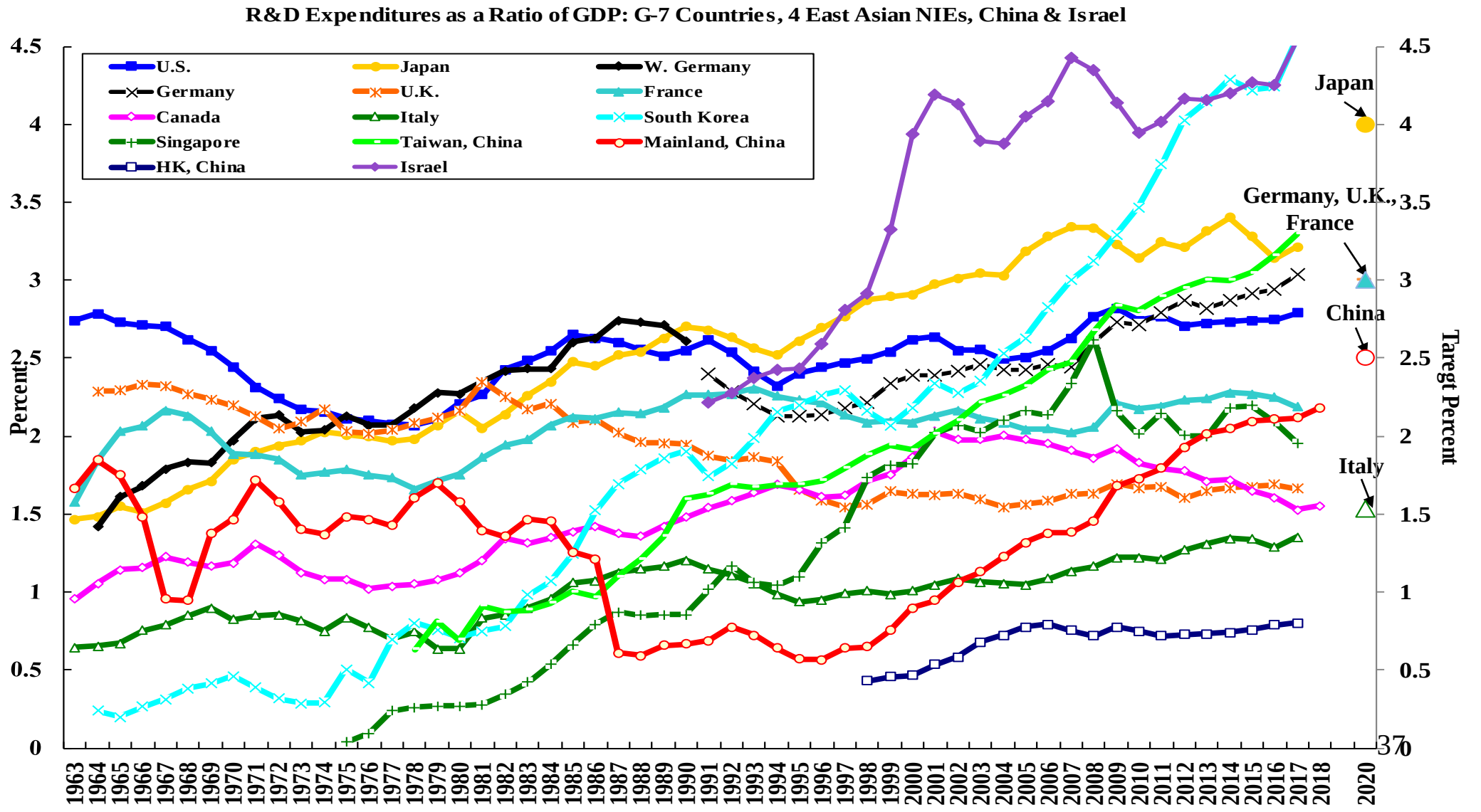
Actual and Projected Chinese and U.S. Real GDP/Capita and Their Annual Rates of Growth (1,000 2018 US$ & %)



