

# The New Normal of China-U.S. Relations

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

# Introduction and Background

## The COVID-19 Pandemic

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- ◆ The COVID-19 pandemic first broke out in Wuhan, the capital city of the Province of Hubei, China, in December 2019.
- ◆ China has actually managed the COVID-19 epidemic very well, by imposing a blockade on Wuhan and Hubei, lockdowns in many cities, and social distancing measures. It has also very significantly augmented healthcare resources in Wuhan, the epicentre of the epidemic. As a result, it has one of the best records in terms of population infection rate and population mortality rates among major countries.
- ◆ Unfortunately, the U.S. did not handle it very well and has to date more than 2.2 million confirmed cases and 120,000 deaths from COVID-19, the highest number of deaths of any country in the world, compared to less than 85,000 cases and 5,000 deaths for China, which has four times the population of the U.S.
- ◆ However, this has not prevented the U.S. from blaming China for causing the COVID-19 outbreak. This has become a bone of contention between the two countries.

# Introduction and Background: The Economic Impacts of the COVID-19 Pandemic

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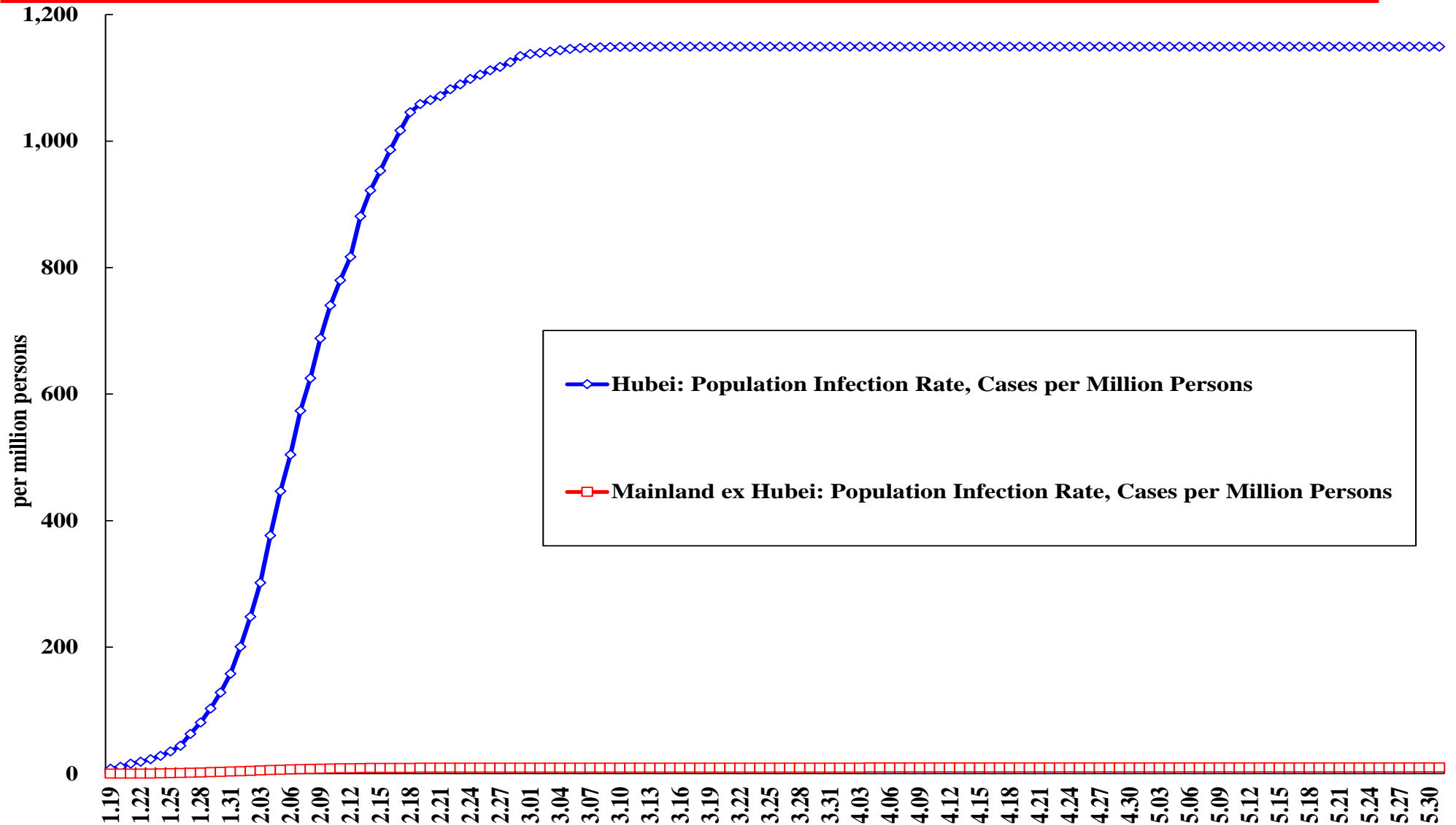
- ◆ The most important impact in every affected economy is **a loss of both aggregate supply and aggregate demand**. On the supply side, the lockdown and social distancing not only affected domestic production, but also affected exports and imports around the world and disrupted critical links in the global supply chains.
- ◆ On the demand side, traditional retail business has completely disappeared (even as e-commerce has gained significantly). The slowdown in production has also reduced demand for raw materials, components and parts and other intermediate goods. Demand for group entertainment services, such as sports, concerts, plays, etc., and restaurants have also been significantly curtailed except for internet games. Tourism and travel have almost come to a complete halt.

# Introduction and Background: The Economic Impacts of the COVID-19 Pandemic

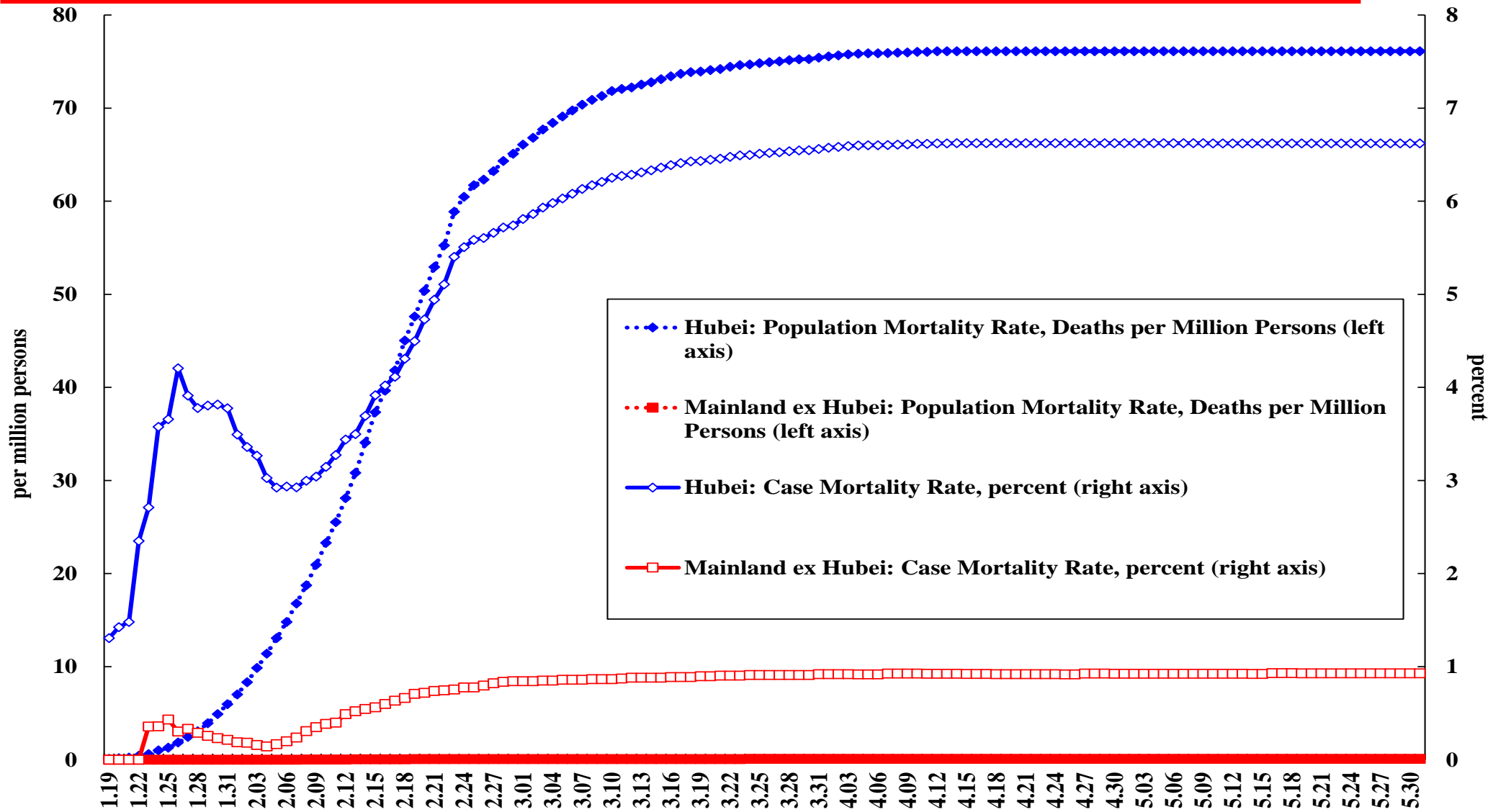
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- ◆ The second most important impact is **the rise of unemployment**. Different governments have tried different ways to deal with this problem.
- ◆ The third most important impact is **the rapid increase of bankruptcies and defaults** on loans and other obligations.

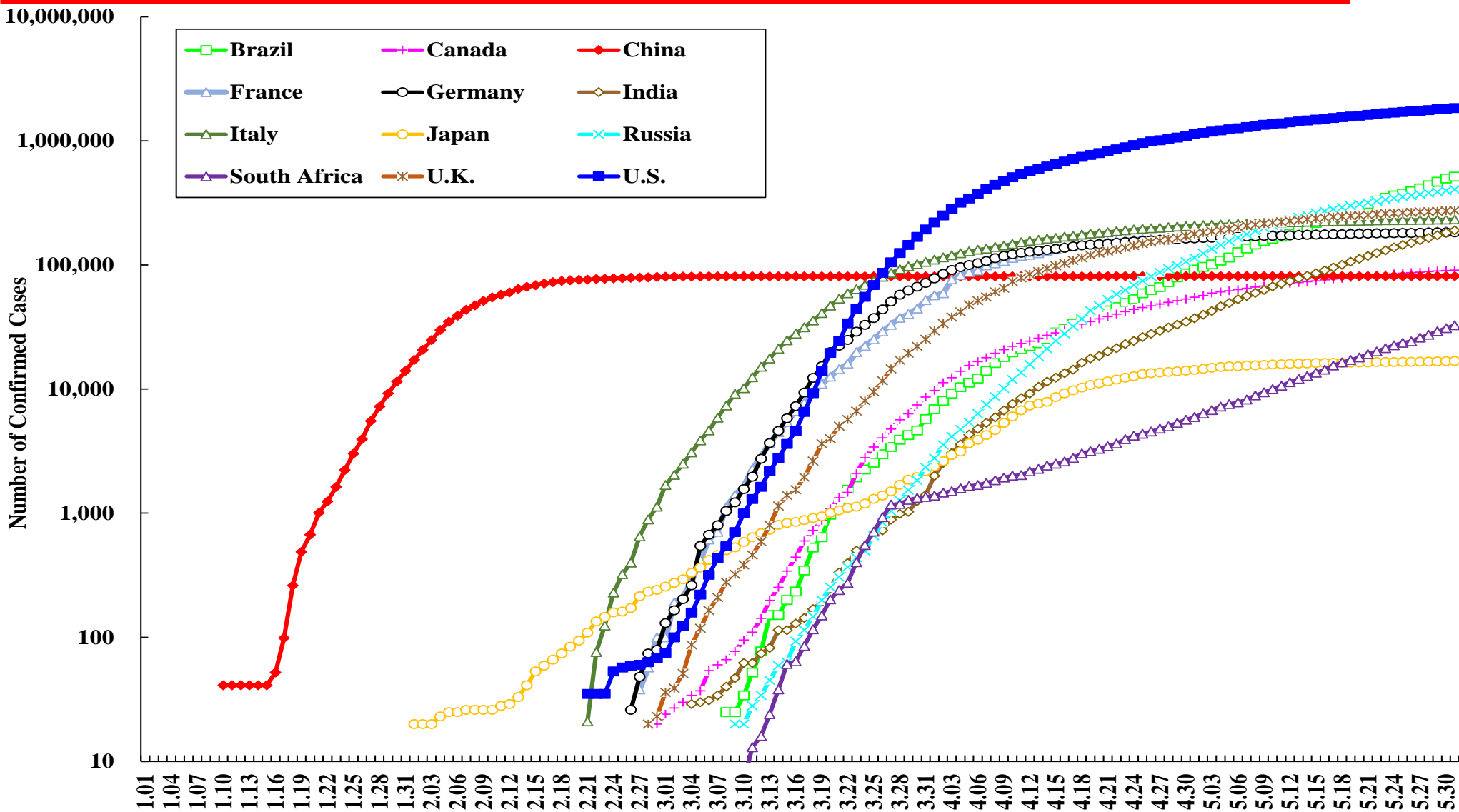
# The COVID-19 Pandemic: Population Infection Rates, Hubei & Mainland ex Hubei



