The Impacts of the Trade War and the COVID-19 Epidemic on China-U.S. Economic Relations

Lawrence J. Lau 刘遵义
Ralph and Claire Landau Professor of Economics, The Chinese Univ. of Hong Kong
and
Kwoh-Ting Li Professor in Economic Development, Emeritus, Stanford University

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

- The China-U.S. trade war actually started in January 2018, even though the first tariffs did not actually take effect until mid-2018. It is still ongoing despite an interim "Phase 1" truce.
- The trade war lowered the Chinese rate of growth from 6.7% in 2018 to 6.1% in 2019, but it caused only a very slight decline in the rate of growth of the U.S. economy in 2019.
- The first COVID-19 case in China was found in Wuhan, Hubei in December 2019. China has actually managed the COVID-19 epidemic quite well--imposing a blockade on Wuhan and Hubei and lockdowns in many cities, and mandating testing, isolation, social distancing, and contact-tracing measures. However, the COVID-19 epidemic lowered the year-over-year rates of growth of the Chinese economy in 2020Q1 and Q2 to -6.8% and 3.2% respectively. For 2020 as a whole, the rate of growth is projected to be 3.4%.

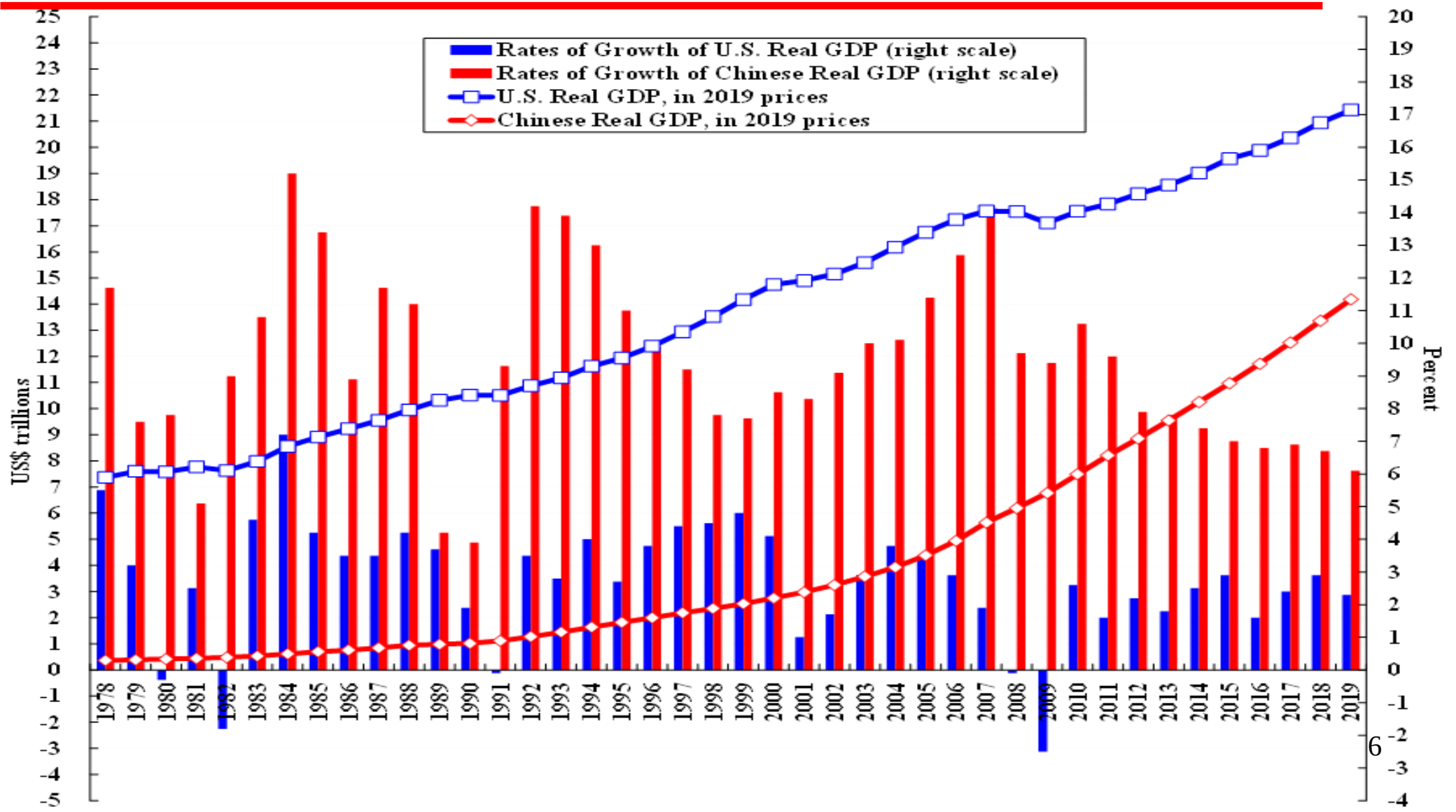
Introduction

- The first confirmed COVID-19 case in the U.S. was reported on 21 January 2020. Unfortunately, the U.S. did not handle the epidemic too well. The cumulative number of confirmed cases began growing quickly a month later, on 22 February. As of 31 July 2020, the U.S. had more than 4.7 million cumulative confirmed cases and 156 thousand cumulative deaths, the highest such numbers of any country in the world, compared to less than 85,000 cumulative cases and less than 4,650 cumulative deaths for the Mainland of China.
- The COVID-19 epidemic has also resulted in a projected contraction of the U.S. economy in 2020 of more than 5%.
- The trade war and the COVID-19 epidemic also led to the deterioration of China-U.S. relations to arguably the lowest point since 1971.

Why is the U.S. so Anti-China Today?

- First of all, the influence of the military-industrial complex in the U.S. has always been very strong. They need a hypothetical enemy in order to justify a large and increasing national defense budget, which benefits both the military and the national defense contractors. The enemy used to be the former Soviet Union and now it is China.
- Second, some in the U.S. are concerned that it may not be able to maintain its hegemony status over the world as China rises, that it may have to share influence and power with China, if not today, perhaps some time in the not too distant future. Moreover, the rise of China as a potential economic competitor has been extraordinarily and unexpectedly rapid. In 2000, Chinese GDP was only 18.7% of U.S. GDP; by 2019, Chinese GDP was 66.2% of U.S. GDP. In addition, even though China is still behind the U.S. technologically overall, it has made great progress and leads the U.S. in quite a few areas, including 5G telecommunication, artificial intelligence (AI) applications, and quantum communication. China is perceived as a potential threat so the U.S.

The Real GDPs and Their Rates of Growth: China and the U.S. (tril. 2019 US$ & %)



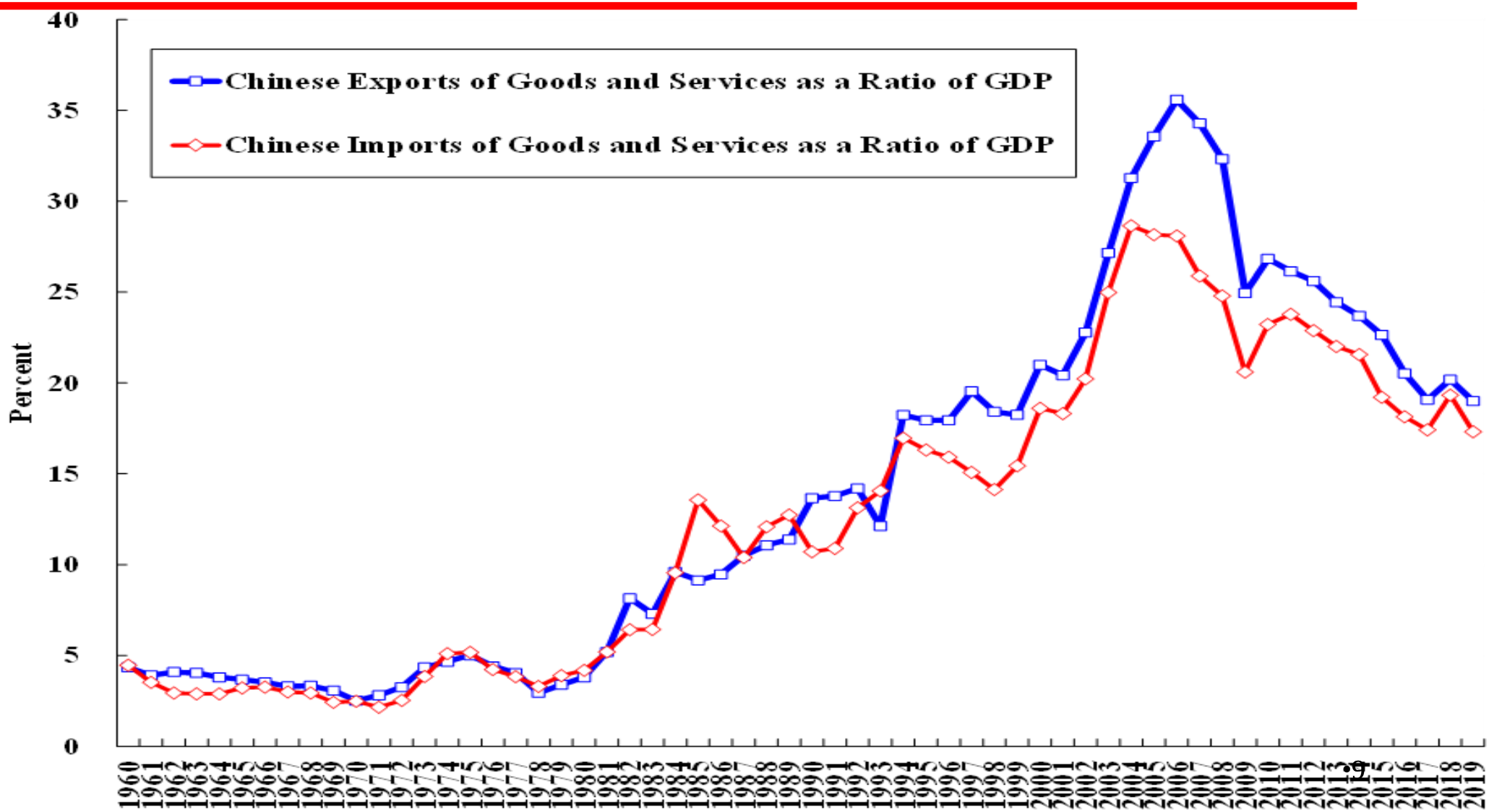
Why is the U.S. so Anti-China Today?

- Third, many of the liberals in the U.S., who used to support engagement with China, are disillusioned that China has not become the liberal democracy that they once envisioned.
- Fourth, even though U.S. businesses have by and large done well in China, they have accumulated many grievances of various kinds over the years (even though some of these grievances have become moot: e.g., the requirement of a 50/50 Chinese joint-venture partner, which has since been abolished; and lax enforcement of intellectual property rights, which has been considerably strengthened since 2014).
- Finally, as the U.S. presidential election approaches, the easiest thing for the incumbent president to do is to blame China for all of the ills in the U.S. society, including unemployment, low wages, and the COVID-19 epidemic. The challenger also has no incentive to correct the incumbent and may even take more extreme anti-China positions at least for the purposes of the election. A military confrontation with China may also conveniently boost support for the re-election of the Commander-in-Chief.