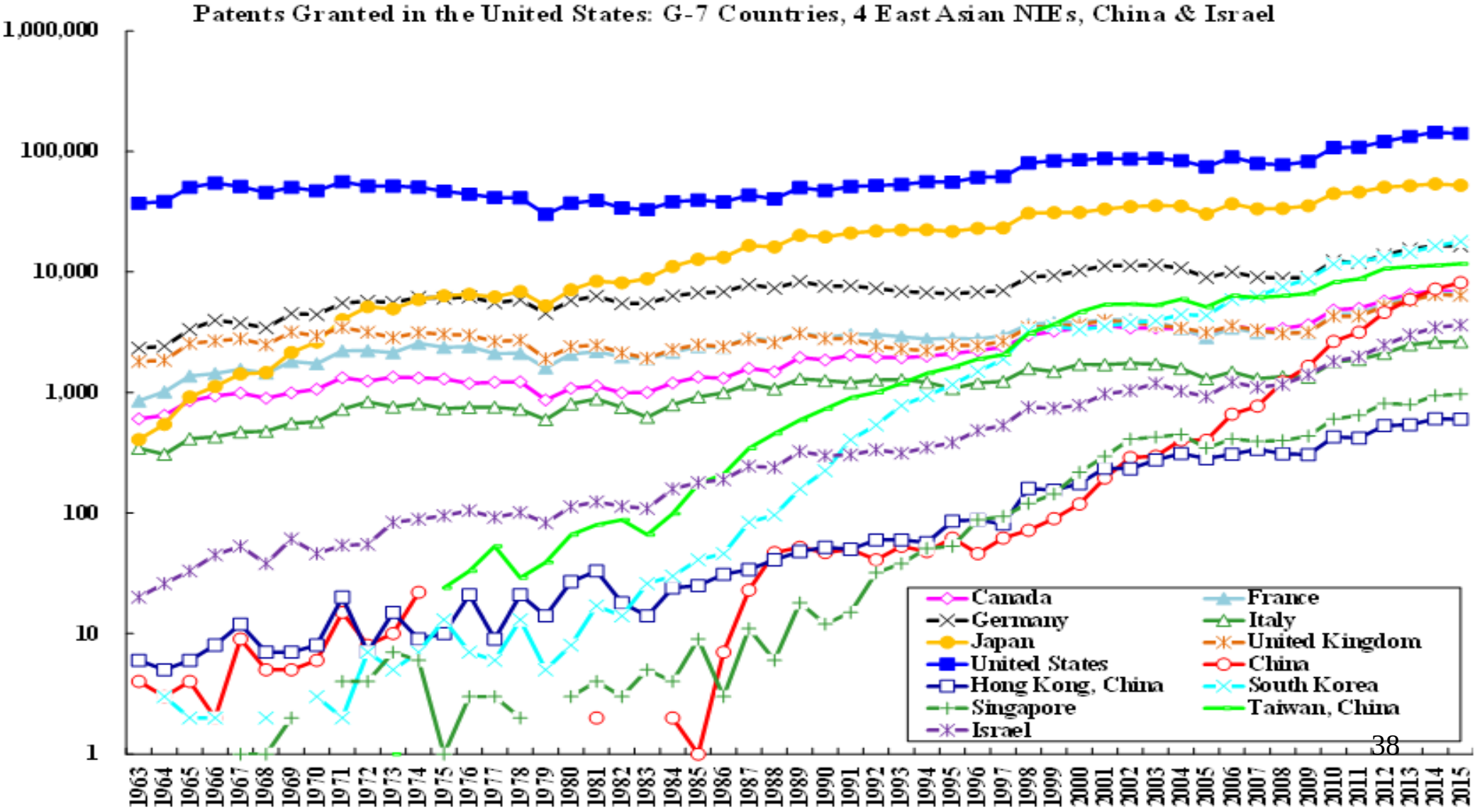
Economic and Technological Competition

- Even though the proximate cause of the current trade war between China and the United States is the large trade imbalance in China's favour, but it is actually a manifestation of 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 strategies aimed in part at containing China. It will not go away even after President Trump leaves office.