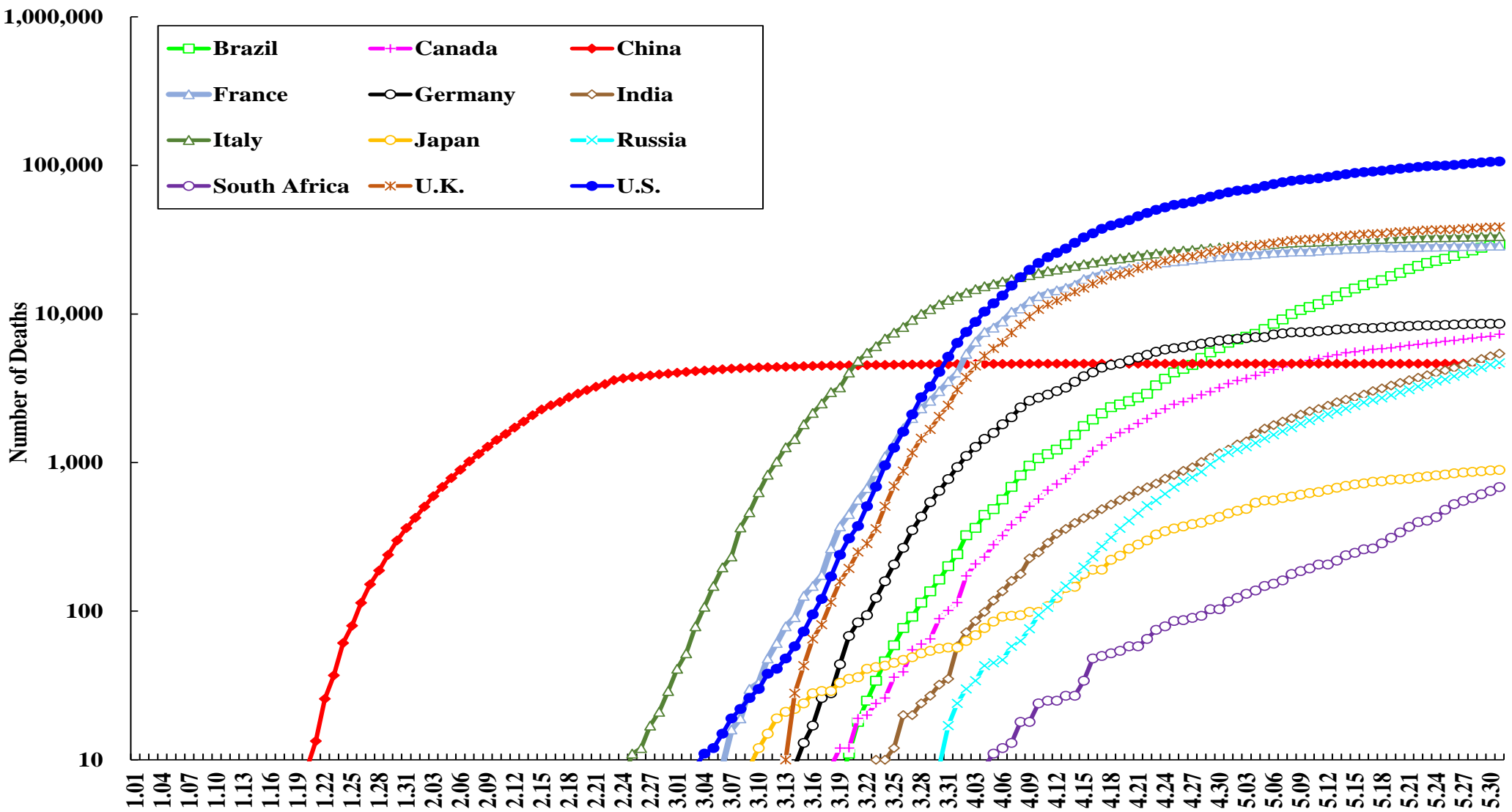
# The Case Mortality and Population Mortality Rates, Hubei & Mainland ex Hubei



# The COVID-19 Pandemic: The Cumulative Number of Confirmed Cases on 5.31



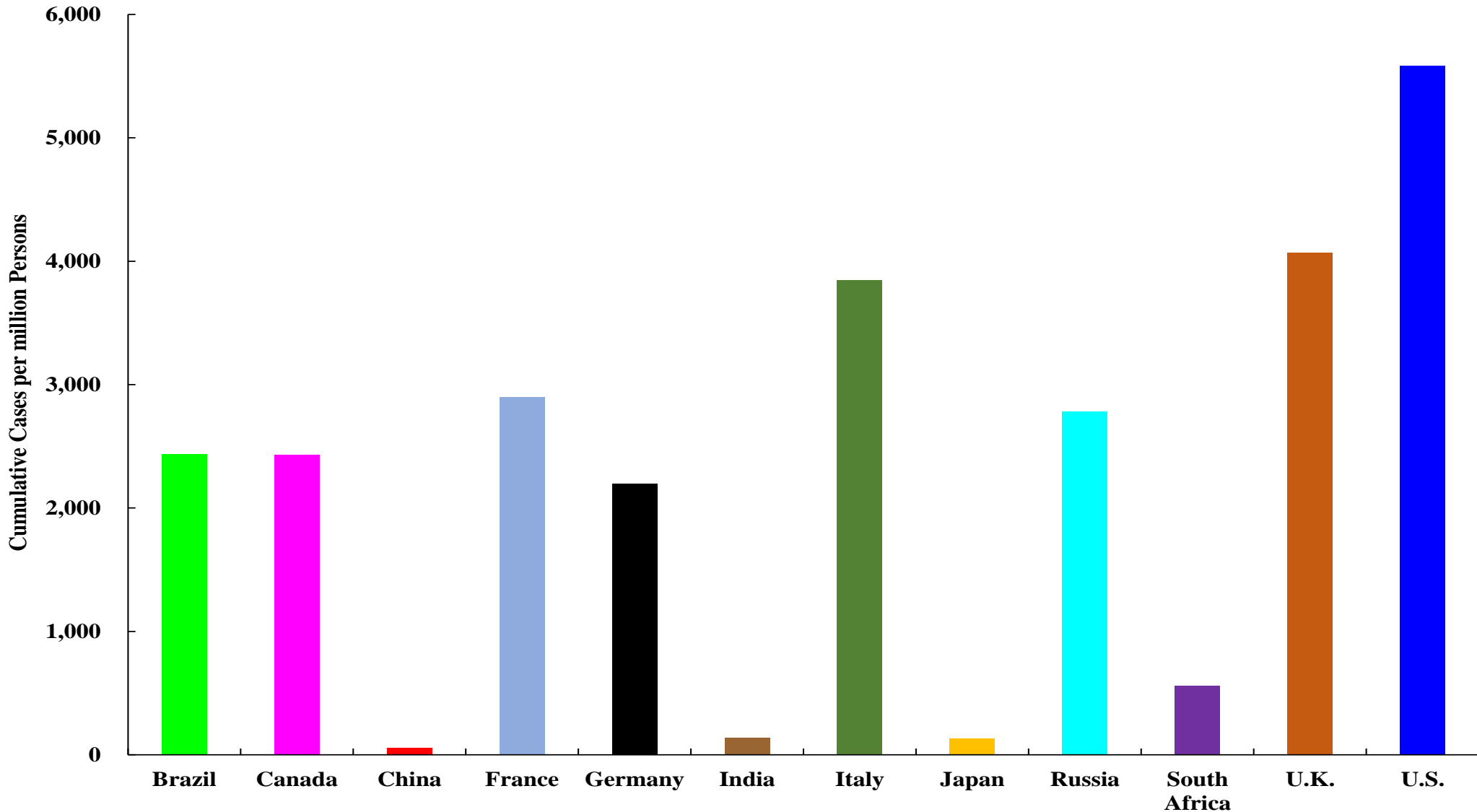
# The COVID-19 Pandemic: The Cumulative Number of Deaths on 5.31





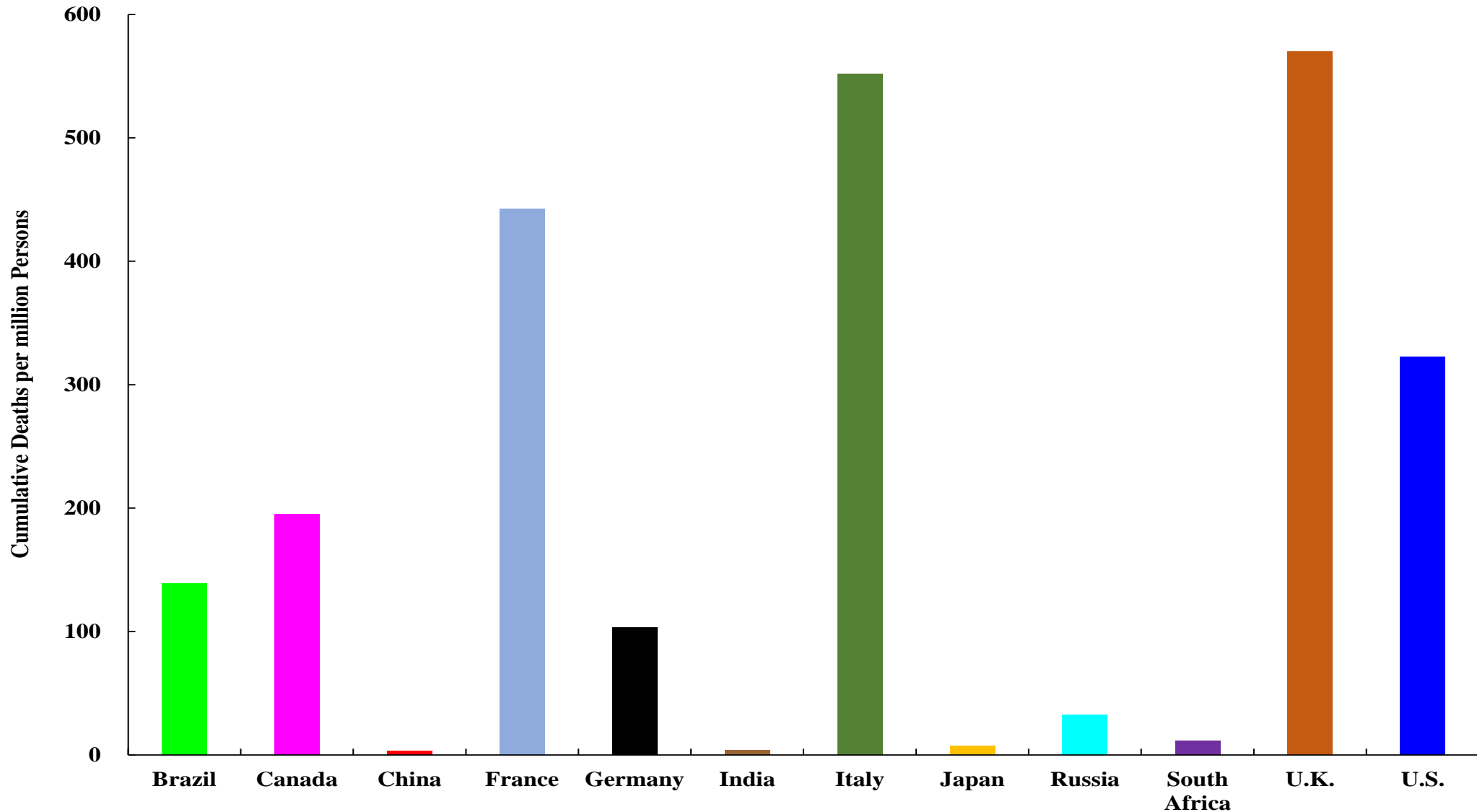
# The COVID-19 Pandemic: The Population Infection Rate as of 5.31

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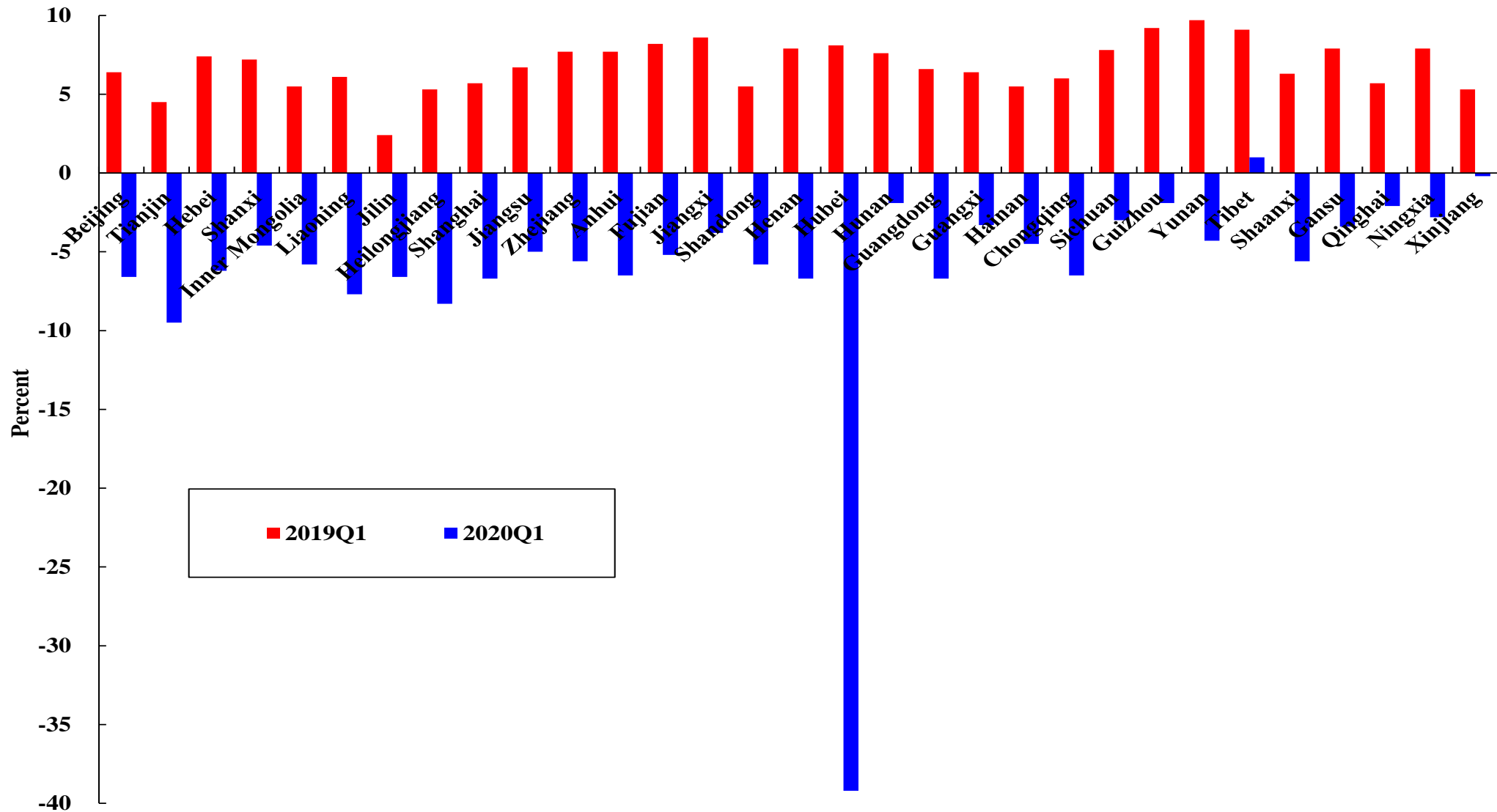