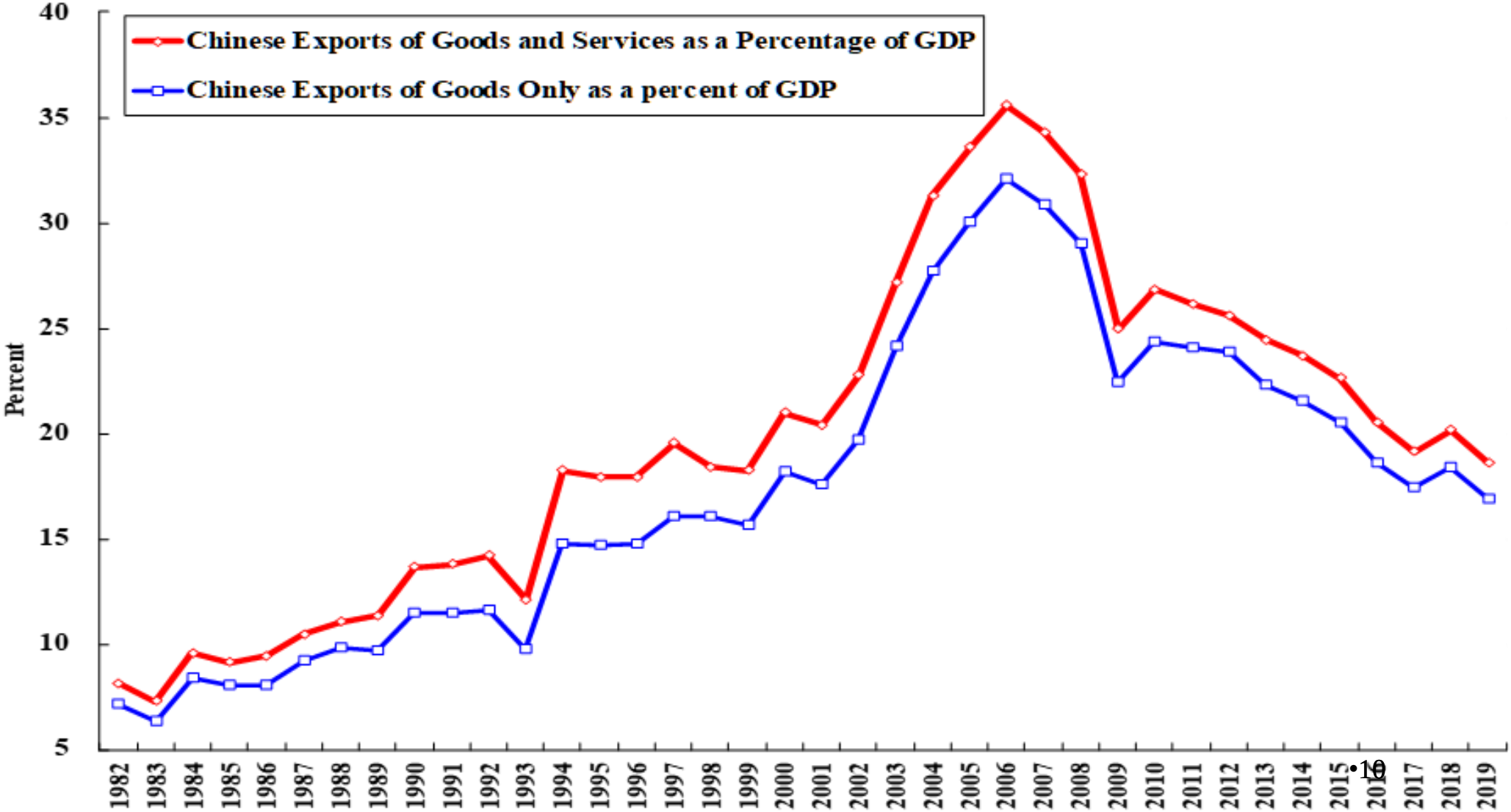
The Underlying Trends in the Chinese Economy

- Economic De-globalisation
- The Declining Importance of International Trade and Investment for China
- The Continuing High Rate of Chinese Economic Growth

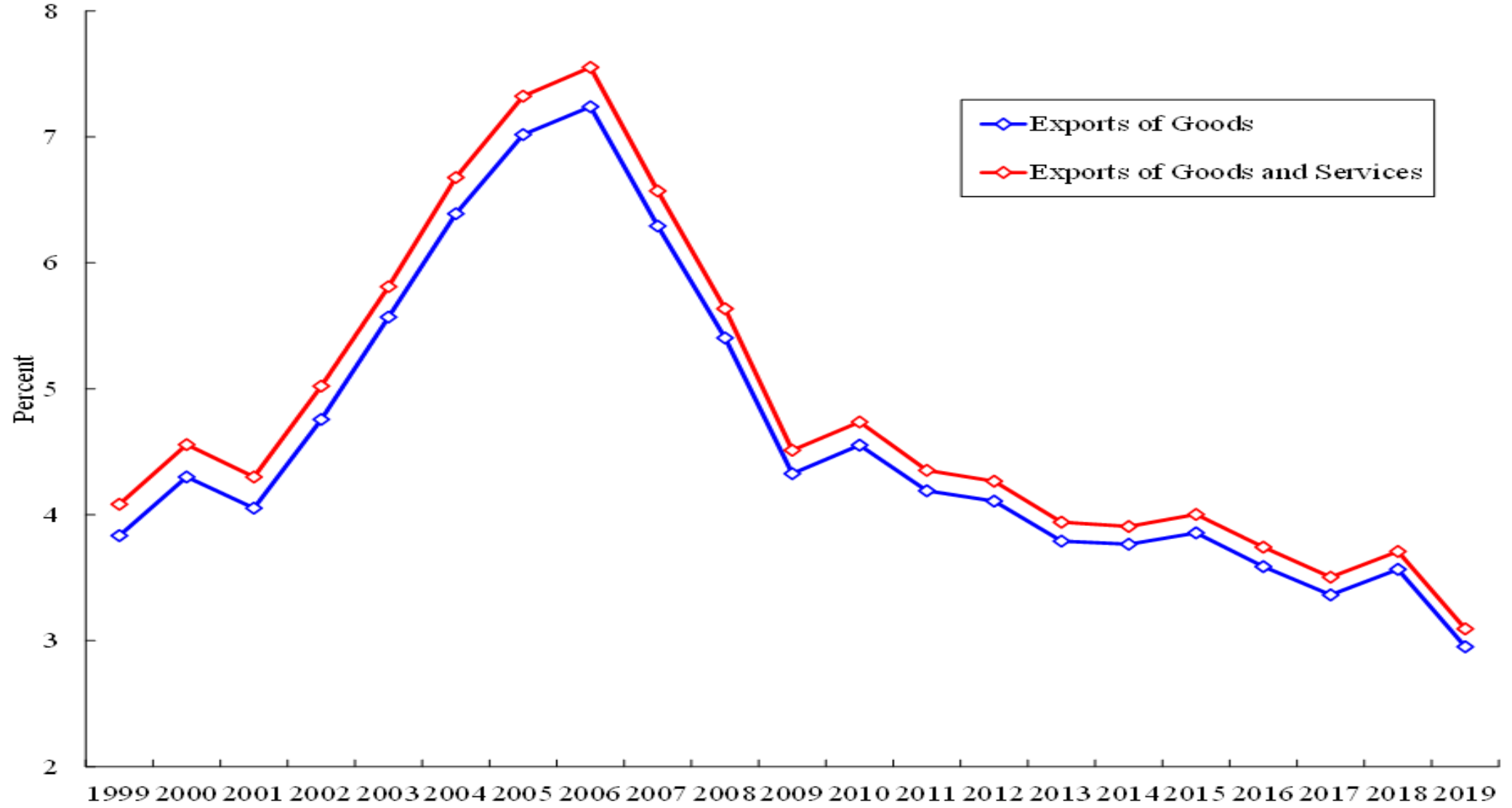
Chinese Exports and Imports of Goods and Services as a Percentage of Chinese GDP



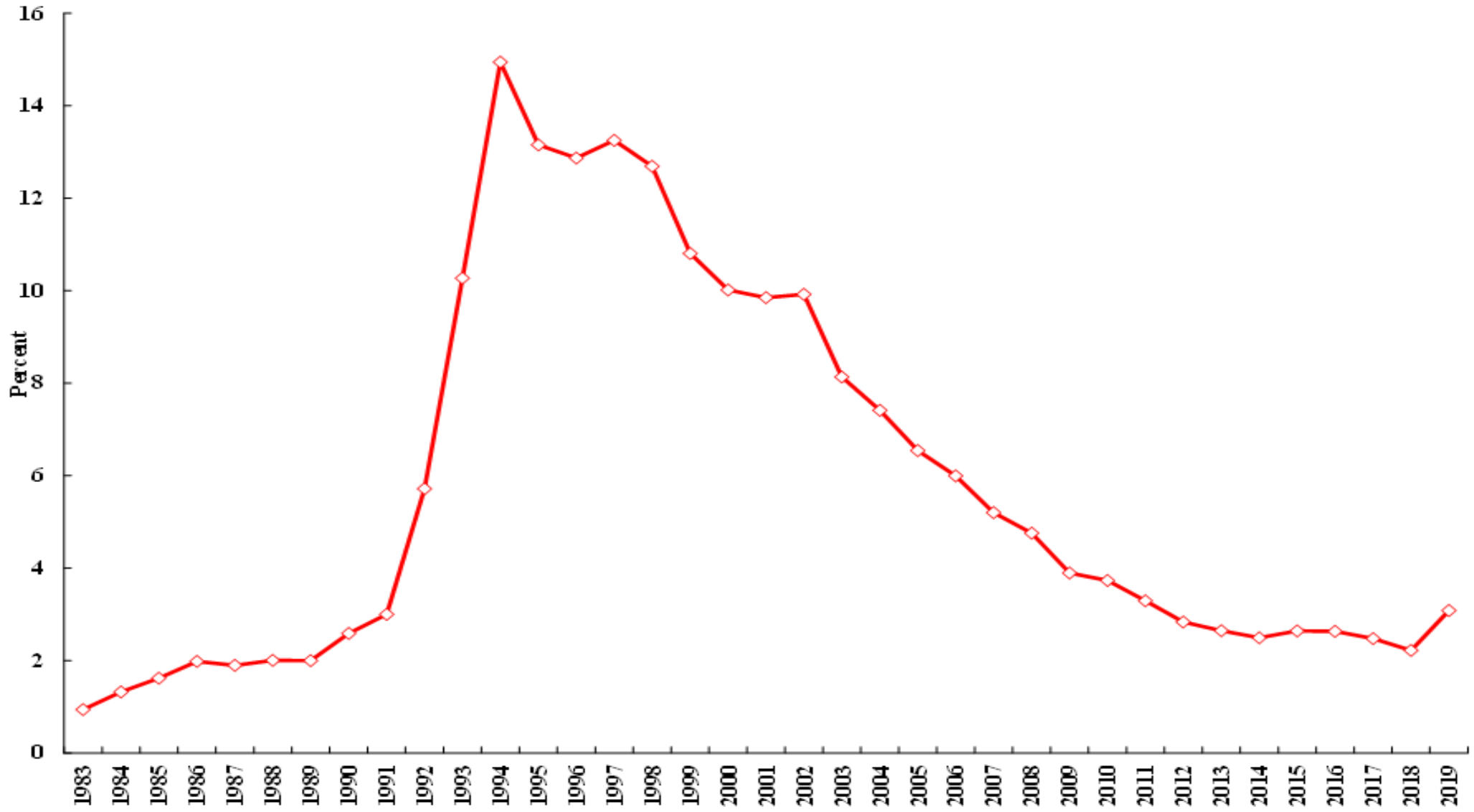
Chinese Exports of Goods and Services and Goods to the World as a Percentage of GDP