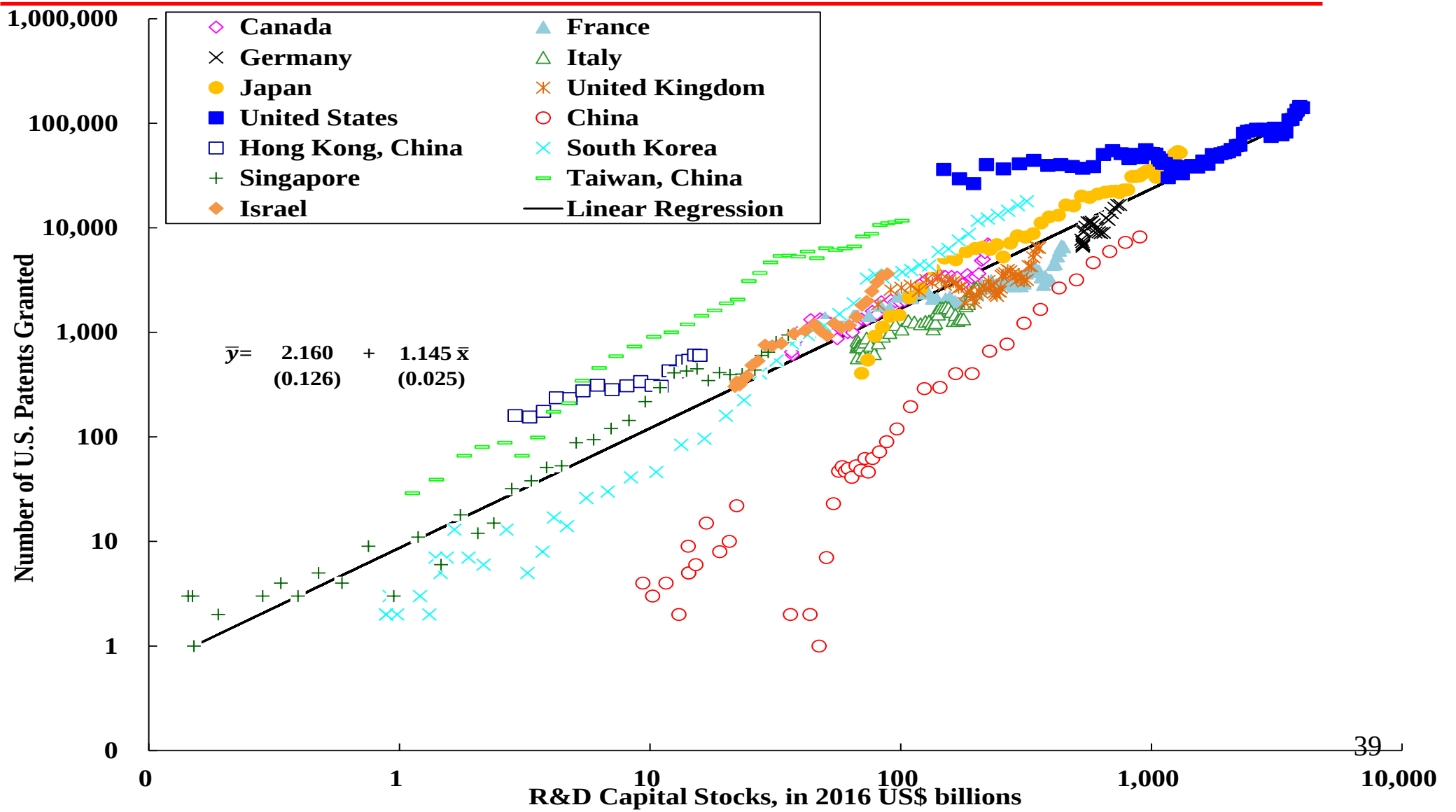
R&D Expenditures as a Share of GDP and Their Target Levels at 2020: G-7 Countries, 4 East Asian NIEs, China & Israel