# The COVID-19 Pandemic: The Population Mortality Rate as of 5.31

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# The COVID-19 Pandemic: Impacts on the Real Rates of Growth of Provincial GDPs



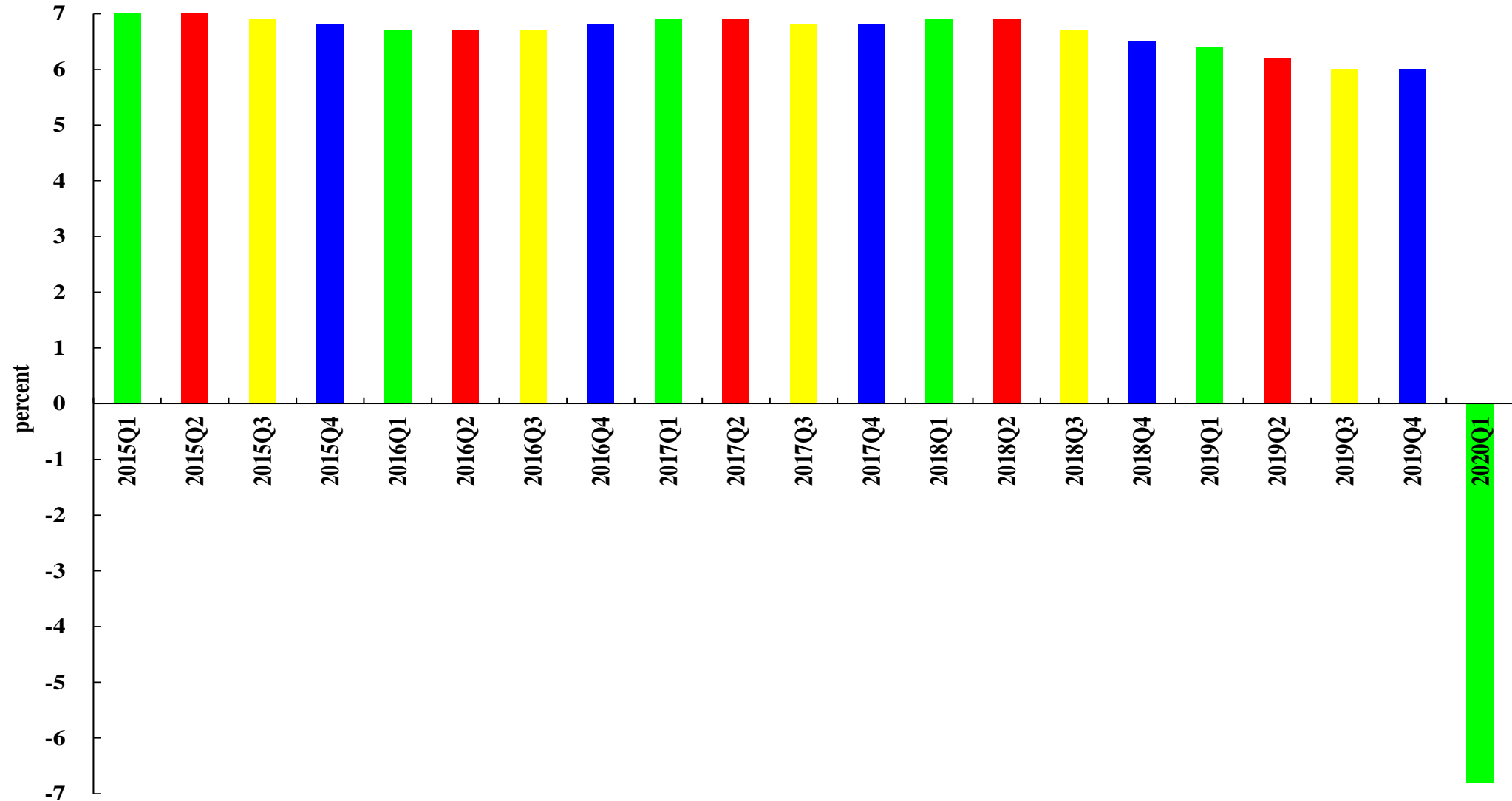
# Introduction and Background

## The Near-Term Economic Prospects of China

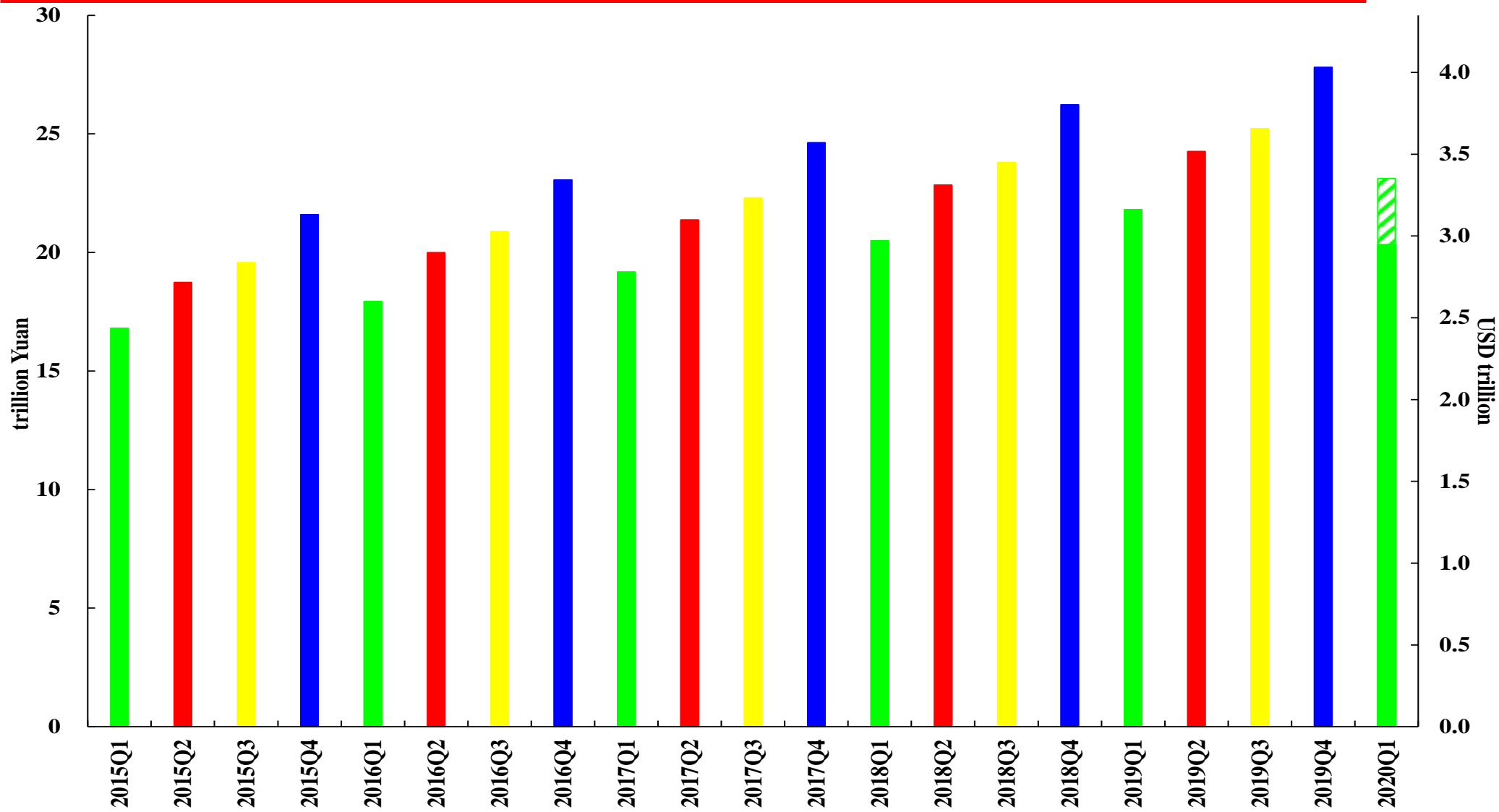
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- ◆ Chinese quarterly real GDP declined by **6.8%** to 20.32 trillion Yuan (US\$2.95 trillion) in 2019 prices, year-over-year, in 2020Q1, the first such decline in thirty years, since 1990Q1. Relative to 2019Q4, it was a decline of 26.9%.
- ◆ Chinese Q1 GDP normally constitutes 22% of Chinese annual GDP. Thus, the decline of 6.8% in 2020Q1 translates into a decline of 1.5% in the annual rate of growth of 2020.
- ◆ The Chinese economy has been undergoing a gradual decline in its real rate of growth since mid-2018, in part because of the China-U.S. trade war.
- ◆ **The Chinese GDP in 2020 depends crucially on two developments—the speed of the economic recovery from the COVID-19 epidemic and the availability of additional economic stimulus.**

# The Near-Term Economic Prospects: Rates of Growth of Quarterly Real GDP, Y-o-Y, %



# The Near-Term Economic Prospects of China: Quarterly GDPs since 2015, 2019 prices



# Introduction and Background

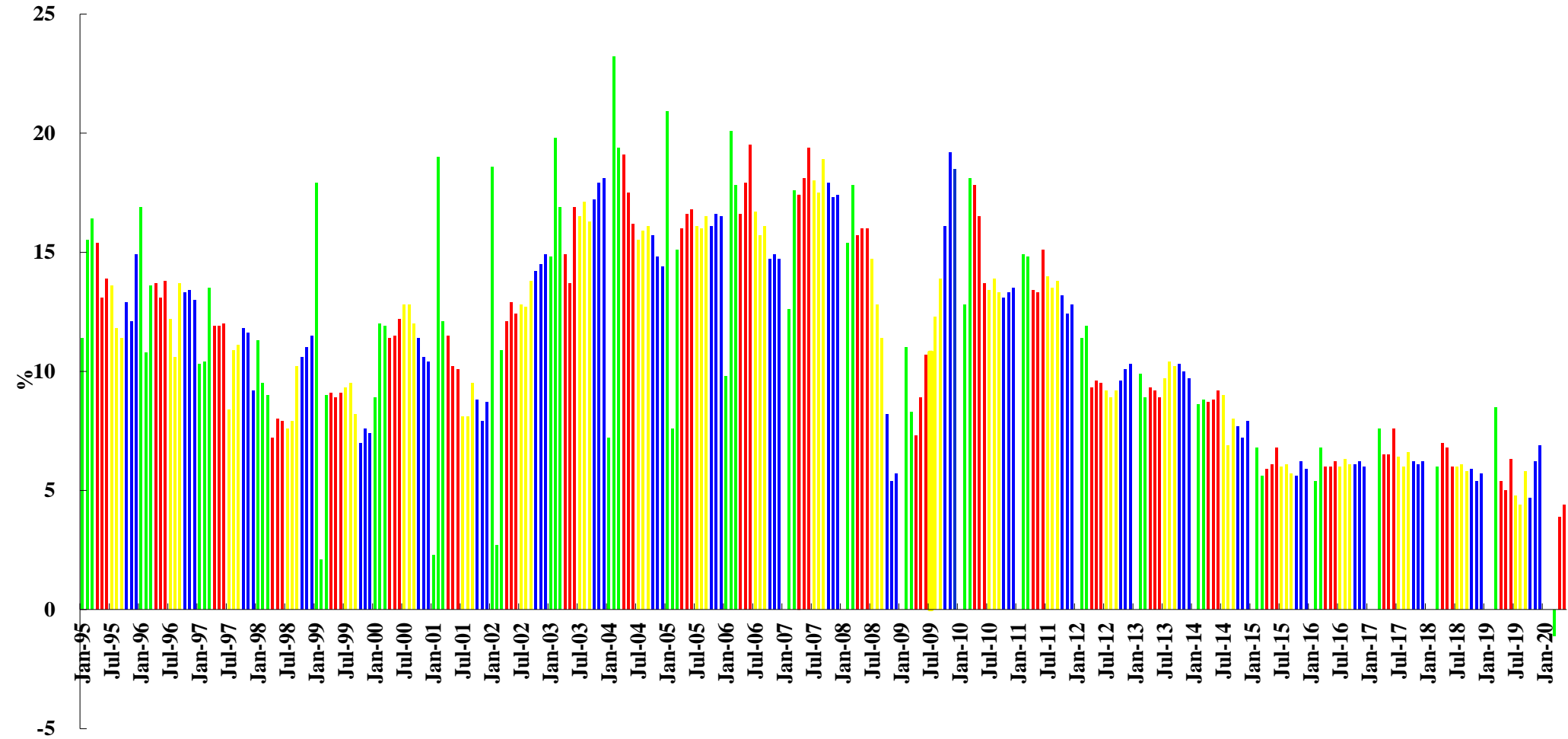
## The Near-Term Economic Prospects of China

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- ◆ We note that **the average quarter-to-quarter rates of growth of GDPs over 2015-2019 are 11.4% from Q1 to Q2, 4.3% from Q2 to Q3, and 10.3% from Q3 to Q4.**
- ◆ If we apply these rates to the actual level of 2020Q1 GDP of 20.32 trillion Yuan, we obtain a projected total annual GDP of 92.61 trillion Yuan, representing a decline of 6.5% from the 2019 GDP of 99.09 trillion Yuan. However, this projection is excessively low and most unlikely.
- ◆ The mistake is the failure to take into account the “recovery effect”. A recovery to a previously achieved level of output should be much more rapid. Consider an economy which has contracted by 50%, if it is able to restore its output to just before the contraction, it will have grown 100% from the shrunken base, even though the contraction was only 50%.