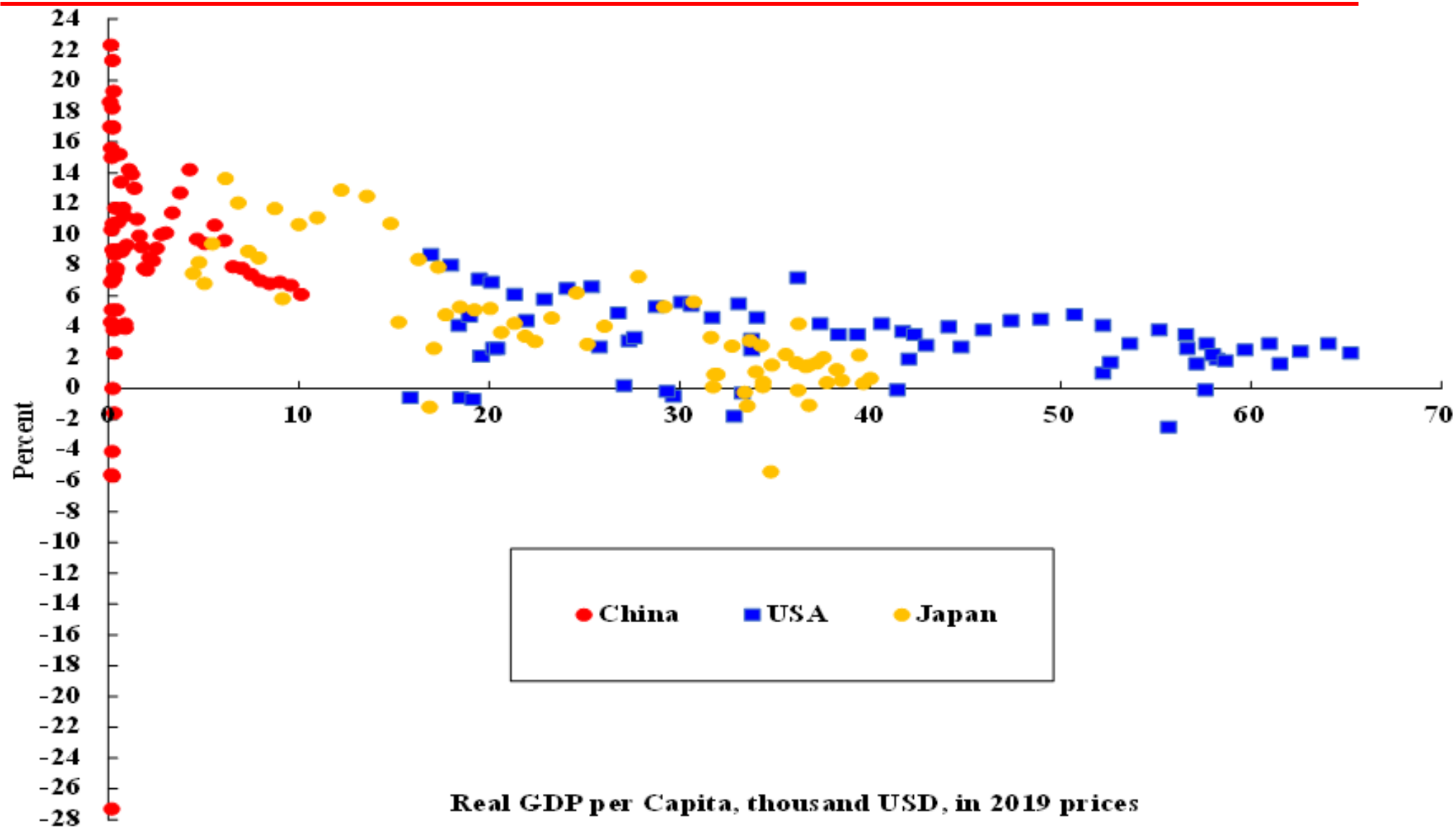
Chinese Exports of Goods and Services and Goods to the U.S. as a Percentage of GDP



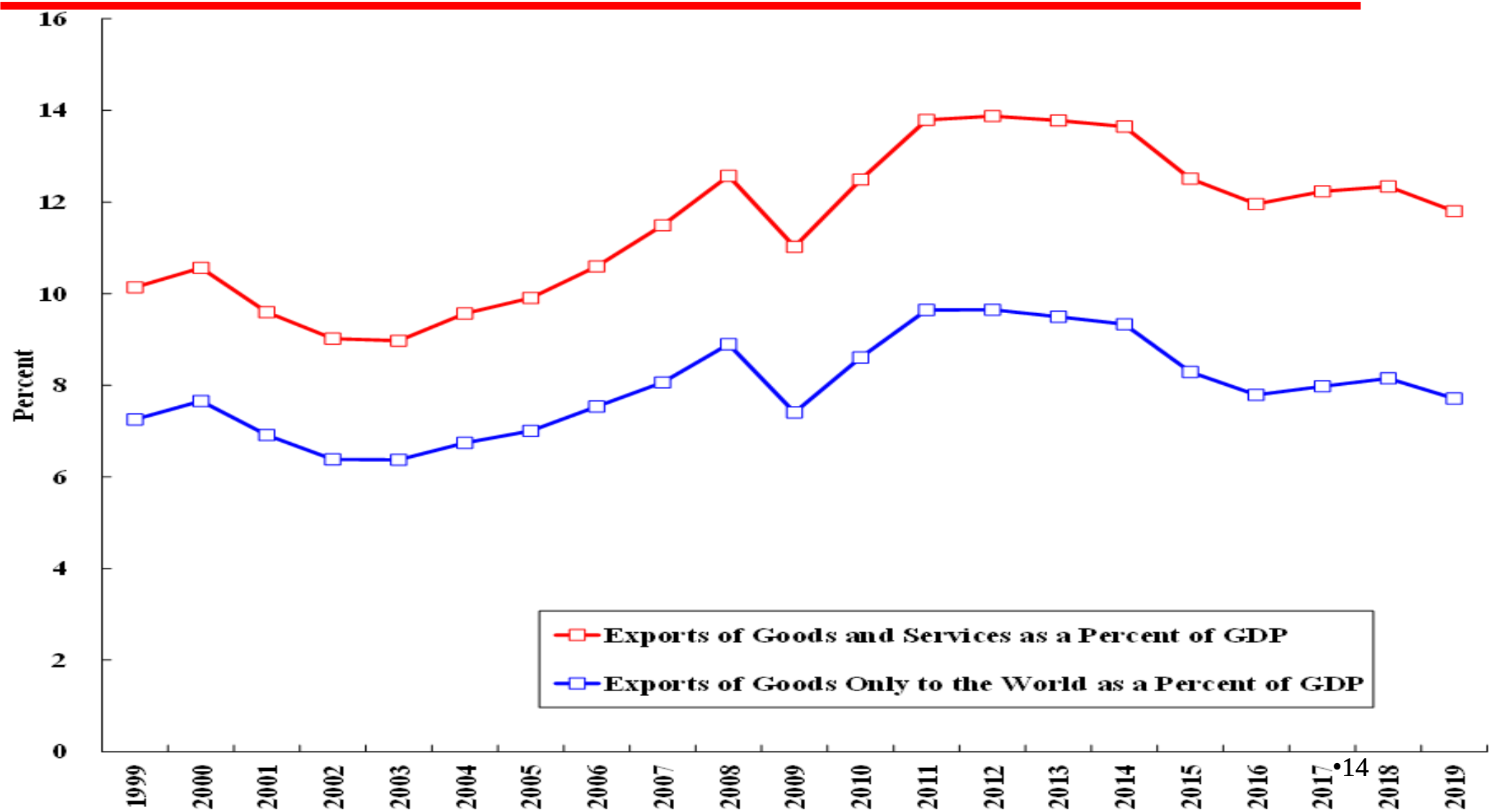
Chinese Inbound Foreign Direct Investment as a Percentage of Gross Domestic Investment



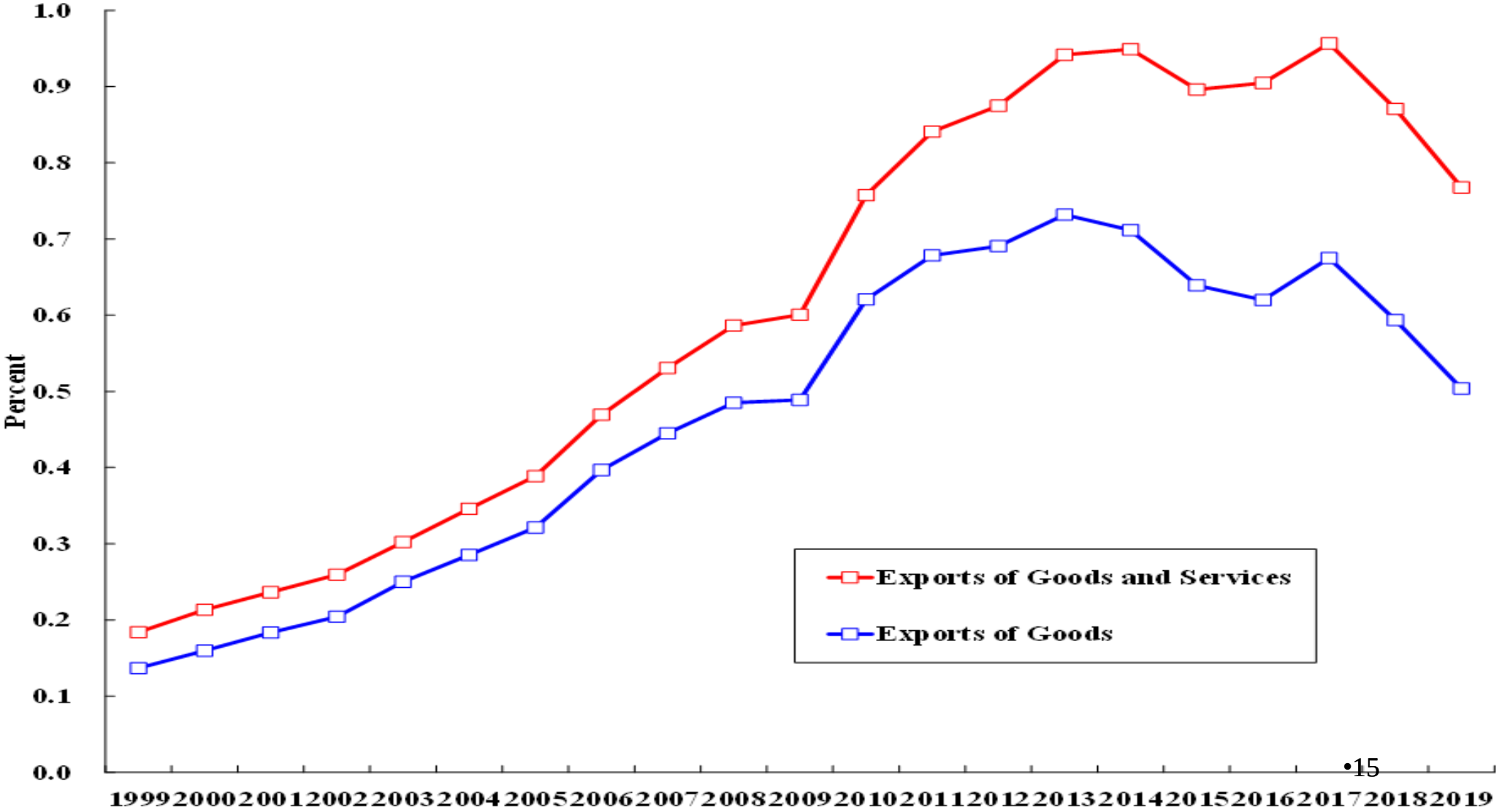
Rate of Growth of GDP vs. Level of Real GDP per Capita: China, Japan and the U.S.



U.S. Exports of Goods and Services and Goods to the World as a Percentage of GDP



U.S. Exports of Goods and Services and Goods to China as a Percentage of GDP



The Impacts of the China-U.S. Trade War

- 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 created 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 at most 3.3%. (The GNP generated is even lower since Foxconn is not a Mainland Chinese company.)