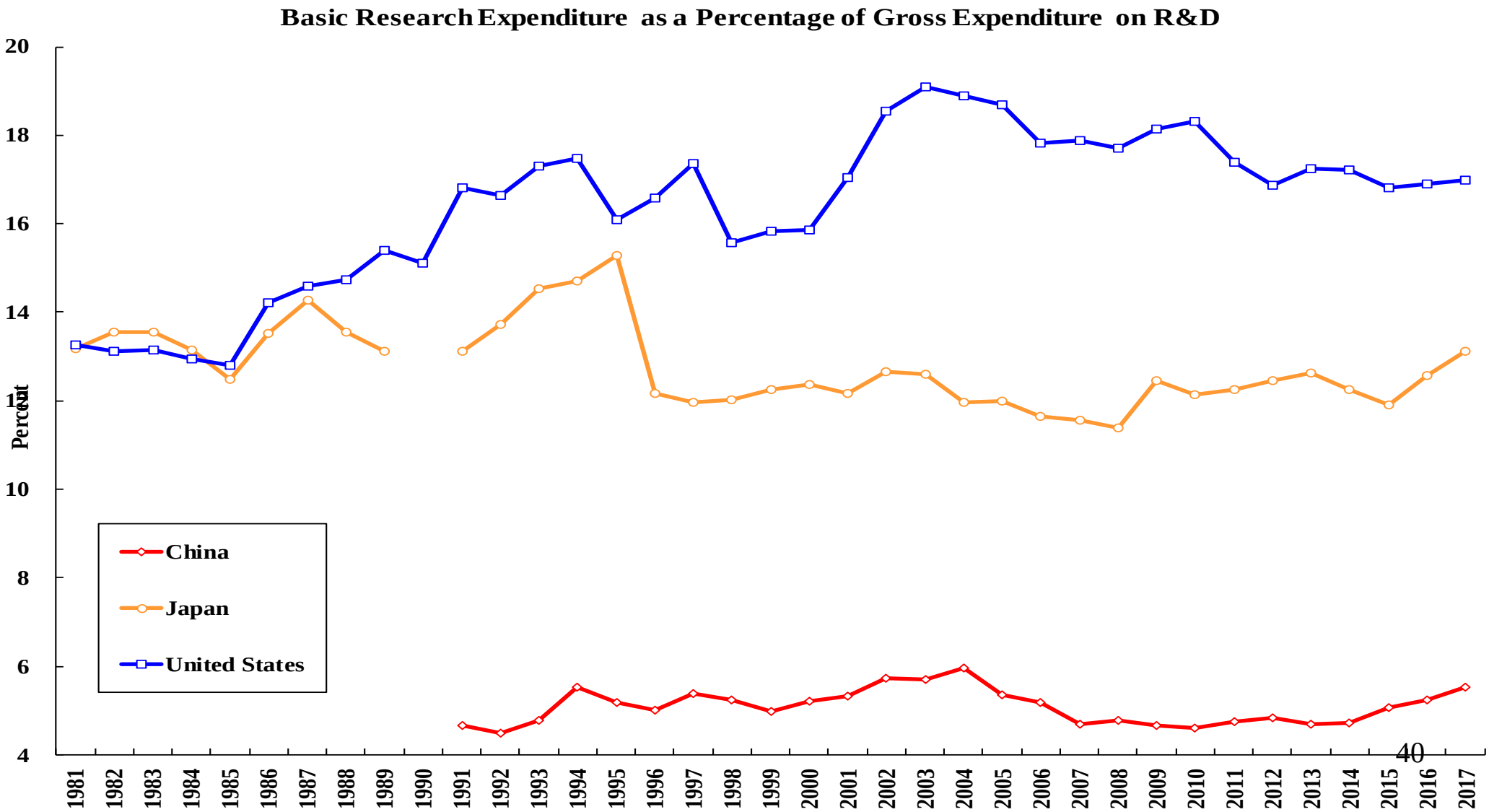
Patents Granted in the United States: G-7 Countries, 4 East Asian NIEs, China & Israel