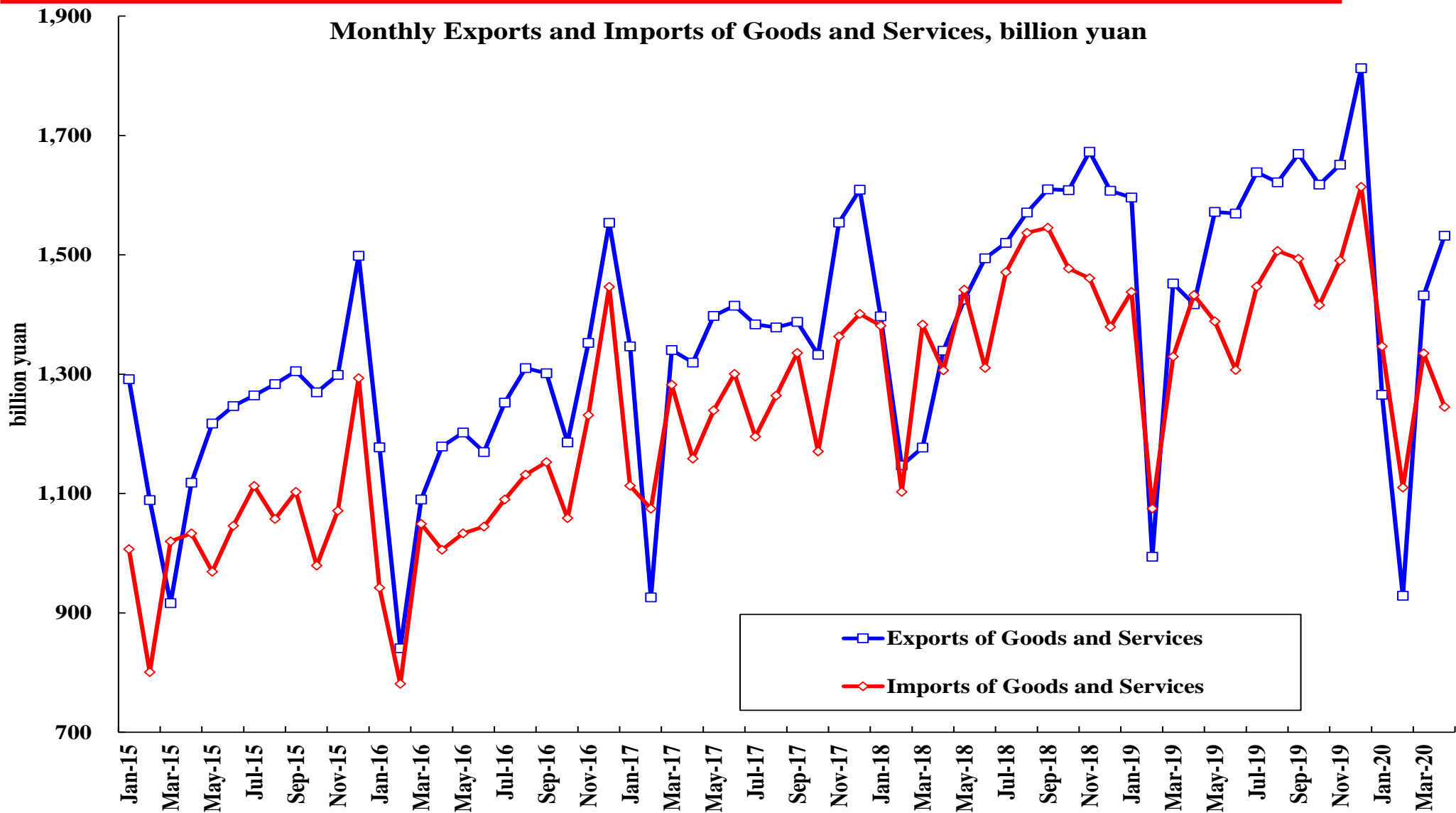
# Monthly Rates of Growth of Real Value-Added of Chinese Industry, Y-o-Y %

Monthly Rates of Growth of Real Value-Added of the Chinese Industry, Year-over-Year





# Monthly Exports and Imports of Goods and Services, Billion Yuan, 2015M1-present



# Introduction and Background

## The Near-Term Economic Prospects of China

- ◆ All the data on the re-opening and recovery on the Mainland to date indicate that the mostly likely outcome of 2020Q2 GDP is an year-over-year growth of around 6.0%, that is, it would reach the level of 25.71 (24.26 x 1.06) trillion Yuan, implying a quarter-over-quarter rate of growth of 26.5% compared to a decline of 26.9% in 2020Q1.
- ◆ This results in a projected GDP for the whole of 2020 of 102.43 trillion Yuan, or a rate of growth of **3.4%** over 2019. A 3.4% annual rate of growth for 2020 seems quite reasonable and feasible. However, it is still predicated on the assumption of no additional economic stimulus.

# Introduction and Background

## The Near-Term Economic Prospects of China

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- ◆ An economy is basically driven by public confidence and its expectations about the future. If public confidence is low and expectations about the future are negative, neither investment nor consumption can be strong.
- ◆ Expectations can sometimes be turned around by words, but in most cases, they can only be turned around by concrete actions, for example, the launch of a large economic stimulus.
- ◆ There are at least two famous examples of the powerful effects of new policies changing expectations and raising confidence—the Southern Inspection Tour of Mr. DENG Xiaoping in 1992 and the 4 trillion Yuan economic stimulus package of Premier WEN Jiabao in 2008. Both of them were able to change expectations and raise confidence overnight. The rest was history.

# Introduction and Background

## The Near-Term Economic Prospects of China

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- ◆ With additional economic stimulus in the form of direct aggregate demand (either public investment or public goods consumption), the Mainland economy should be able to grow at a rate 25% higher than the normal quarter-over-quarter rates of growth in 2020Q3 and Q4 respectively, resulting in a projected 2020 real GDP of 103.70 trillion Yuan, or an increase of **4.65%** from 2019.
- ◆ Without any economic stimulus, the rate of growth of GDP for 2020 is likely to be around 3.4%, which will still be higher than almost all other major economies in the world. The U.S. economy is likely to contract by between 5% and 6% in 2020. If, in the meantime, the rest of the global economy can also recover in 2020Q3 and 2020Q4, the Chinese rate of growth would be even higher, perhaps even exceeding **5%** for 2020 as a whole.

# Introduction and Background: The 2020 U.S. Presidential Election in November

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- ◆ A presidential election will be held in the U.S. on 3 November 2020. U.S. President Donald Trump currently faces serious problems on three fronts: the COVID-19 epidemic, the deep economic recession that it caused, and the widespread social unrest in response to the death of George Floyd, an African American.
- ◆ President Trump is expected to do anything, literally anything, to be re-elected. (If he loses the election and is no longer the serving President, he can be prosecuted for crimes that he allegedly committed years ago before he became President. If convicted, he is likely to have to serve time in prison.)
- ◆ His current re-election campaign strategy consists of bashing China and blaming China for everything, from the terrible economy to the COVID-19 epidemic. Such a strategy has great appeal to his core supporters—non-college-educated white males.

# Introduction and Background: The 2020 U.S. Presidential Election in November

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- ◆ The easiest way to divert attention from whatever domestic problems he has is to launch a foreign adventure and to campaign as a war-time or national-emergency president. An incident in the South China Sea or the Taiwan Straits, a commando raid on Iran, an attack on North Korea--everything is possible.
- ◆ Under a national emergency he can also postpone or cancel the election, or he can refuse to accept the result of the election if he loses, alleging voter fraud. Nothing is unthinkable. There is therefore a great deal of uncertainty.
- ◆ President Trump will be increasingly aggressive and provocative towards China as the U.S. presidential election draws closer. China-U.S. relation is unlikely to improve before the U.S. election in November.

# Underlying Trends

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- ◆ The Declining Importance of International Trade and Investment to China
- ◆ Economic De-Globalisation
- ◆ The De-Coupling of the Chinese and U.S. Economies

# Underlying Trends: The Declining Importance of International Trade and Investment to China

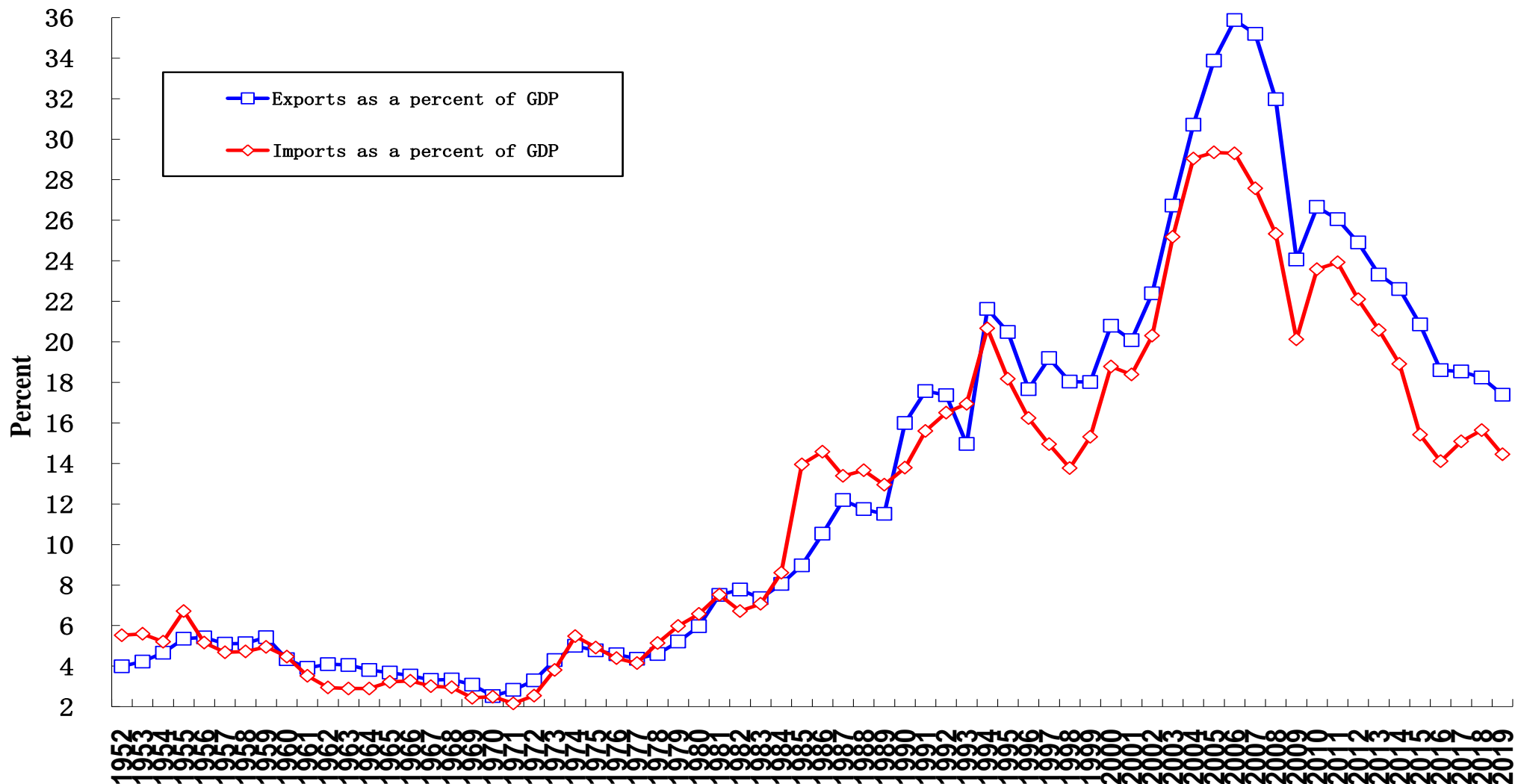
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- ◆ The Chinese economy has been undergoing a transformation from being exports-driven to domestic-demand-driven, and from being the world's factory to the world's market. The shares of exports in its GDP and inbound foreign direct investment (FDI) in its gross domestic investment have all been falling for quite a while.
- ◆ Moreover, China is trying to move up the value chain. The manufacturing of products such as garments, shoes and stuffed toys has migrated to Vietnam and Bangladesh and other Southeast Asian countries. The Chinese and U.S. economies have begun to become more similar to each other. Similar economies compete more and trade less. And that is inevitable.
- ◆ The share of exports of goods in Chinese GDP has fallen below **17.4%**. And since the total (direct + indirect) value-added content of Chinese exports is approximately two-thirds, the contribution of exports to Chinese GDP may be estimated to be approximately 11.5%, significant, but not overwhelmingly important.
- ◆ The share of exports of goods and services in GDP has fallen to **19%**. The trade surplus was only 1.7% of GDP in 2019.



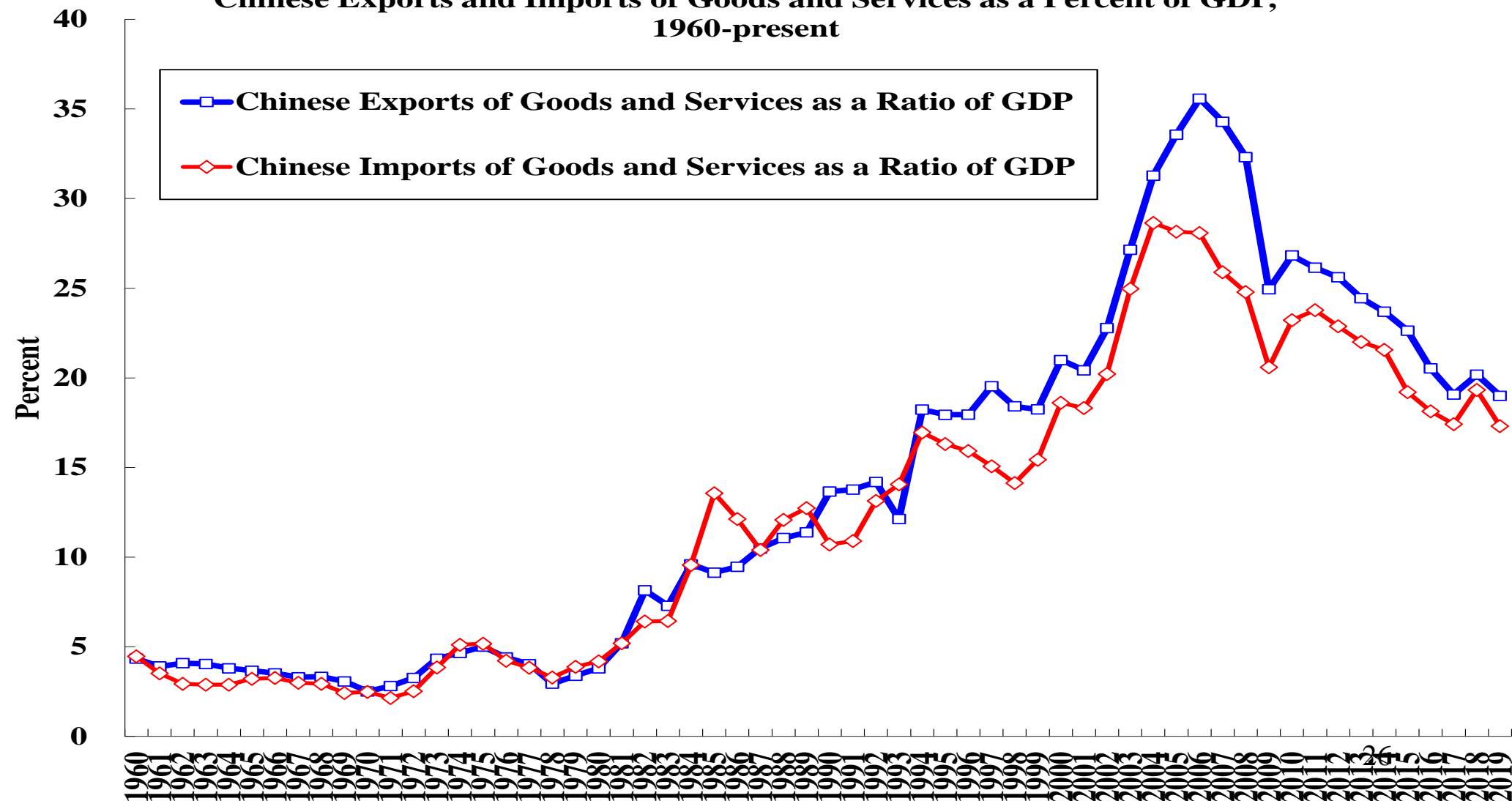
# Exports and Imports of Goods as a Percent of Chinese GDP, 1952-present