The Impacts of the China-U.S. Trade War

- The average direct domestic value-added content of Chinese exports of goods to the U.S. is 24.8%, so that US$100 billion worth of Chinese exports to the U.S., f.o.b., generates directly no more than US$24.8 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 demands for consumption goods by the workers in the exporting industry, which in turn lead to a second-round reduction in the demands for domestic inputs used in the production of the domestic inputs and demands for domestic final consumption.
- 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 Impacts of the China-U.S. Trade War

- The U.S. economy is much less dependent on exports than the Chinese economy, even though the Chinese economy has already become much less dependent on exports over the years.
- The Chinese share of exports of goods to the U.S. in Chinese GDP was 3.0% in 2019. The U.S. share of exports of goods to China in U.S. GDP was 0.50% in 2019.
- The total (direct plus indirect) domestic value-added content of Chinese exports of goods to the U.S. was 66%. The total (direct plus indirect) domestic value-added content of U.S. exports of goods to China was 88.7%. If trade in goods is halted completely in both directions, the loss in Chinese GDP may be estimated at 1.99% (3.0 x 0.66) and the loss in U.S. GDP may be estimated at 0.44% (0.50 x 0.887).
- At the present time, the Chinese economy is still more dependent on the U.S. than the U.S. economy is dependent on China. Hence the economic impacts of the trade war will be much heavier on China than the U.S.

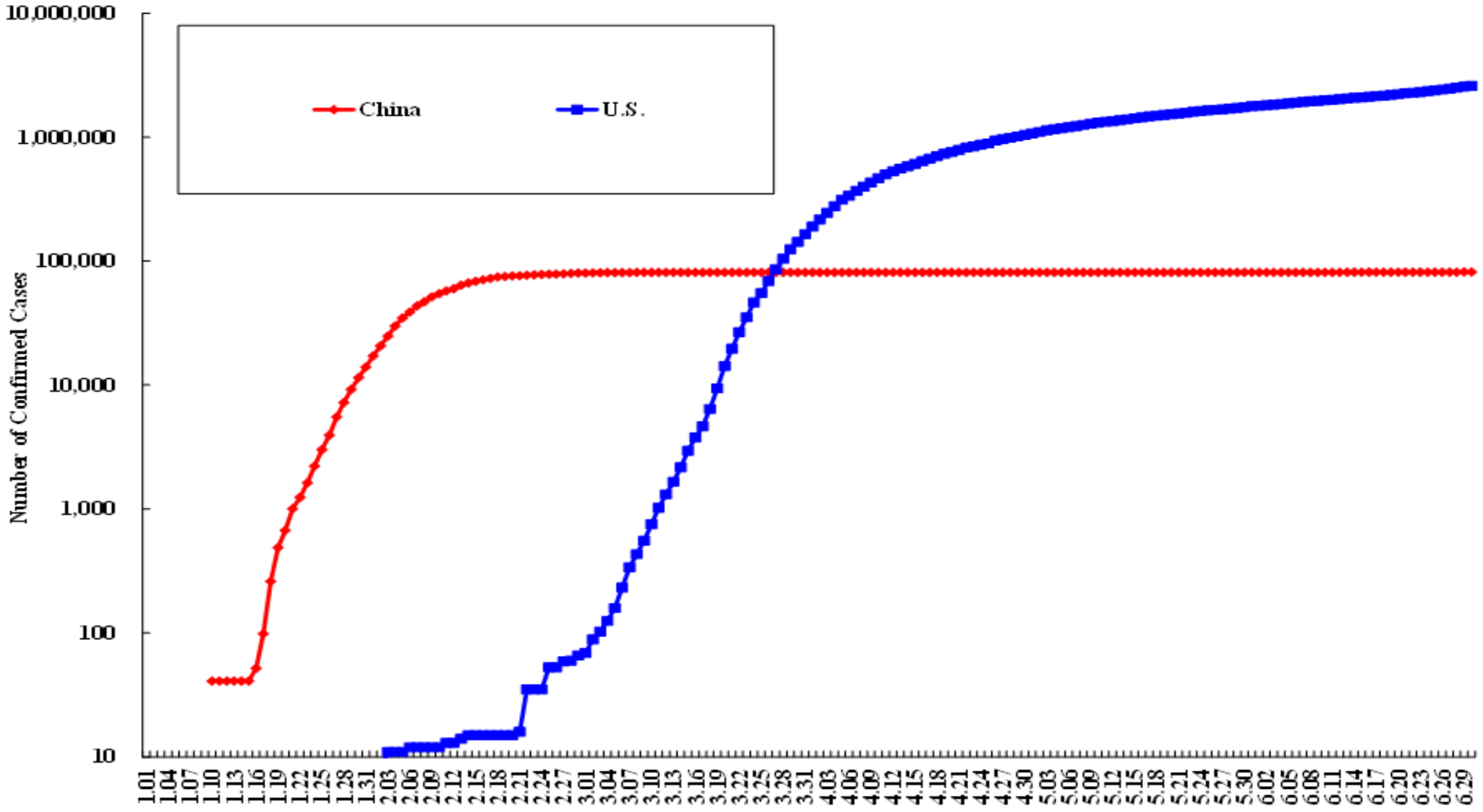
Estimated Impacts of the Trade War on the GDPs of China and the U.S.

	Assuming 50% of Exports Halted		Assuming 100% of Exports Halted	
	US$ Billion	Percent of GDP	US$ Billion	Percent of GDP
China	-135	-0.99%	-269	-1.90%
U.S.	-47	-0.22%	-94	-0.44%

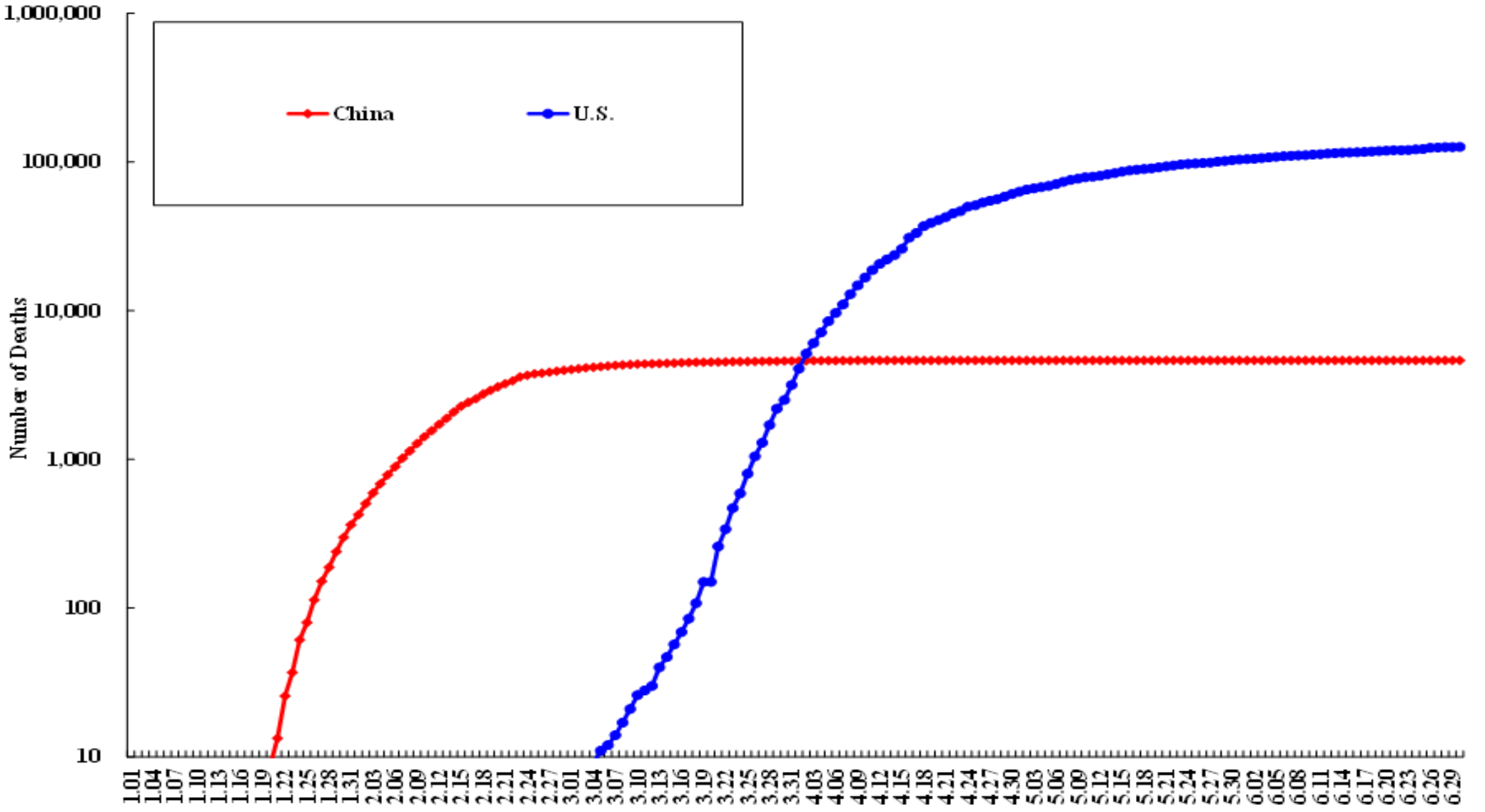
The COVID-19 Epidemic

- The first COVID-19 case in China was found in Wuhan, Hubei in December 2019. China has actually managed the COVID-19 epidemic quite well--imposing a blockade on Wuhan and Hubei and lockdowns in many cities, and mandating testing, isolation, social distancing, and contact-tracing measures. As of 31 July 2020, China had less than 85,000 cumulative cases and less than 4,650 cumulative deaths.
- The first confirmed COVID-19 case in the U.S. was reported on 21 January 2020. Unfortunately, the U.S. did not handle the epidemic too well. The cumulative number of confirmed cases began growing quickly a month later, on 22 February. As of 31 July 2020, the U.S. had more than 4.7 million cumulative confirmed cases and 156 thousand cumulative deaths, the highest such numbers of any country in the world.

The Cumulative Number of Confirmed COVID-19 Cases, China and the U.S.