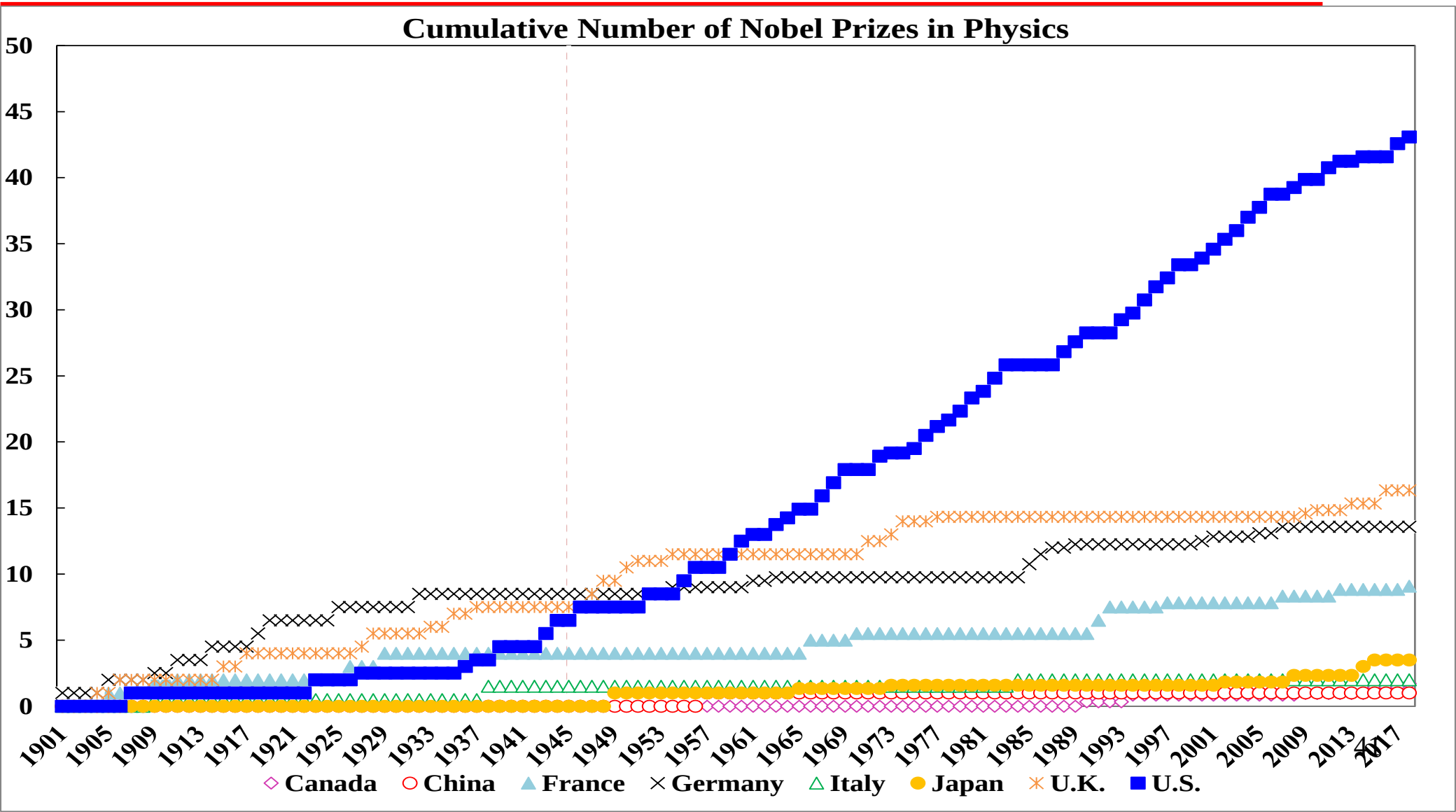
U.S. Patents Granted and R&D Capital Stocks: G-7 Countries, 4 EANIEs, China & Israel



Basic Research Expenditure as a Share of Total R&D Expenditure: China, Japan and the U.S.



Technological Competition: Cumulative Number of Nobel Laureates in Physics



Coordinated Expansion of Trade

- A bilateral trade gap can be closed by either increasing trade or decreasing trade. (If two countries stop trading, the bilateral balance is by definition zero.) It is much better to close a bilateral trade gap by increasing the exports from the deficit country to the surplus country than for the surplus country to reduce its exports to the deficit country.
- It is conventional wisdom that reducing a bilateral trade surplus per se, for example, by increasing exports from the deficit country to the surplus country, cannot change the aggregate trade deficit with the world of the deficit country, nor increase the GDP of the deficit country.
- However, this is not necessarily true because markets are not complete. There is no long-term futures market beyond a couple of years. The insurance markets are also not complete--there are many risks that cannot be insured in an economically viable way. The market, left to its own, may not bring about some otherwise productive economic activities. Thus, coordination (or some would say managed trade or planning) can enable certain economic activities to take place that otherwise would not have occurred.