Exports and Imports as a Percent of Chinese GDP, 1952-present



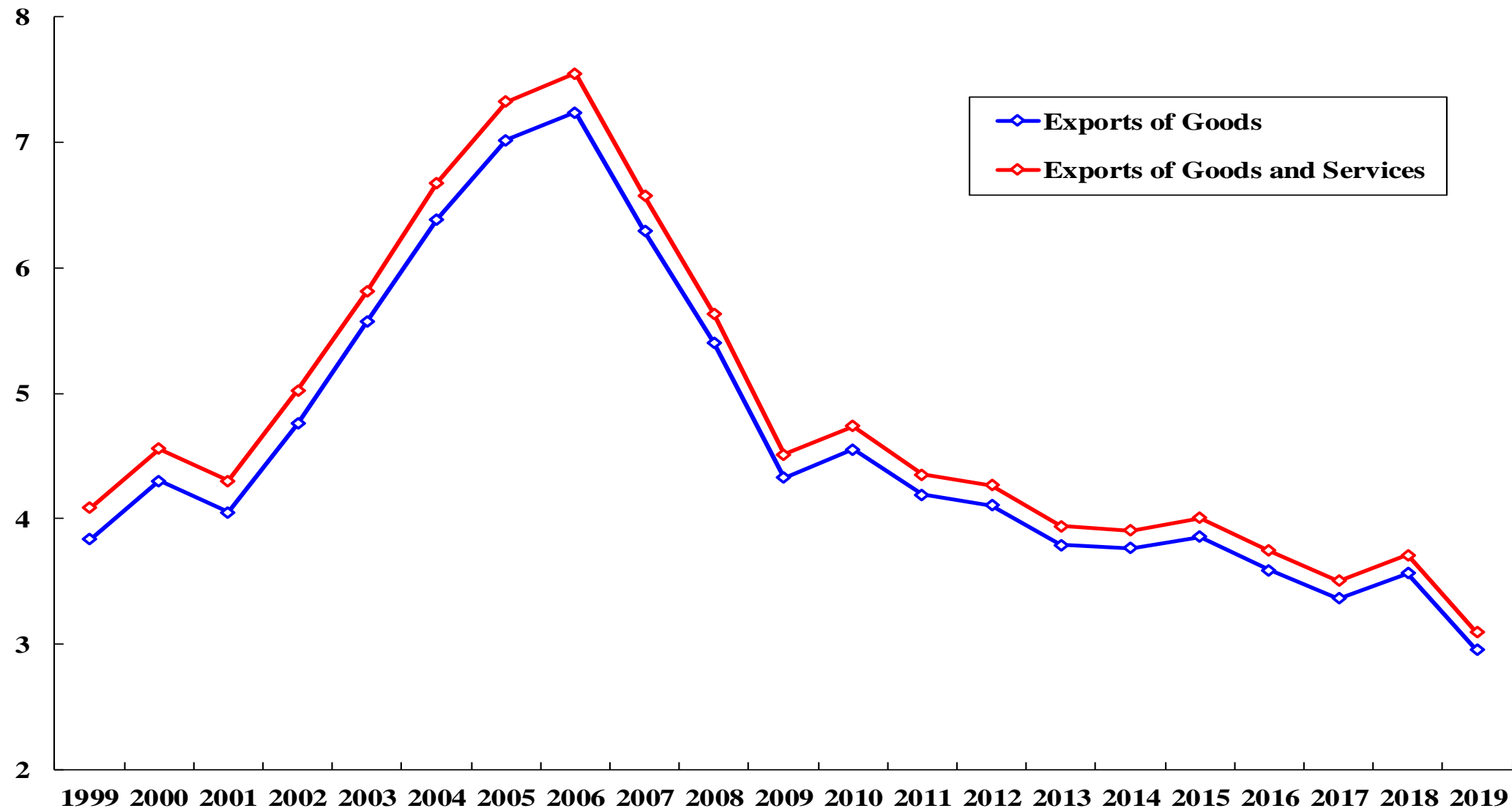
# Exports and Imports of Goods and Services as a Percent of Chinese GDP, 1960-present

Chinese Exports and Imports of Goods and Services as a Percent of GDP, 1960-present

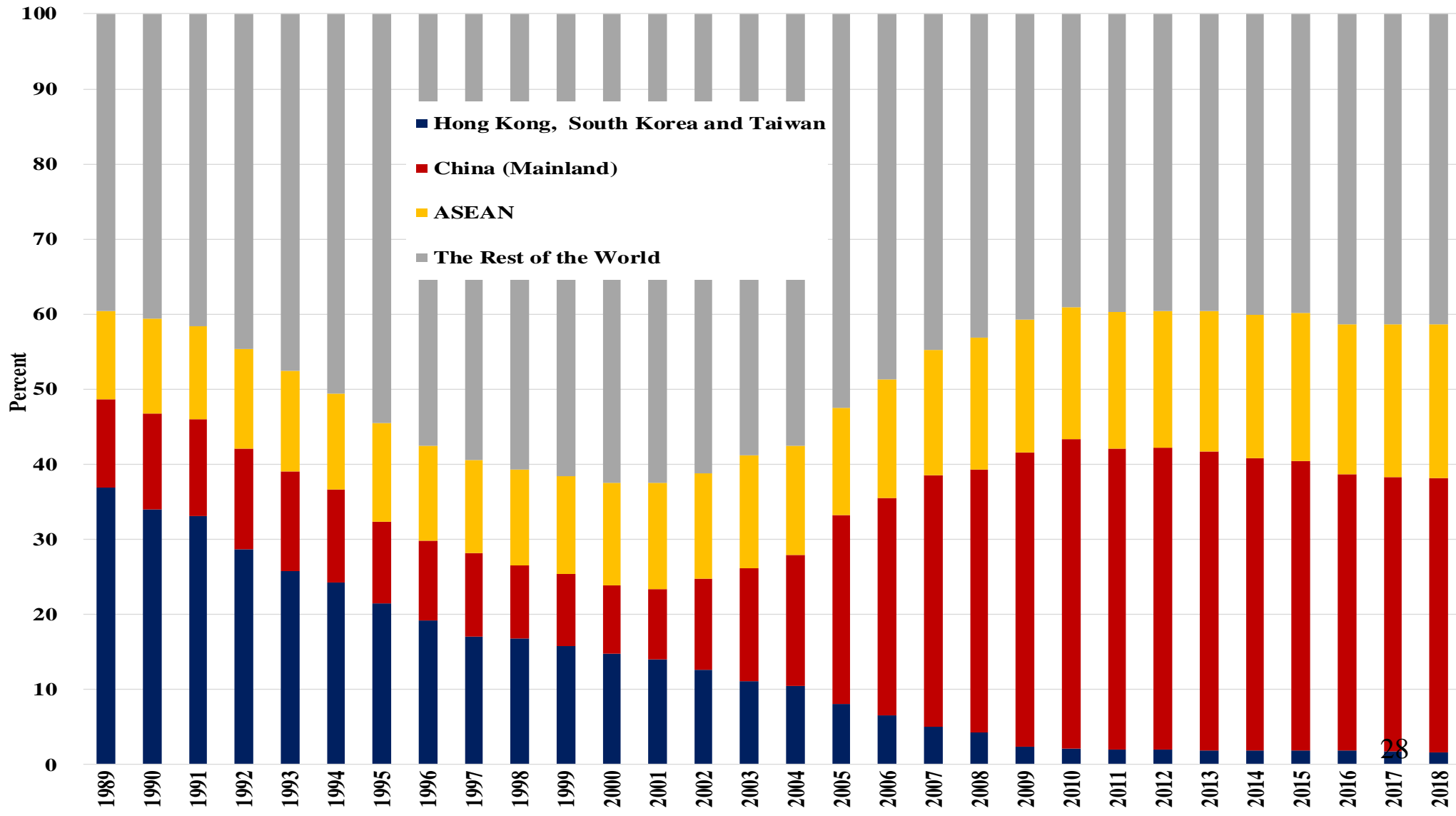


# Chinese Exports of Goods and Services and Goods to the U.S. as Percent of Chinese GDP

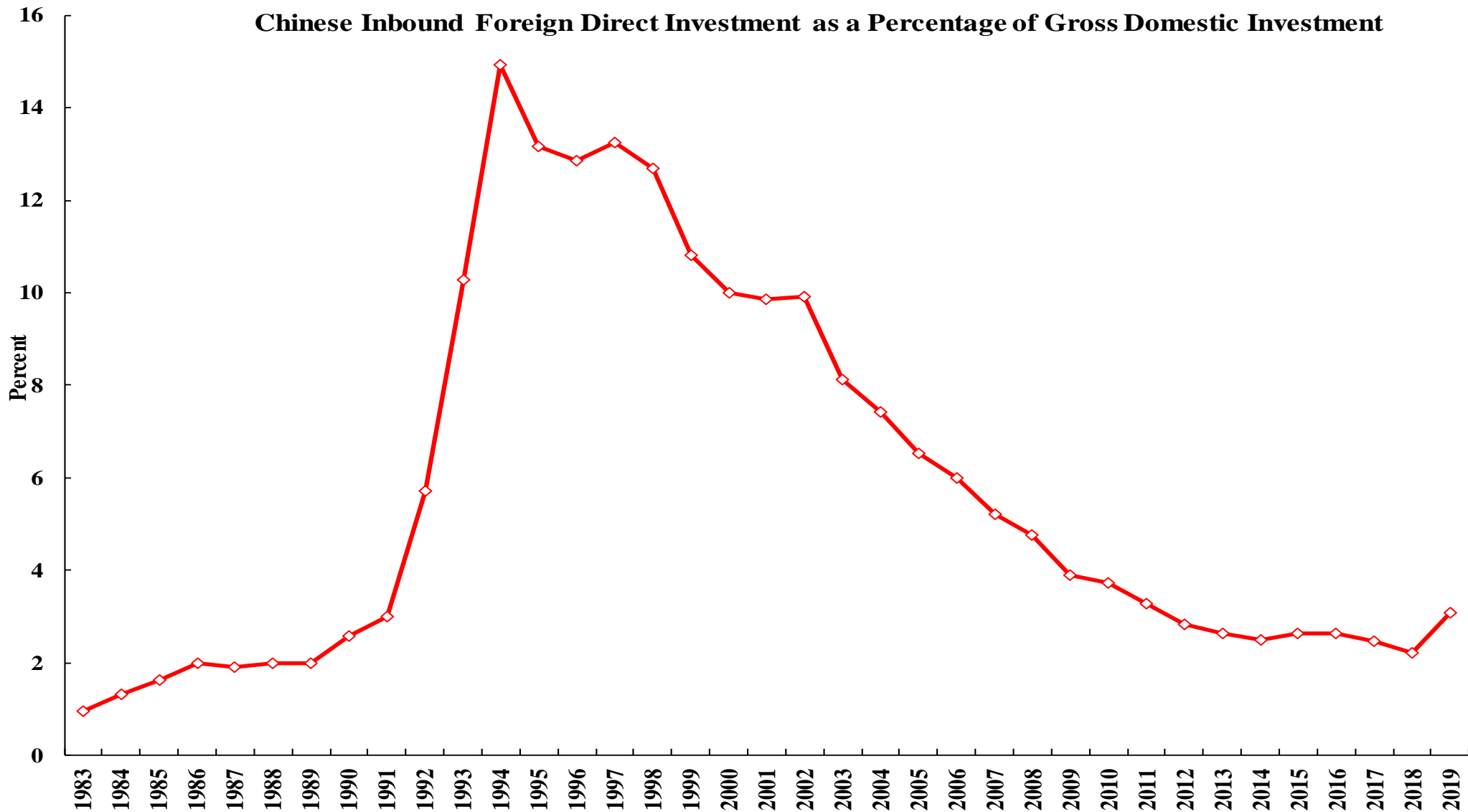
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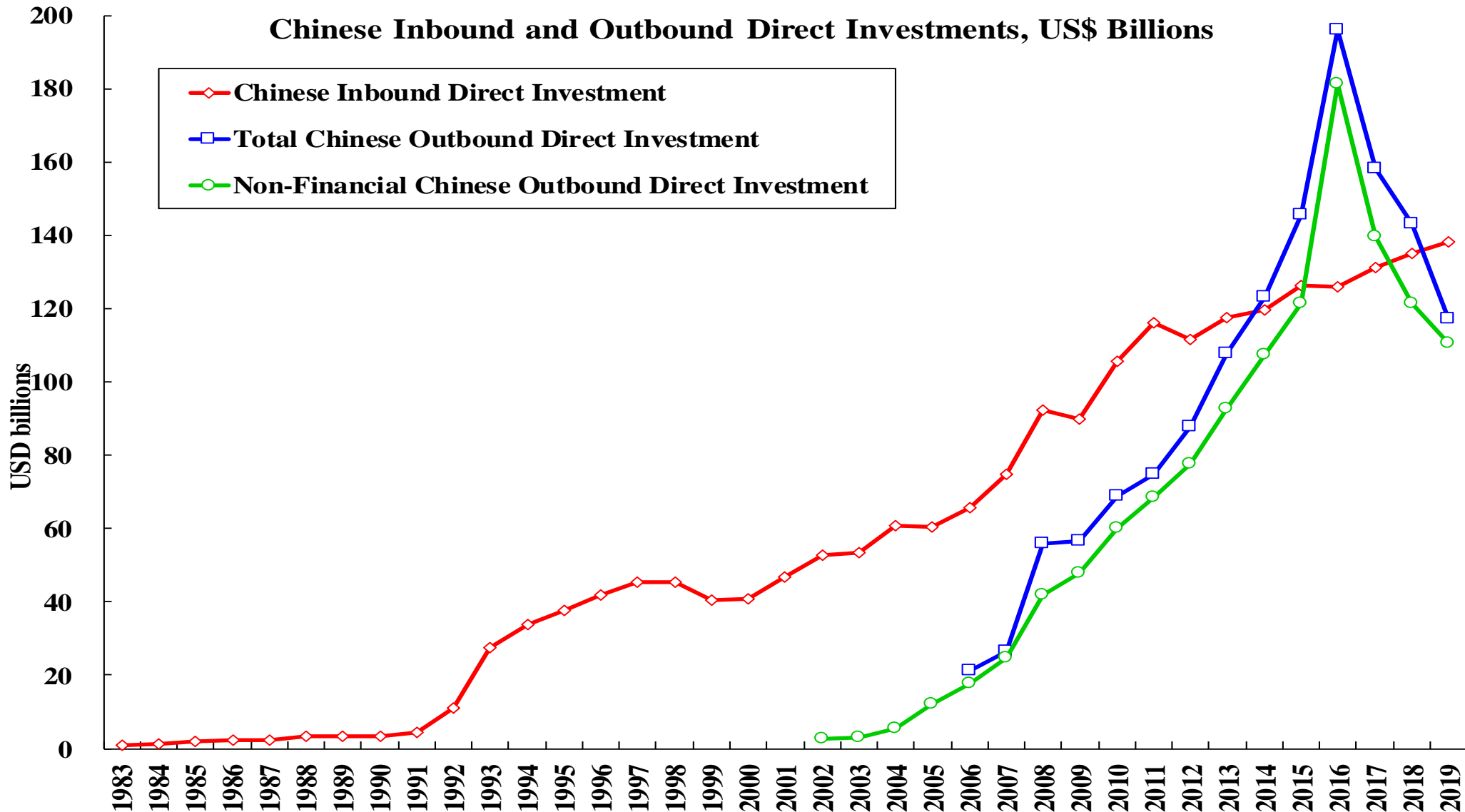
# The Distribution of U.S. Apparel Imports by Countries and Regions of Origin