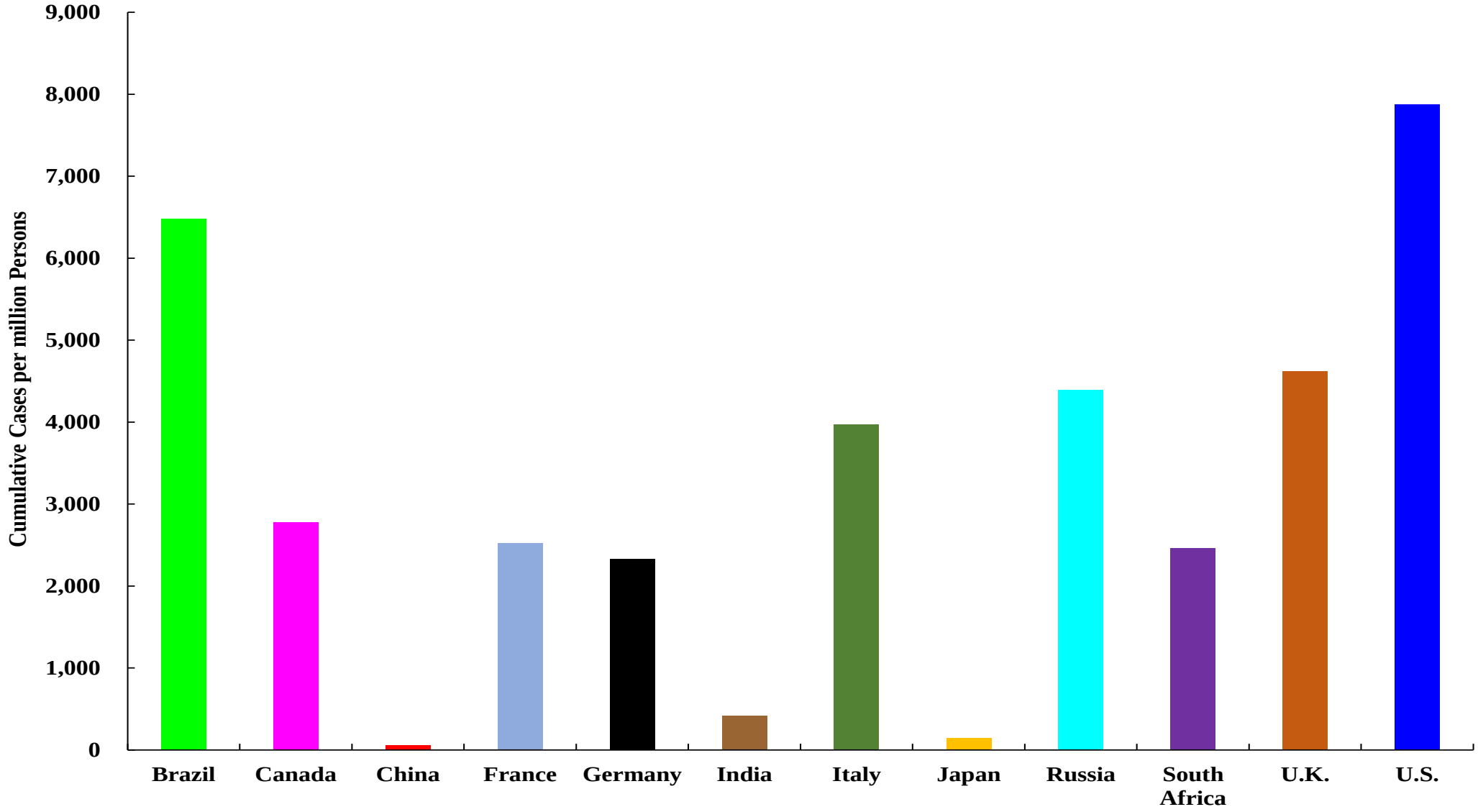
The Cumulative Number of COVID-19 Deaths, China and the U.S.



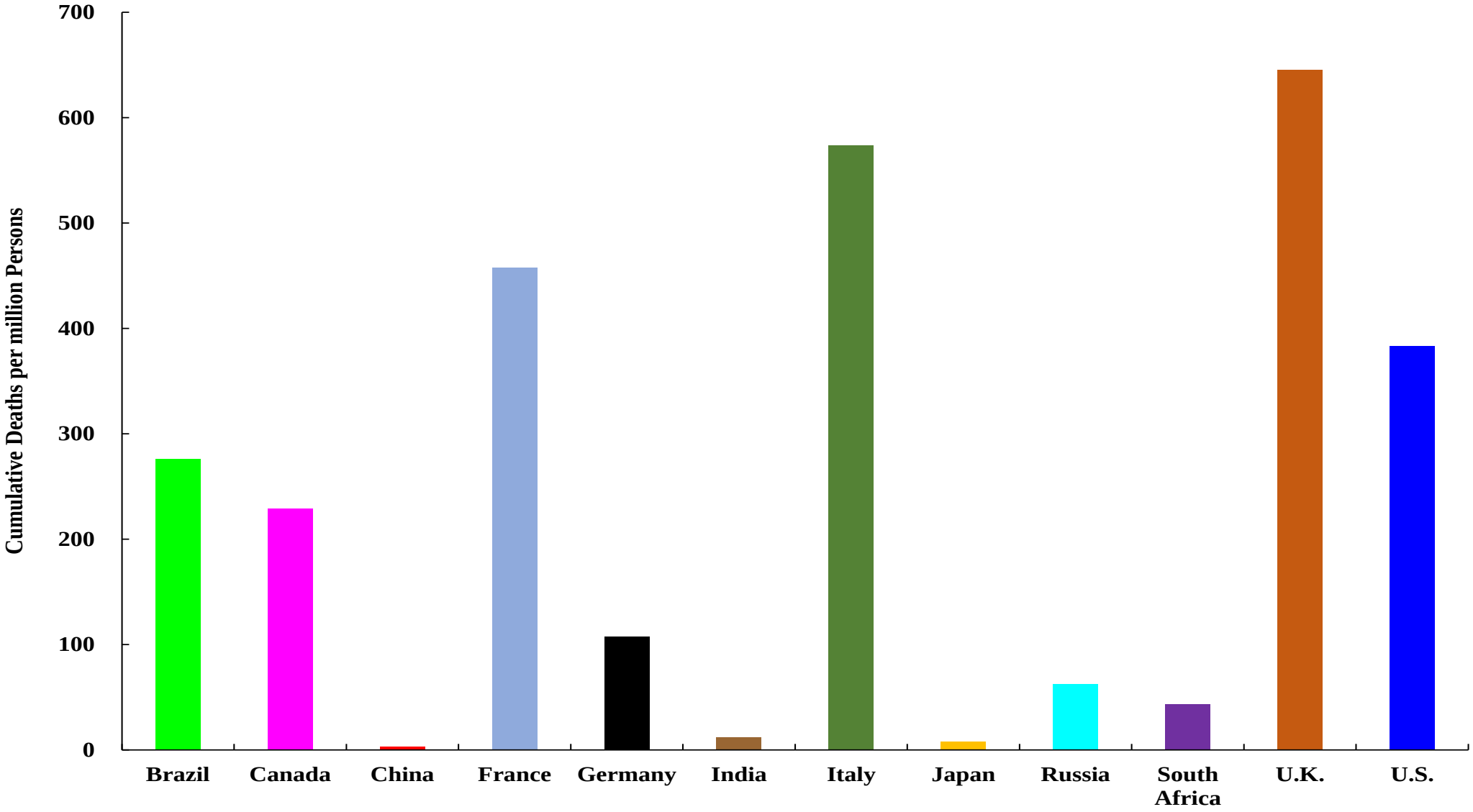
The COVID-19 Epidemic

- Among the Group-of-Seven (G-7) Countries (Canada, France, Germany, Italy, Japan, the U.K. and the U.S.) and the BRICS (Brazil, Russia, India, China and South Africa) Countries, China has performed the best in terms of controlling the COVID-19 epidemic.
- China has the lowest population infection rate (the number of confirmed COVID-19 cases per million persons) and the lowest population mortality rate (COVID-19 deaths per million persons) among these twelve countries, followed by Japan.

COVID-19 Population Infection Rates: Group-of-Seven and BRICS Countries, 30/06/20



COVID-19 Population Mortality Rates: Group-of-Seven and BRICS Countries, 30/06/20



The Costs of the COVID-19 Epidemic to China and the U.S.

	Loss of GDP (2020)		Loss of Lives (up to 31 July 2020)	
	US$ Trillion	Percent of GDP	Number (thousands)	Percent of Population
China	0.5	3.5%	4.7	0.0003%
U.S.	1.8	8.5%	156	0.048%

The De-Coupling of the Chinese and U.S. Economies

- De-coupling is costly, but may also have benefits.
- De-Coupling of Supply Chains
- Cross-Border Direct Investment
- De-Coupling of the Capital Markets
- Educational Exchanges
- De-Coupling of the International Clearing and Settlement System

De-Coupling of Supply Chains

- The costs of the de-coupling of supply chains may be high in the high-technology sector for China, certainly in the short run. This may even affect trade in services.
- For example, if Google is forbidden by the U.S. Government to supply the Android operating system to Huawei for its cell phones, Huawei will have no choice but to develop its own substitute, which will take both time and resources. Of course, Google will also be deprived of a significant stream of revenue not only today but also in the foreseeable future.
- Similarly, if Intel is forbidden to sell its chips to ZTE, ZTE will be unable to continue to manufacture cell phones and servers.
- These are "Sputnik" moments for China.
- Likewise, the U.S. also does not want to be put in the position to have to rely solely on Huawei for its 5G telecommunication technology. That is why it is doing all it can to try to destroy Huawei. The de-coupling of supply chains will also affect producers in the U.S. that rely on inputs from China—raw material, components, parts and semi-finished products.

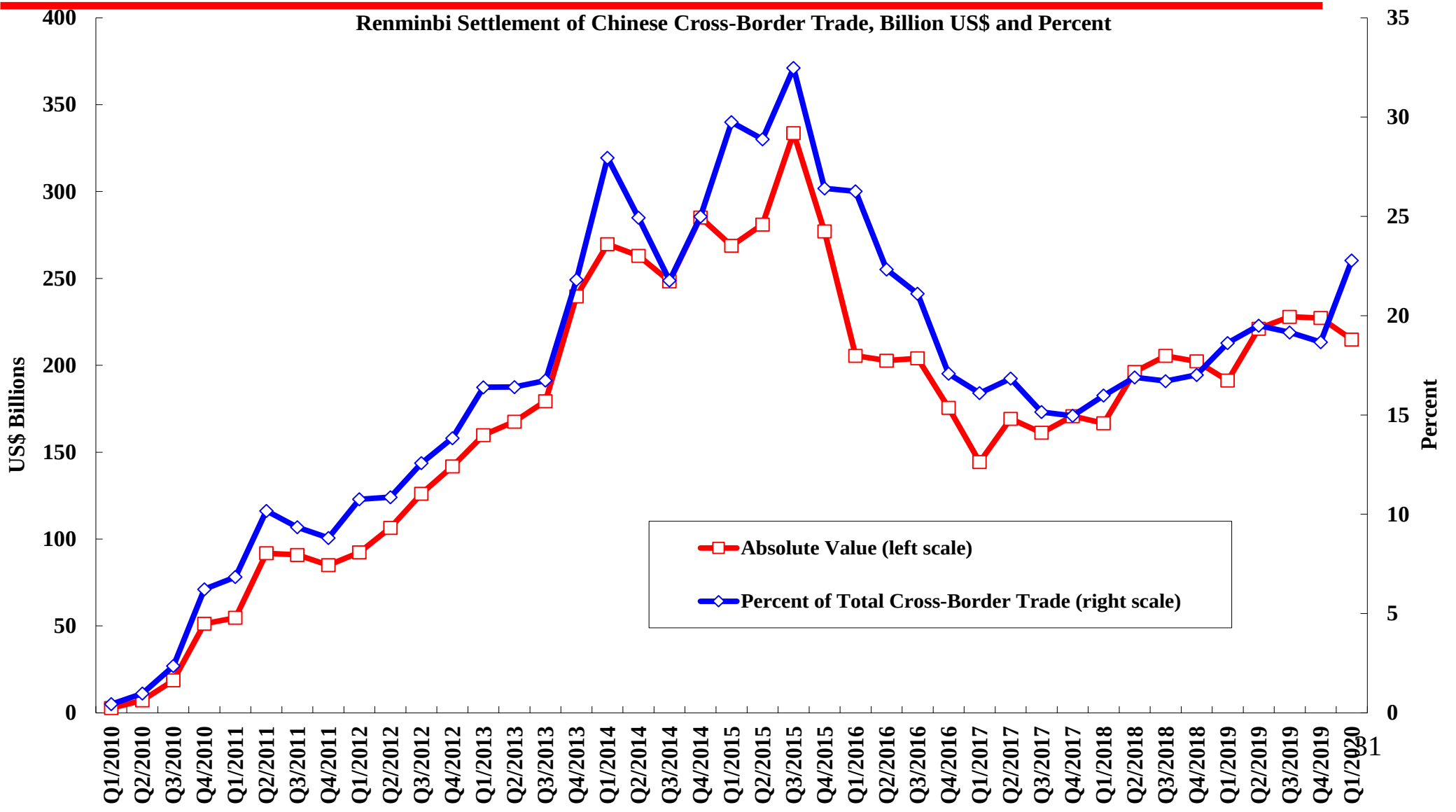
De-Coupling of the Capital Markets

- Currently several hundred Chinese enterprises are listed on either the New York Stock Exchange or NASDAQ as primary or secondary listings.
- However, the use of the New York stock exchanges by Chinese enterprises to raise capital has declined significantly over time. Back in 2014, the distribution of Chinese Initial Public Offering (IPO) funding broke down to approximately 43% U.S., 29% Hong Kong and 28% A-shares in Shanghai. In 2019, the distribution of Chinese IPO funding broke down to 7% U.S., 12% Hong Kong and 81% China. The total market capitalisation of publicly listed Chinese enterprises was distributed 8.7% U.S., 20.9% Hong Kong and 70.4% China in 2019.
- In the longer term, given that China has become a major source of savings and wealth, there is also the potential of U.S. and other foreign companies raising capital in China by issuing China Depositary Receipts (CDRs).