Coordinated Expansion of Trade

- An example is the possible development of the natural gas reserves in Alaska to be sold to Chinese customers. Significant long-term investments will have to be made. Without committed buyers, the project cannot be financed (future markets for natural gas does not go beyond a couple of years). Without committed and well-capitalised developers with a track record, the potential buyers will not commit either.
- Moreover, there is always the concern that the trade may be interrupted for political reasons by either government. Thus, coordination by state and non-state actors are necessary.

Enhancing Mutual Economic Interdependence

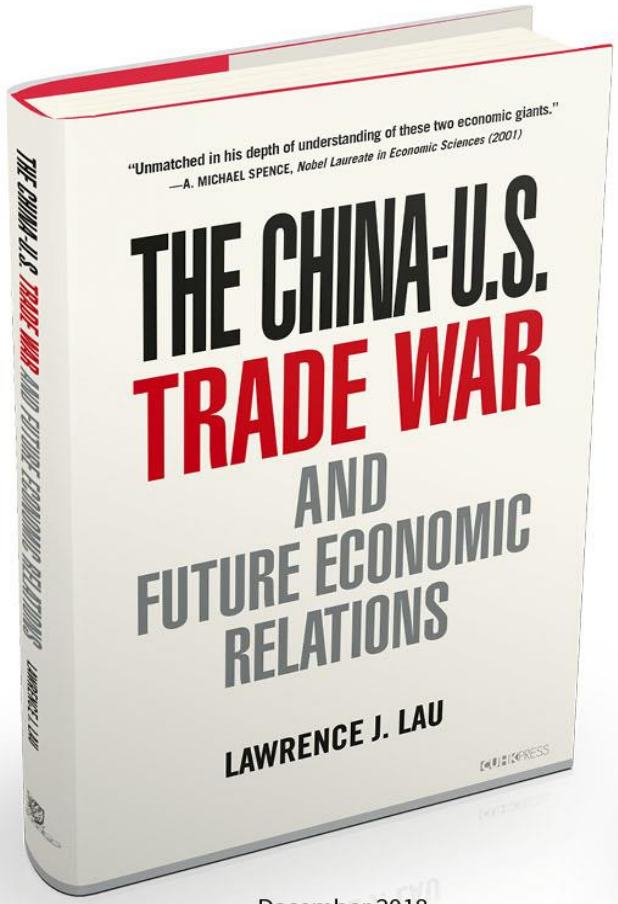
- Long-term bilateral trade can enhance mutual trust, and mutual trust in turn can promote more long-term bilateral trade.
- Both countries should therefore promote greater mutual economic interdependence so that their economic relations are win-win making a real war between them unthinkable.
- The two European powers, France and Germany, which were at one time rivals, fought three wars between them in 1870, 1914 and 1939 respectively. After World War II, the European Common Market was launched so as to increase the degree of economic collaboration and cooperation between them. Today, France and Germany and the best of allies in the European Union, and a war between them is not possible.

Concluding Remarks

- A fundamental problem is that while economic globalisation enhances the welfare of every country in the aggregate, it has also created "winners" and "losers" in every country. The exporters and importers and their employees and suppliers are the winners. The investors and workers in the domestic industries being replaced by imports are the losers.
- The market, on its own, does not compensate the losers. That is why there has been so much anger in the U.S., the U.K. and in Europe. It is up to each government to compensate the losers by taxing directly and indirectly the winners. This has not been done in most countries.
- China, however, has done so through its programmes for the eradication of poverty. It has lifted 740 million people out of poverty. By 2020, poverty in China, as measured by 2010 standards, will have been totally eradicated.

Concluding Remarks

- In the long run, if China and the U.S. cooperate and work together, many global problems such as prevention of climate change, denuclearisation, and the economic development of Africa, can be solved.
- China and the U.S. can both collaborate and compete in finding cures for diseases such as cancer and Alzheimer's disease, and every country in the world will benefit from it.
- The U.S. can invite China to participate in the exploration of Mars and share in the cost, which has been estimated to be hundreds of billions of 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**!



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