# Chinese Inbound Foreign Direct Investment as Percent of Chinese Gross Domestic Investment



# Total Chinese Inbound and Outbound Direct Investments, US\$ billions



# Underlying Trends

## Economic De-Globalisation

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- ◆ While economic globalisation has brought huge benefits to all countries, including both China and the U.S., it has also created winners and losers in every country. The free market will only reward the winners but cannot compensate the losers. It is those people who did not benefit from economic globalisation who want to reverse economic globalisation. These sentiments have been manifested around the world, especially in the U.K. and the U.S.
- ◆ Economic globalisation actually generates sufficient gains in each economy so that everyone can be made better off. However, it is the responsibility of each government to compensate the “losers” in its own country.
- ◆ It is the failure, over a long period of time, of many governments to compensate the “losers” from globalisation that has led to the rise of populism, protectionism and isolationism worldwide. That is also why a trade war enjoys popular support domestically.

# Underlying Trends: The De-Coupling of the Chinese and U.S. Economies

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- ◆ The China-U.S. trade war and the COVID-19 pandemic has also brought to the forefront the possibility and desirability of the idea of a “de-coupling” of the two economies. Any major country must avoid being overly dependent on another country for a critical raw material, component, part or technology.
- ◆ Economic de-coupling per se can be costly, but is not necessarily bad. However, a pre-requisite to de-coupling is the existence of an alternate source of supply. The existence of an alternate second source prevents monopolisation, reduces monopoly power, and leads to a more stable and more competitive world economy for the benefit of all consumers, wherever they may be.



# De-Coupling of the Chinese and U.S. Economies: The Supply Chains

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- ◆ Geographical diversification of supply and second-sourcing by major countries are therefore inevitable. It is too risky to depend solely on a single supplier, even if it is located in your most friendly allied country. Unforeseen events that disrupt critical supplies can happen—not only trade wars and pandemics, but also natural disasters such as earthquakes, floods, hurricanes, tornadoes and tsunamis, and also man-made disasters such as bankruptcies and fires, and nuclear disasters such as Three-Mile-Island, Chernobyl, and Fukushima, not to mention embargoes, wars and other geo-political conflicts and disputes.
- ◆ It is not only the U.S. that would like to shift supply chains out of China, China would also like to shift some supply chains out of the U.S. It is the only way to insure and protect against the risks of unforeseen disruption.

# De-Coupling of the Chinese and U.S.

## Economies: The Supply Chains

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- ◆ De-coupling is not free--It is just like buying insurance. But insurance has benefits. The obvious one is to be free of dependence on a single supplier or country whose interests may differ from yours. The second is the reduction of monopoly power and monopoly rents. Think of a world with only Boeing but no Airbus (or vice versa). Where would we be today?
- ◆ The costs of de-coupling will not be low for China, certainly in the short run. However, China and Chinese firms have no real choice. If Google is not allowed to supply the Android operating system to Huawei, Huawei will have no choice but to develop its own substitute.
- ◆ I believe neither China nor the U.S. want to depend solely on each other for the supply of critical products and technologies. The U.S. does not want to be put in the position to rely solely on Huawei for its 5G technology, which is understandable. That is why it is doing all it can to try to destroy Huawei.
- ◆ Every major country must make provisions for such eventualities. 34

# De-Coupling of the Chinese and U.S.

## Economies: The Supply Chains

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- ◆ Having a second source is not the same as trying to achieve total self-sufficiency. A second source in a third country, which is often a possibility, is in many cases good enough.
- ◆ The U.S. can certainly be self-sufficient in oil, if the world price stays at \$50 a barrel, or it can impose tariffs on oil imports to ensure that the domestic price stays at or above \$50 a barrel. Who loses in the latter case? The Middle Eastern producers and the American consumers. It is of course for the American people to decide whether it is worth it.
- ◆ Second-sourcing is one way to ensure adequate supplies of critical commodities and products. Maintaining a stockpile is another. For example, the U.S. has maintained a Strategic Petroleum Reserve since 1975, with a storage capacity equal to approximately 10% of the total annual U.S. oil consumption, but a much larger percentage, around 50%, of U.S. annual oil imports. The “Strategic Petroleum Reserve”, as a potential second source in the event that supplies from the Middle East are interrupted. China should have a similar reserve.

# De-Coupling of the Chinese and U.S. Economies: The Direct Investment

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- ◆ Direct investment from China to the U.S. has fallen a great deal since it reached a peak in 2016. There are several reasons that are unrelated to the COVID-19 pandemic. The COVID-19 pandemic only makes it worse.
- ◆ First of all, there is now much greater scrutiny of Chinese direct investment, especially high-technology industries, in the U.S. by CFIUS, and therefore greater uncertainty as to the eventual approval of the proposed investment. This gives potential investors pause.
- ◆ Second, the U.S. is much less hospitable to investments from Chinese state-owned-enterprises, but they are the ones with the resources and financing. The investments from private Chinese enterprises have disappeared in part because of the drying up of bank financing, and in part because of the uncertain political future in the U.S. Reckless direct investors such as Anbang and HNA are gone.
- ◆ Third, given the current acrimony between the two countries, Chinese investments in venture capital may be tagged unfairly as “stealing U.S. intellectual property”.
- ◆ Moreover, there is an assessment that the U.S. under President Donald Trump is capable of doing anything, so that the past lessons of the U.S. nationalising German investments in the U.S. during the two World Wars and the confiscation of the property of Japanese Americans during the Second World War are not lost on potential Chinese investors.

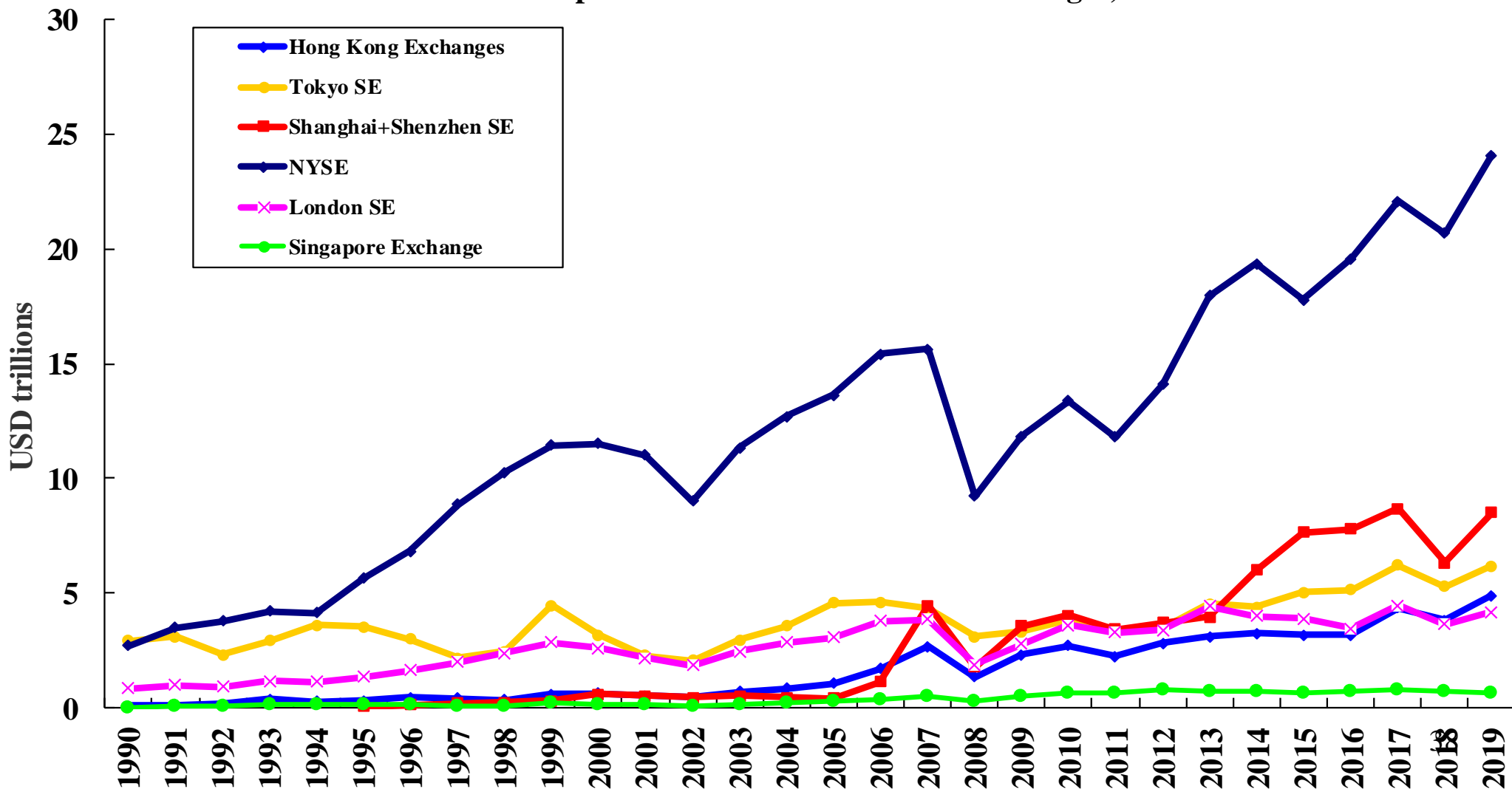
# De-Coupling of the Chinese and U.S. Economies: The Capital Markets

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- ◆ Several hundred Chinese enterprises are listed on the New York Stock Exchange or NASDAQ as either 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 IPO funding broke down to 43% U.S., 29% Hong Kong and 28% A-share. In 2019, the corresponding percentages were 7%, 12% and 81%. Total market capitalisation of publicly listed Chinese enterprises was distributed 8.7% U.S., 20.9% Hong Kong and 70.4% China. The importance of New York as a source of equity capital to Chinese enterprises has greatly diminished.

# End-of-Year Market Capitalisation of Selected Stock Exchanges

End of Year Market Capitalisation of Selected Stock Exchanges, in USD trillions



# De-Coupling of the Chinese and U.S. Economies: The Capital Markets

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- ◆ Why were Chinese enterprises listed in New York? There are two important reasons.
- ◆ The first is that the initial venture-capitalist investors and the cornerstone investors want to exit and take their profits eventually. And exit for them means the ability to sell their shares in a foreign currency other than the Renminbi. This means listing either in Hong Kong or the U.S.
- ◆ The second reason is the possibility of having more than one class of shares. The founders of many private Chinese enterprises would like to continue managing the enterprises they founded. This was not possible in Hong Kong until a couple of years ago. That is why Alibaba went to New York. Hong Kong has changed its rules since to allow multiple classes of shares, so one reason favouring a listing in New York has disappeared.

# De-Coupling of the Chinese and U.S. Economies: The Capital Markets

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- ◆ On 20 May 2020, the U.S. Senate passed the “Holding Foreign Companies Accountable Act”, with the intention of potentially de-listing of Chinese enterprises listed in New York. However, the impact should be manageable.
- ◆ What has happened is that the Chinese stock market has grown and the wealth of Chinese private investors has become a major source of the buying power in the Chinese and Hong Kong stock exchanges.
- ◆ Moreover, the A-share market has out-performed the ADRs. The P/E ratio has been much higher. So it is the preferred market for an IPO for Chinese enterprises.
- ◆ There is also the potential of U.S. and other foreign companies raising capital in China.
- ◆ Netease and JD.com have returned to Hong Kong for secondary listings. And YumChina will follow soon.