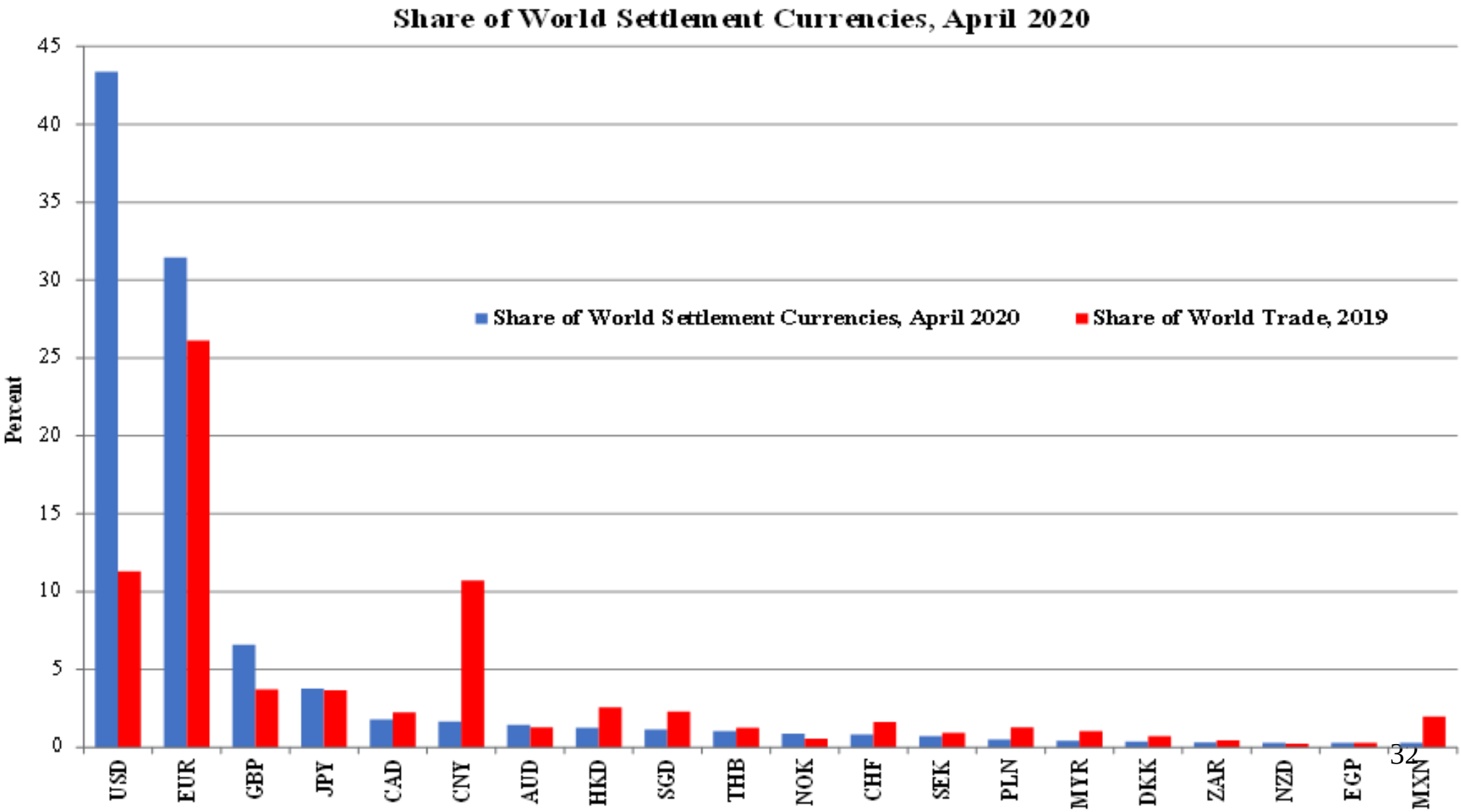
Educational Exchanges

- There are currently an estimated 360,000 Chinese students enrolled at U.S. tertiary educational institutions. They generate, conservatively speaking, US$18 billion worth of expenditures in the U.S. a year. Recent U.S. government attempts to discourage or even forbid the admission of Chinese students, especially those in science and technology fields, and the tightening of their visa application process, and the generally anti-China atmosphere in the U.S., are likely to reduce significantly the number of Chinese students coming to the U.S. in the future.
- Another potential problem for the U.S. is the shortage of qualified graduate students. At the present time, graduate students in science and engineering at the top U.S. research universities are drawn from three main sources—China, India and Russia. Not admitting Chinese graduate students will reduce both the quality and the quantity of graduate enrollment in these fields significantly.
- The de-coupling of higher education may marginally have some adverse impact on Chinese graduate students as they will lose access to the more systematic U.S. model of research training.

Renminbi Settlement of Chinese Cross-Border Trade, Billion US$ and Percent



The Shares of World Settlement by Currency and World Trade by the Issuer



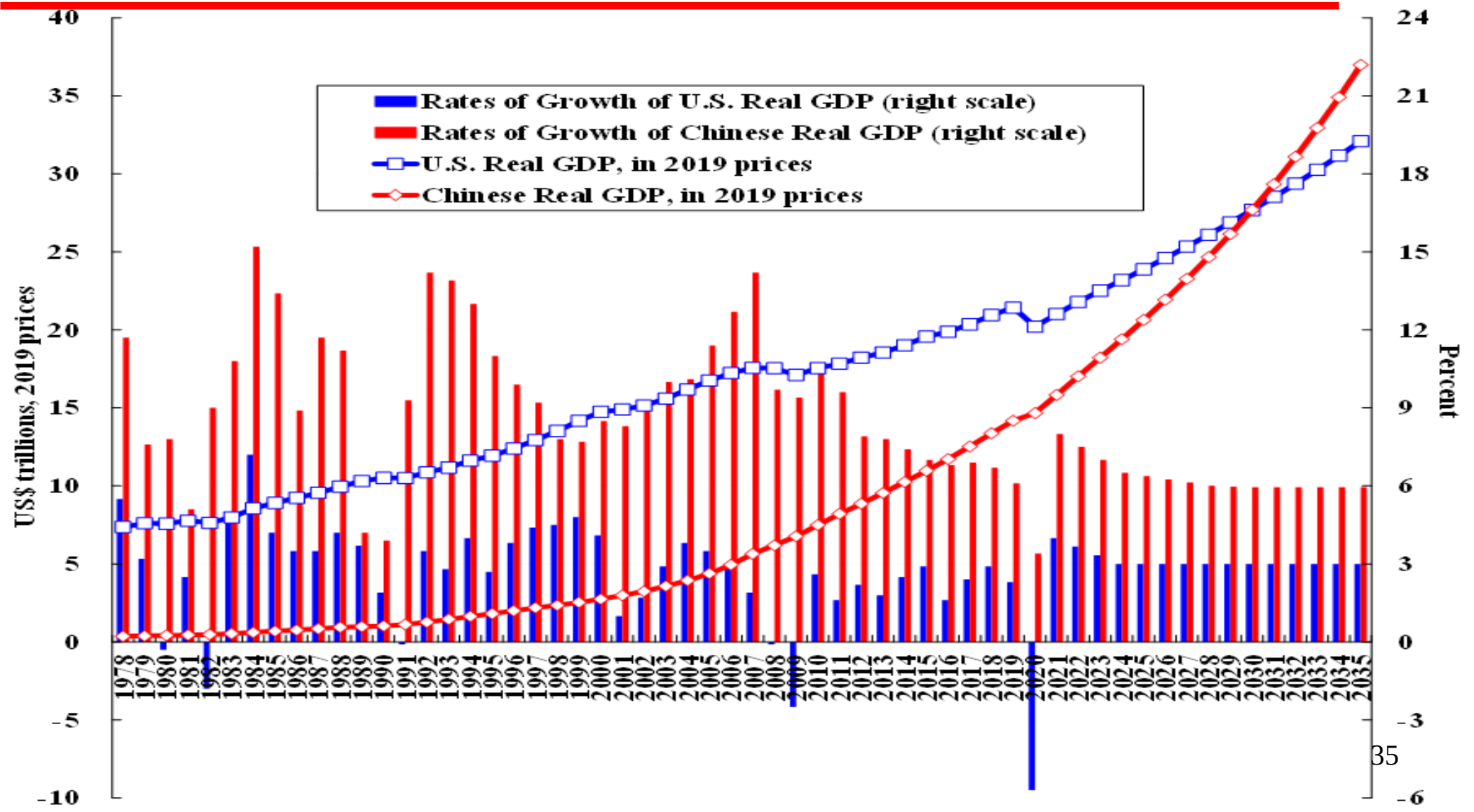
Actual and Projected Short-Term Real Rates of Growth of China and the U.S.

	Source of Projections	
	Lawrence J. Lau	A US Investment Bank
	Year-over-Year Rate of Growth (percent p.a.)	
China 2020Q1 Actual	-6.8	-6.8
China 2020Q2 Actual	3.2	3.2
China 2020Q3 Projected	7.1	4.7
China 2020Q4 Projected	8.1	6.3
U.S. 2020Q1 Actual	0.3	0.3
U.S. 2020Q2 Actual	-9.5	-9.5
U.S. 2020Q3 Projected	-7.5	-5.7
U.S. 2020Q4 Projected	-6.1	-6.2