# De-Coupling of the Chinese and U.S. Economies: Educational Exchanges

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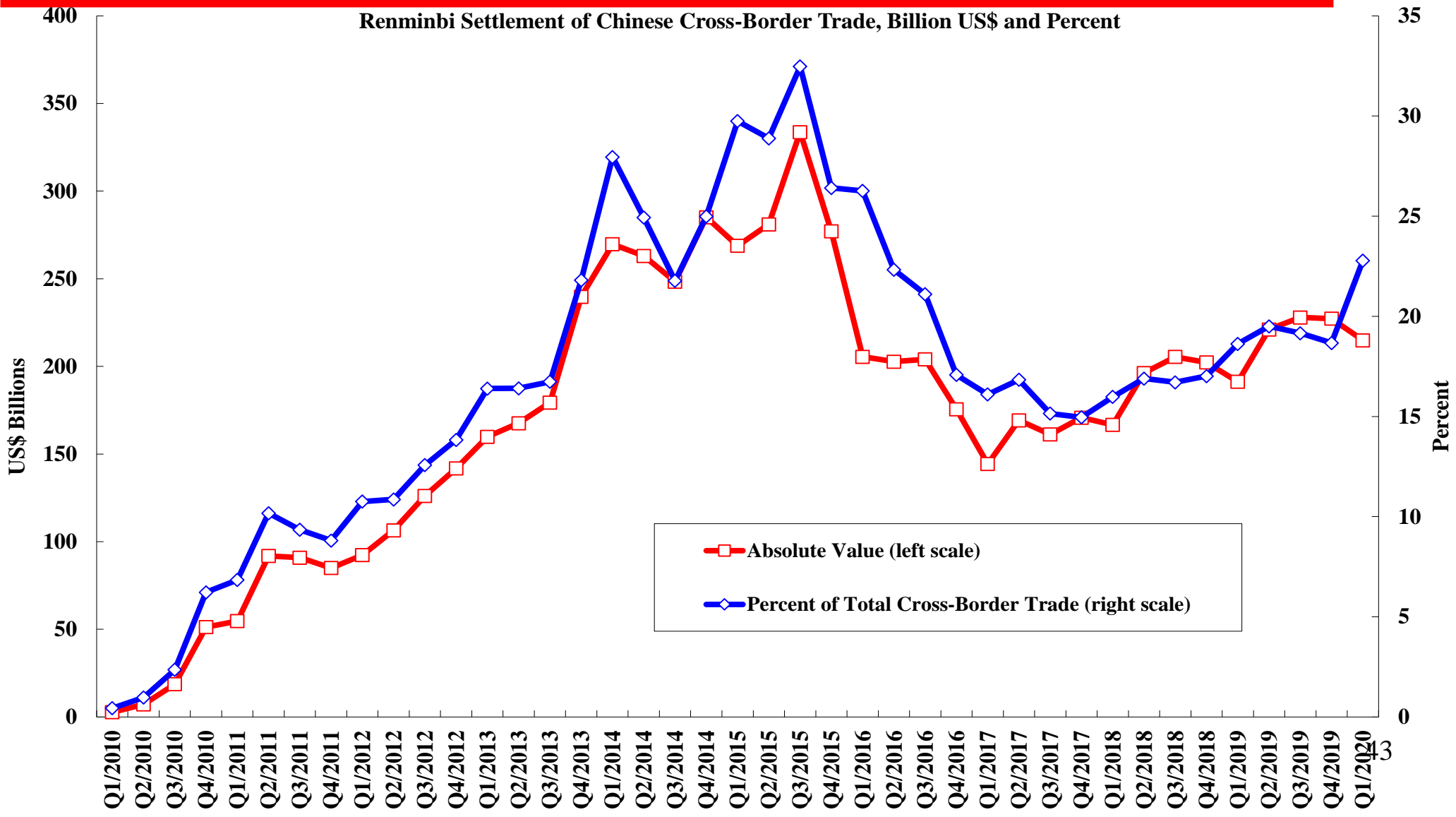
- ◆ There are currently an estimated 360,000 Chinese students at U.S. tertiary institutions. They generate, conservatively, US\$18 billion worth of expenditures in the U.S. a year.
- ◆ Recent U.S. government attempts to discourage or even forbid the admission of Chinese students, especially those in science and technology fields, the tightening of the 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.
- ◆ This is not only a loss to Chinese students, but also to the U.S. as well. The top universities in the U.S. has had the first choice of the best eighteen-year-olds in the world, without the cost of having to raise them, but not any more with respect to China.
- ◆ Another problem is the potential shortage of graduate students. At the present time, graduate students in science and engineering at the top research universities are drawn from three sources—Chinese, Indian and Russian. Not admitting Chinese graduate students will reduce graduate enrollment in these fields by approximately one third.

# The Challenges and Opportunities of De-Coupling: Settlement Currency

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- ◆ Before 2010, almost all Chinese international transactions were settled in U.S. Dollars.
- ◆ Then China began to try to settle part of its international trade transactions in Renminbi. The share of settlement in Renminbi began to rise. It grew steadily and reached a peak of 32.5% in mid-2015. Then, because of an abrupt devaluation of the Renminbi, it declined to just below 15% in 2017Q4. It has recently begun to recover, to 22.8% by the end of 2020Q1. There is a great deal of room for the Renminbi to expand its use in the settlement of Chinese international trade.
- ◆ In the medium to long run, China should encourage its trading-partner countries to settle in their own respective currencies rather than in U.S. Dollars. This can reduce exchange risks as well as transactions costs all around.
- ◆ China does not aspire to replacing the U.S. Dollar, but to encourage the use of own currencies for settlement of international trade transactions by all countries.

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



# De-Coupling of the Chinese and U.S.

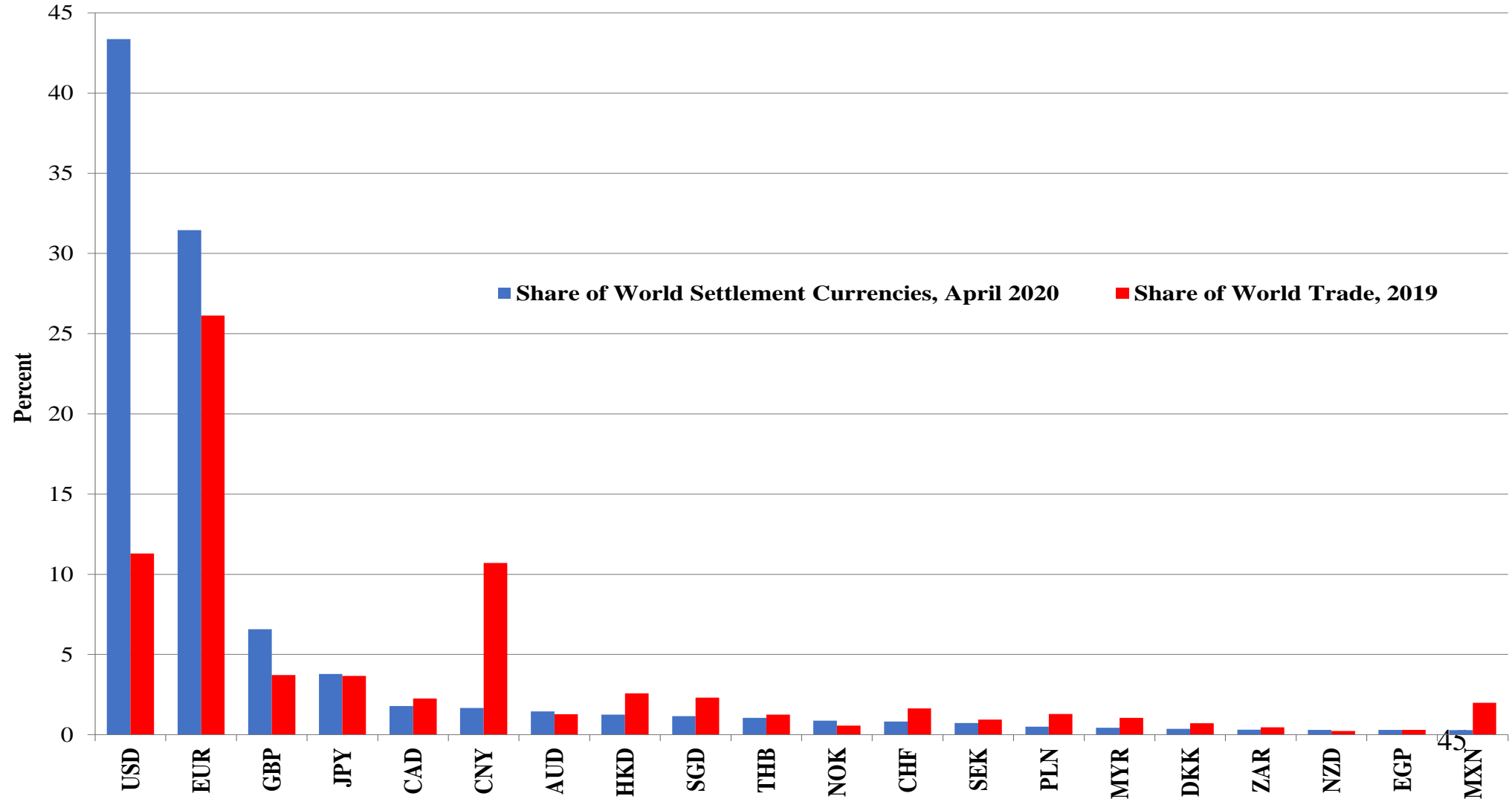
## Economies: Use of the U.S. Dollar

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- ◆ Even though the U.S. accounts for only 11.3% of all international trade transactions, the US\$ is used to settle 43.4% of all international transactions. In other words, many third countries use the U.S. Dollar to settle the international trade between one another rather than their own respective currencies.
- ◆ In contrast, China accounts for 10.7% of all international trade, but less than 1.7% of all international transactions is settled in Renminbi.
- ◆ By comparison, Japan accounts for 3.7% of all international trade and its currency, the Japanese Yen, is used in the settlement of 3.8% of all international transactions.
- ◆ There is obviously a great deal of room for the use of the Renminbi to grow in the settlement of international transactions.
- ◆ The U.S. has also exploited the dominance of the U.S. Dollar for international settlement purposes as a weapon of control, for example, by threatening to cut off Total from the use of the U.S. Dollar for settlement if it does not withdraw from Iran.

# Comparison of the Share of World Settlement April 2020M4 and Share of 2019 World Trade

Share of World Settlement Currencies, April 2020



# China-U.S. Competition

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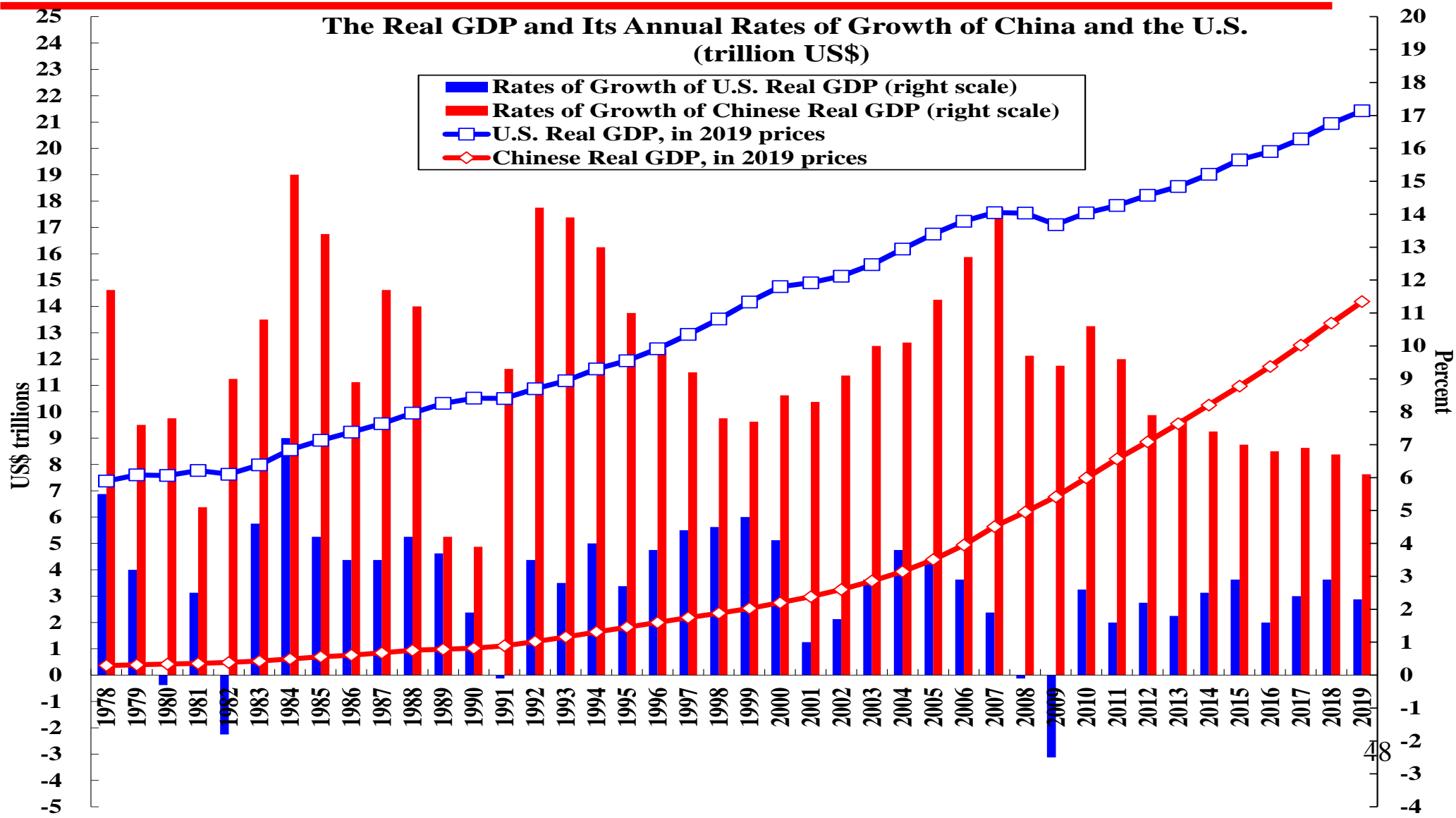
- ◆ It is inevitable that there will be economic, technological and geopolitical competition between China and the U.S., the two largest economies in the world. The competition, manifested in the ongoing China-U.S. trade war, has also intensified because of the COVID-19 pandemic and the upcoming U.S. presidential election. This is likely to be the new “normal” going forward.
- ◆ Moreover, the competition between the two countries will survive the Trump presidency. The pivot to Asia and the Trans-Pacific Partnership were both initiatives undertaken by former President Barack Obama, a Democrat, with the objective of containing China. It has broad bipartisan support, even though President Trump has abandoned both initiatives.
- ◆ More recently, Hong Kong has become a pawn in the rivalry between China and the U.S.