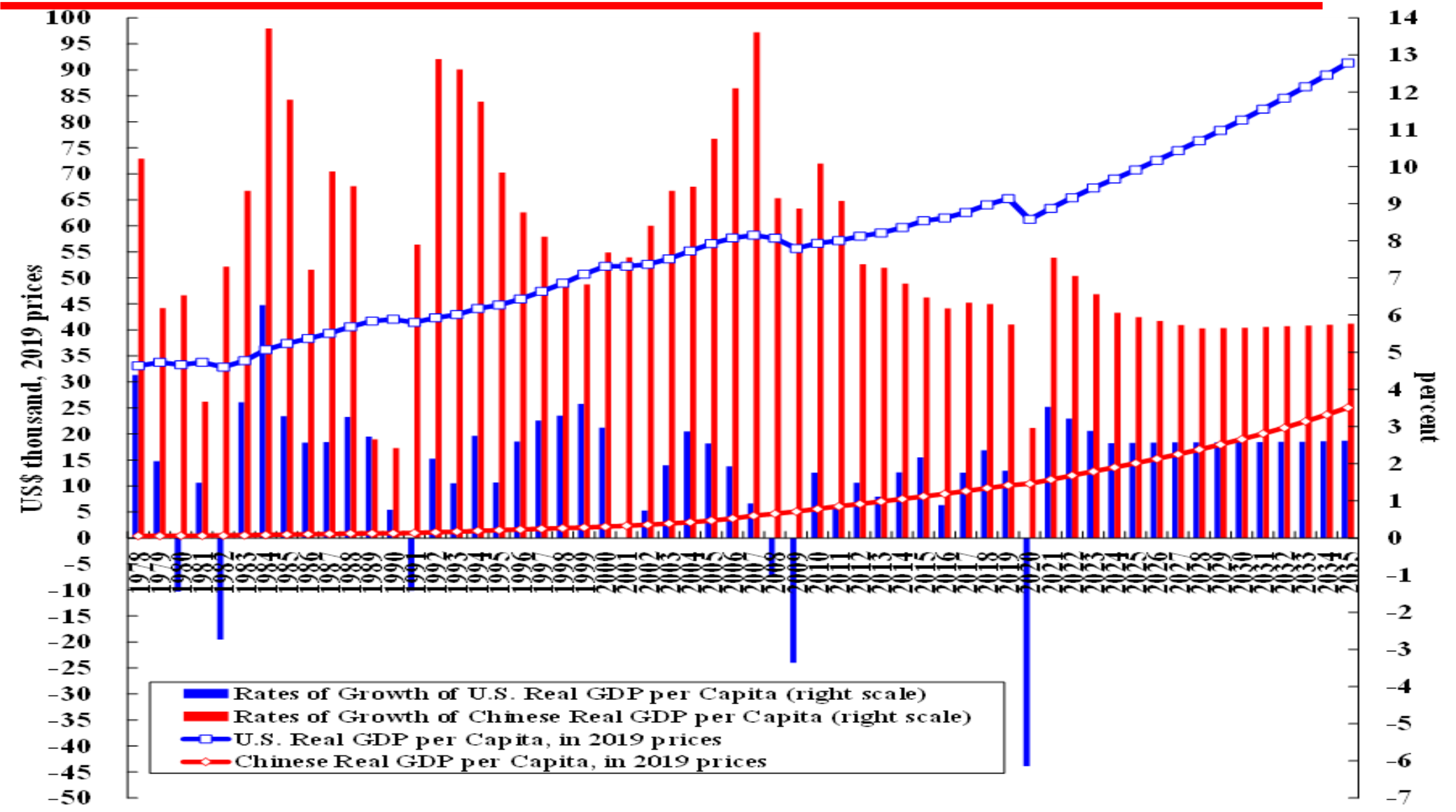
Projected Real Rates of Growth of China and the U.S. in 2020 and 2021

	Projections of Annual Rates of Growth (percent p.a.)				
	Source of Projections				
	Lawrence J. Lau	IMF	World Bank	OECD	A US Investment Bank
China 2020 Projected	3.4	1.2	1.0	-2.6	2.3
China 2021 Projected	8.0	9.2	6.9	6.8	8.9
China 2020-2021 combined	11.4	10.4	7.9	4.2	11.2
U.S. 2020 Projected	-5.7	-5.9	-6.1	-7.3	-5.3
U.S. 2021 Projected	4.0	4.7	4.0	4.1	3.4
U.S. 2020-2021 combined	-1.7	-1.2	-2.1	-3.2	-1.9

Actual and Projected Real GDPs (2019 US$) and Their Rates of Growth: China and the U.S.



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



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

- Our projections suggest that in 2030, the Chinese aggregate real GDP (US$27.70 trillion) is likely to just barely edge out the U.S. aggregate real GDP (US$27.69 trillion). The implied average rates of growth between 2019 and 2030 are 6.08% for China and 2.33% for the U.S., reflecting the fact that the Chinese economy will continue to grow in 2020 at a projected 3.4% whereas the U.S. economy will contract approximately 5.7% in 2020.
- However, because the Chinese population is approximately 4 times that of the U.S., by 2030, the projected U.S. GDP per capita of US$80,400 will still be more than four times the projected Chinese GDP per capita of US$19,000.
- Chinese real GDP per capita will lag behind that of the U.S. until at least the end of the 21st Century.

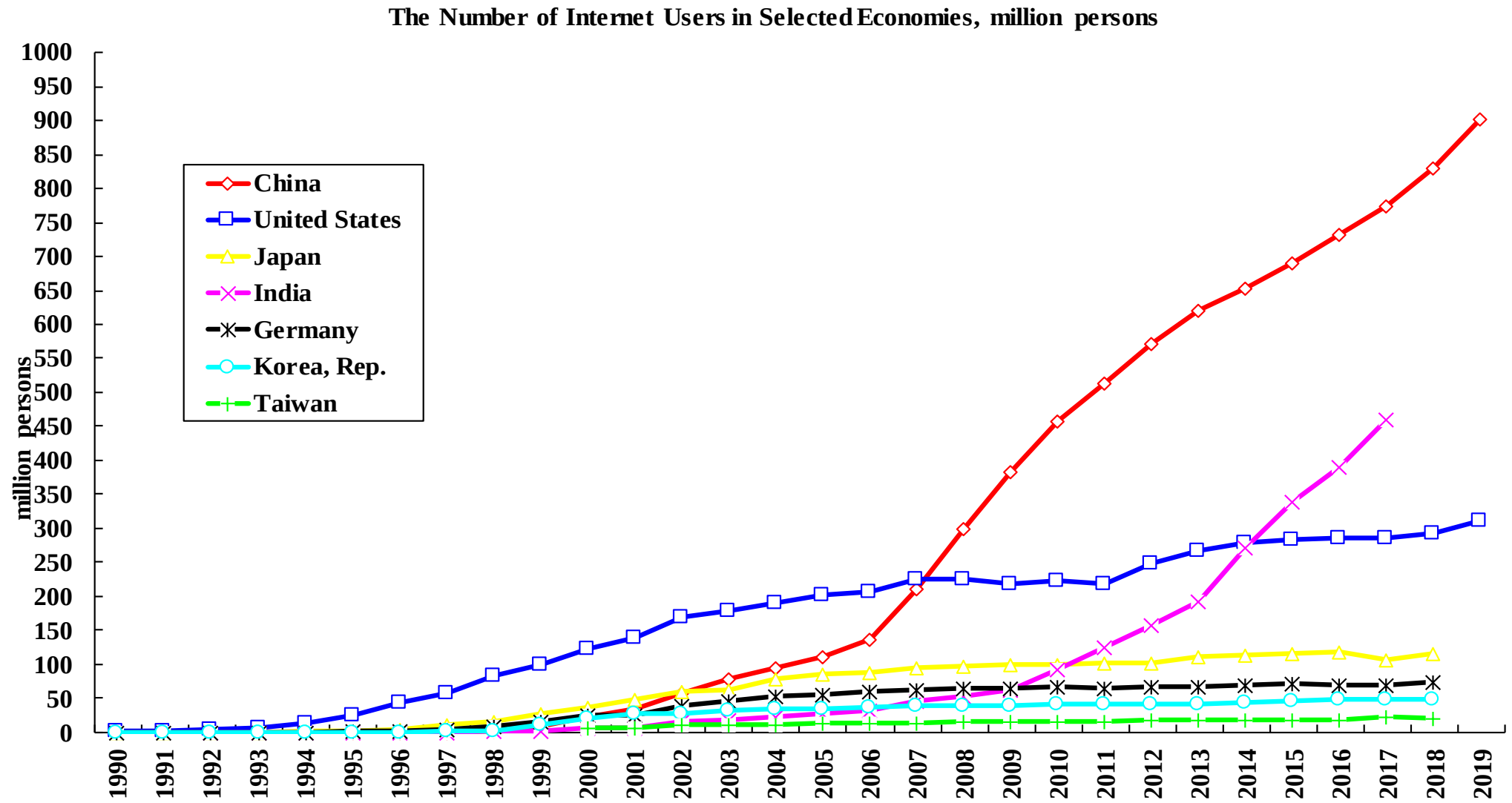
Technological Competition

- The long-term determinant of the outcome of technological competition is the capacity for innovation. China has the same advantages as the U.S. in terms of the economies of scale, opportunities for learning-by-doing, and large number of individuals in the upper tail of the ability distributions.
- China has been very successful in terms of adoption of new technologies for domestic applications, taking advantage of its initial relative backwardness and the scale of its huge domestic market. The result is "creation without destruction".
- A prime example is the almost universal use of the mobile telephone in China today, without the destruction of the enterprises that supply the fixed-line telephone.
- A second example is the rapid implementation of the cashless direct payment systems such as Alipay and WeChat Pay, based on the cell phone, taking advantage of the fact that Chinese citizens have never had personal checking accounts.
- A third example is the construction of high-speed trains and railroads. China today has the largest high-speed railroad network in the world.

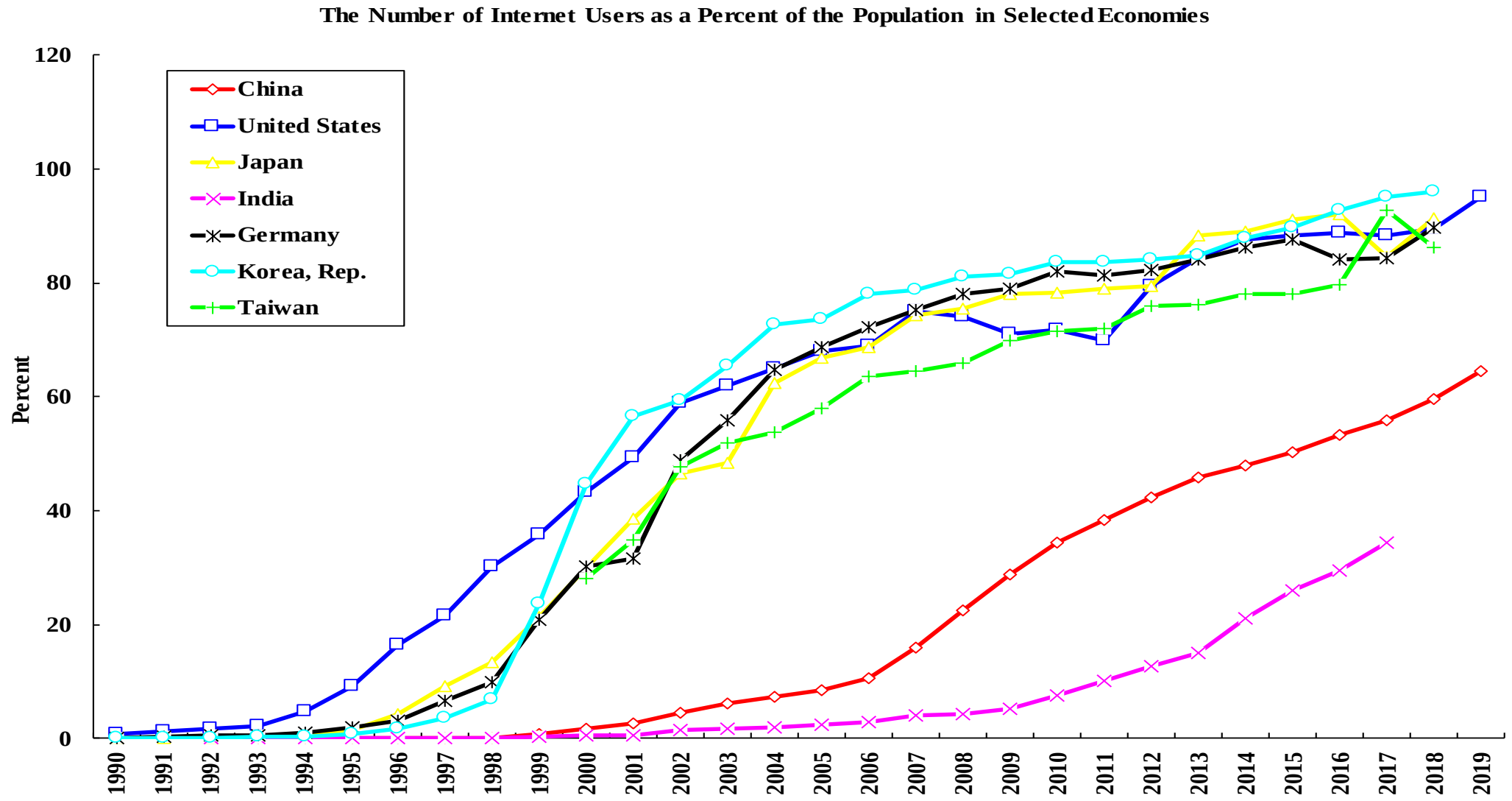
Technological Competition

- China also has the world's largest number of internet users. That is why e-Commerce of various forms have been booming in China, especially because of the lockdown due to the COVID-19 epidemic.
- For example, ByteDance (字节跳动) has been extremely successful with its Tik Tok (抖音) App outside of China.
- However, in terms of penetration rate, China, at 65%, still lags behind Germany, Japan, the Republic of Korea and the U.S. There is still significant room for the expansion of internet use.

The Number of Internet Users in Selected Economies



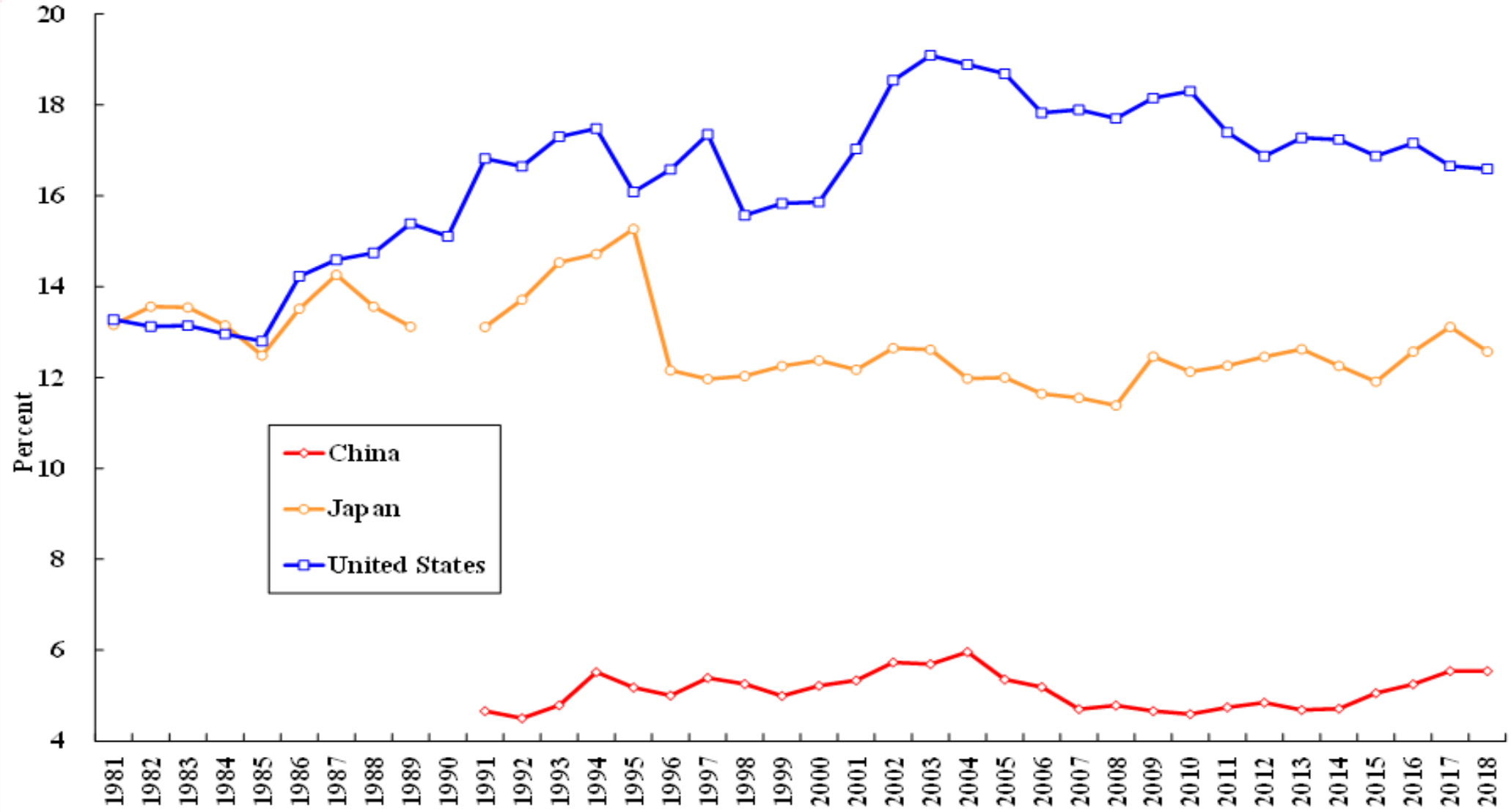
The Number of Internet Users as a Percent of the Population in Selected Economies



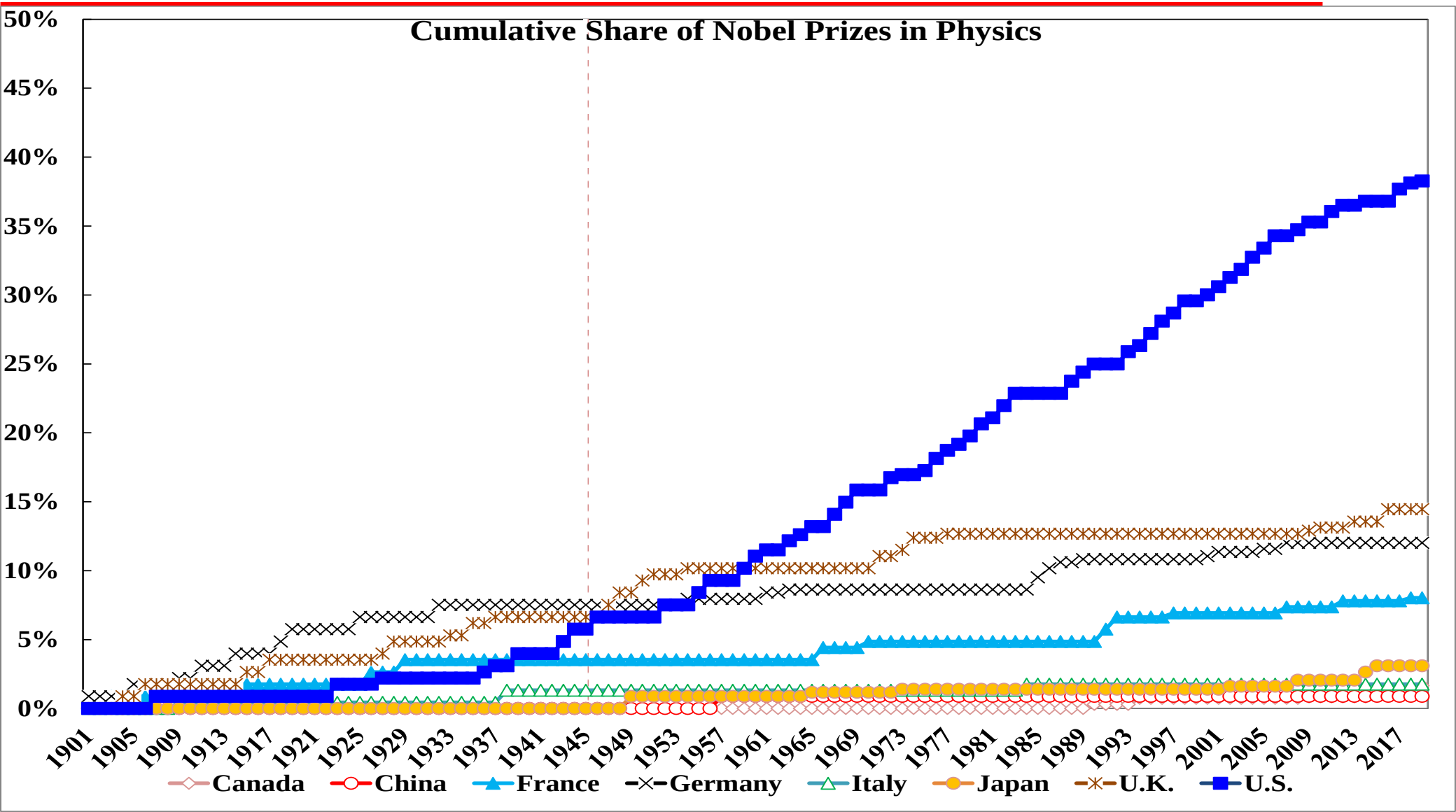
Technological Competition

- However, in order for break-through discoveries or inventions to be made, there must be significant investment in basic research. The atomic and hydrogen bombs, the nuclear reactors, and the internet are all outcomes of basic research done many, many years ago.
- Basic research is by definition patient and long-term research. The direct internal rate of return, at any reasonable discount rate, will be low. It must therefore be financed by either the government, or non-profit institutions, or monopolies such as AT&T in the U.S. before it was broken up, and not by for-profit firms.
- However, China devoted only about 5% of its R&D expenditures to basic research, compared to Japan's 12% and the U.S.'s more than 15%.
- The U.S. today has a commanding lead in many basic scientific disciplines, reflected in for example, the cumulative number of Nobel Laureates. Of course, China is ahead in selected fields. For example, Huawei is a global leader in 5G telecommunication technology. China has also made great progress in a few areas, including artificial intelligence (AI) applications, quantum communication and satellite navigation (Beidou Navigation Satellite System (BNSS)).

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



Technological Competition: Cumulative Number of Nobel Laureates in Physics



Will the Competition between China and the U.S. Lead to a War?

- Prof. Graham Allison of Harvard University has written a book, titled Destined for War, about the inevitability of a war between China and the U.S. He refers to this "inevitability" as the "Thucydides' Trap", that as a rising power challenges the dominance of an established power, the established power is likely to respond with force.
- However, the rise of the former Soviet Union between the end of the Second World War and its dissolution in 1991 provides a counter-example. The former Soviet Union and the U.S. never went to war. Instead, they entered into a number of arms control treaties.
- The truth is that a thermonuclear war today is so devastating to the warring parties that there are effectively no real winners, only losers.

Will the Competition between China and the U.S. Lead to a War?

- It is also important to distinguish between the rivalry between the U.S. and the former Soviet Union with the competition between China and the U.S. The former was existential, as the former Soviet Union would like to impose its Communist system of government on other countries. China has no intention of proselytising its ideology or system of government to other countries. Hence the China-U.S. competition is non-existential. China's rise does not threaten U.S.'s existence.
- However, both China and the U.S. have to learn how to treat a friendly country as an equal.
- This is probably what Chinese President Xi Jinping has in mind as "a new model of major-power relations", the basic elements of which consist of "mutual respect, coordination, cooperation, and mutual benefit".

Concluding Remarks

- The potential competition and rivalry between China and the U.S. on many fronts is likely to be the "new normal" in the next decade or two. The challenges brought about by the COVID-19 epidemic have probably exacerbated the situation.
- However, a hot war between the two countries seems unlikely and unnecessary. If even the former Soviet Union and the U.S. did not go to war in the last century, there is little reason for China and the U.S. to do so.
- China and the U.S. are complementary to each other economically. If they cooperate and coordinate with each other, they will both benefit greatly and it will be win-win.
- Moreover, with the two largest economies working together, they can solve many of the world's pressing problems, such as controlling the pandemics, ameliorating climate change, preventing further nuclear proliferation, reform of the World Trade Organisation (WTO), and the economic development of Africa, and in so doing benefitting not only themselves but also all mankind.