# China-U.S. Competition

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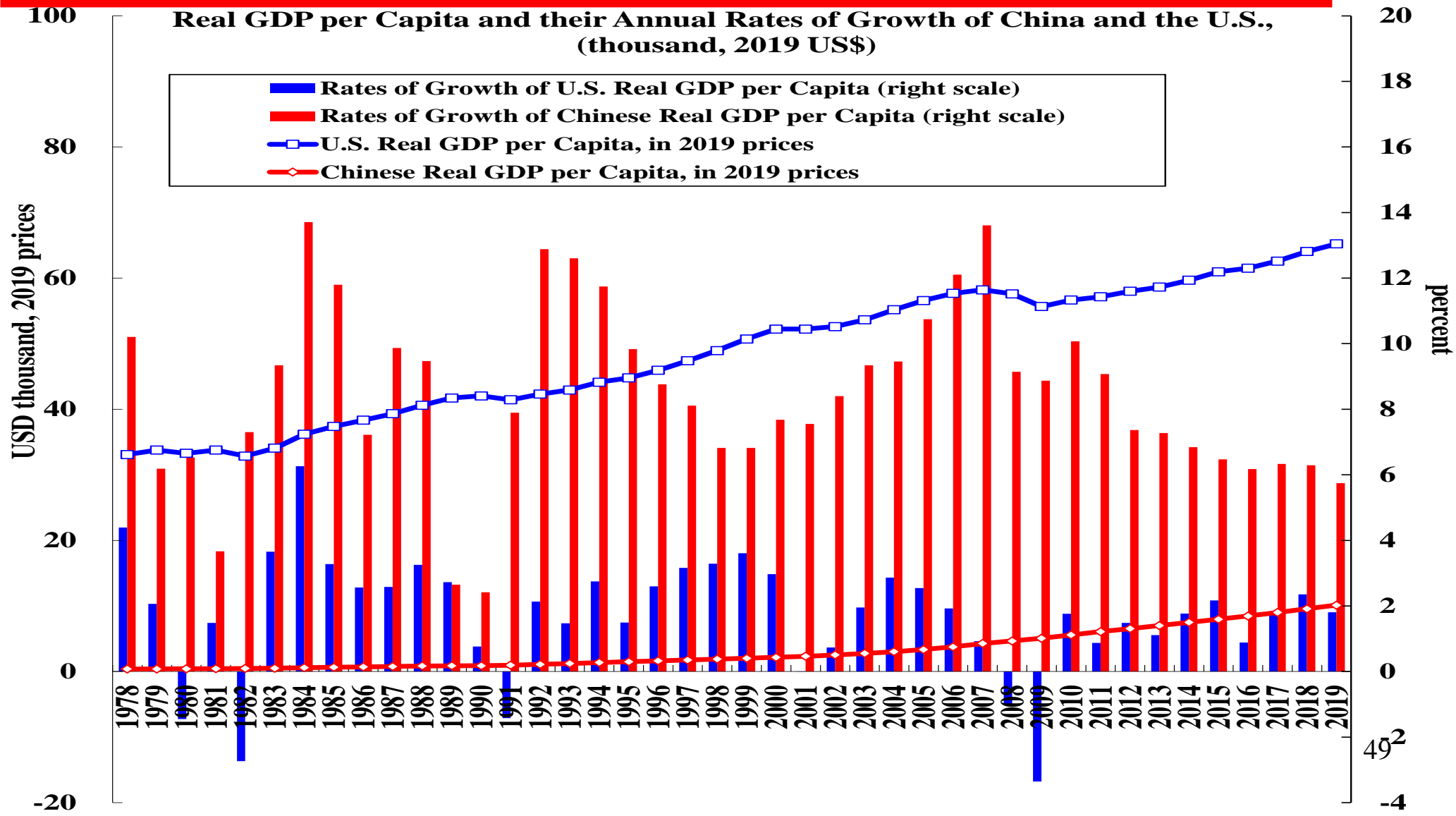
- ◆ Why are there such strong anti-China feelings in the U.S.?
- ◆ First of all, there is the military-industrial complex, first identified by the late U.S. President Dwight Eisenhower in the 1950s. This is an informal alliance of the national defense establishment, the military and the producers and suppliers of armaments and military equipment in the U.S. They need a hypothetical enemy in order to justify an increasing national defense budget. The enemy used to be the former Soviet Union and now it is China.
- ◆ Second, the liberals are disillusioned that China has not become the liberal democracy that they envisioned.
- ◆ Third, even though the businesses they have by and large done well in China, they have accumulated grievances of various kinds over the years (even though some have become moot, e.g., the requirement of a 50/50 joint-venture partner, which has been abolished).
- ◆ Finally, the U.S. is worried that it will not be able to maintain its hegemony as China rises, that it may have to share influence and power, if not today, but some time in the future. It would like to slow down China's rise if possible.

# The Real GDP and Its Annual Rate of Growth of China and the U.S. (trillion 2019 US\$)





# The Real GDP per Capita & Its Annual Rate of Growth of China & the U.S. (thou. 2019 US\$)

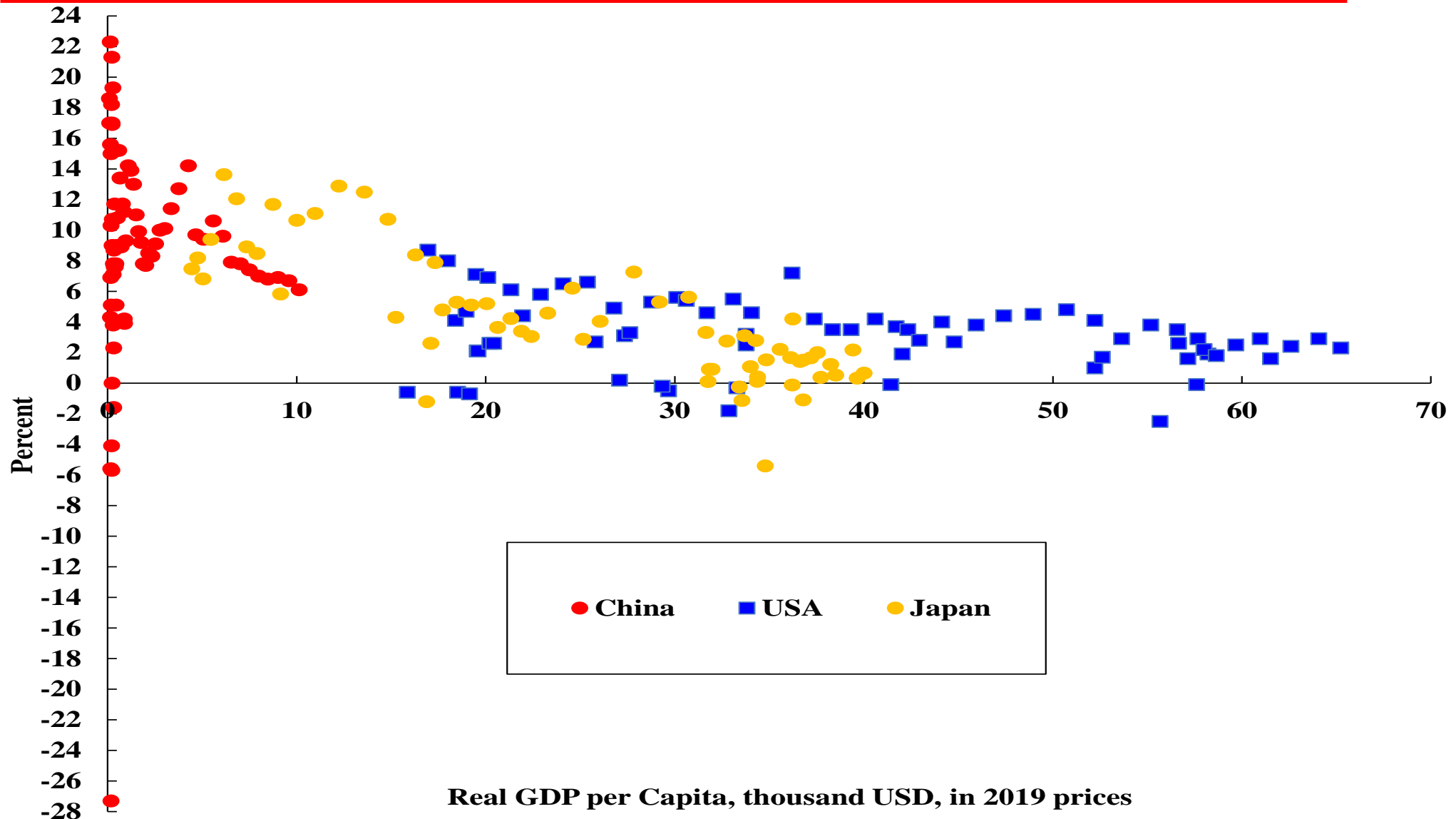


# Economic Competition: Long-Term Projections of Chinese and U.S. Real GDPs

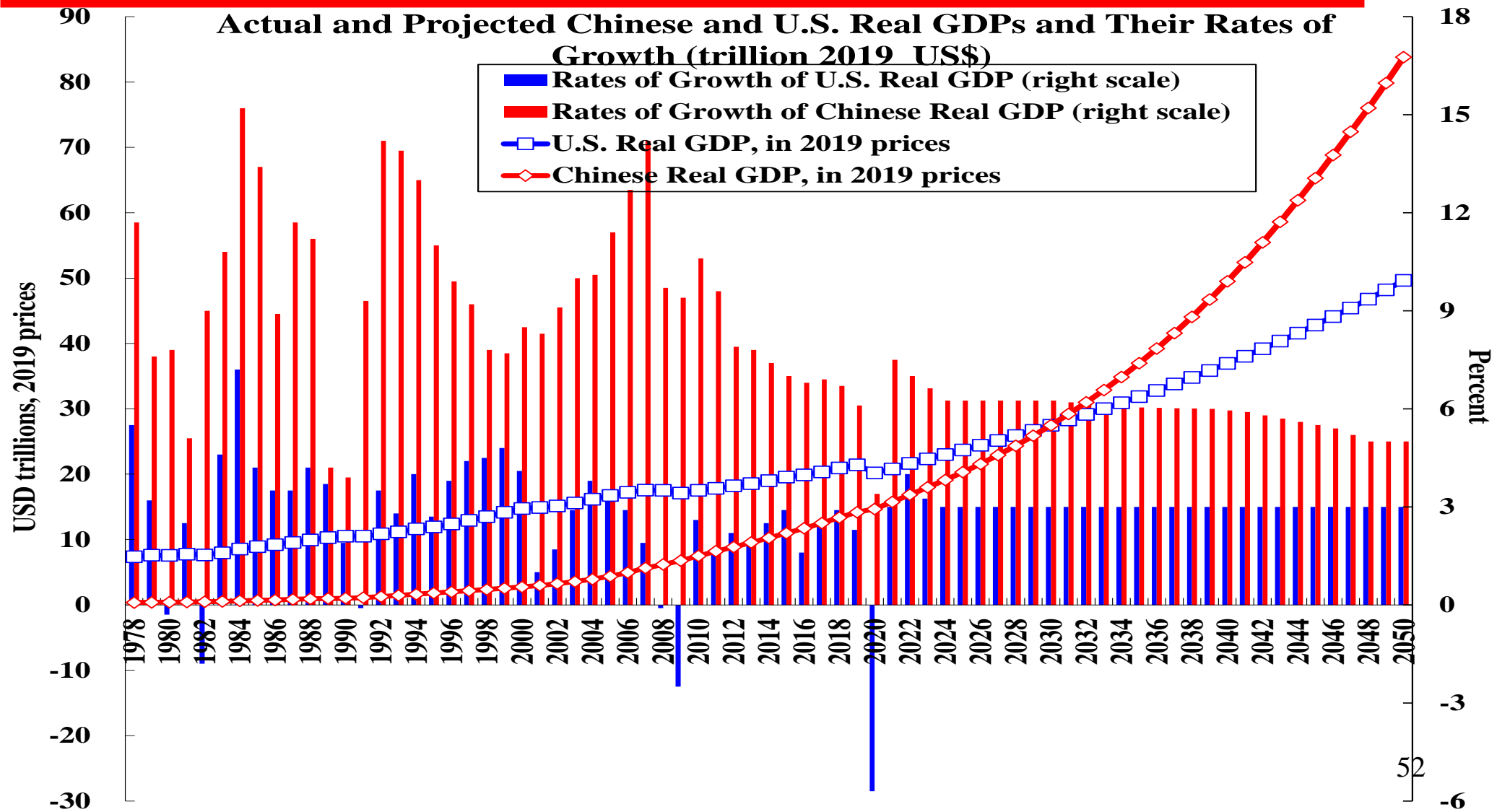
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- ◆ The COVID-19 pandemic has the effect of accelerating the date on which the Chinese GDP may be expected to overtake the U.S. GDP because the Chinese economy is likely to recover and return to normal much faster than the U.S. economy.
- ◆ We project Chinese and U.S. GDPs and GDPs per capita for the next thirty years. We assume that the Chinese economy will grow at 6% per annum, declining gradually to 5% per annum, after the recovery from the epidemic. We assume that the U.S. GDP will grow at its long-term average of 3% per annum also after the recovery from the epidemic.
- ◆ Our projections suggest that in 2030, the Chinese real GDP (with US\$27.5 trillion) is likely to just barely edge out the U.S. GDP (also with US\$27.5 trillion). However, the projected U.S. GDP per capita of US\$79,800 will still be more than four times the Chinese GDP per capita of US\$18,800.
- ◆ By 2050, the projected GDPs are US\$83.8 trillion and US\$49.6 trillion for China and the U.S. respectively. However, the projected U.S. GDP per capita of US\$136,000 will still be more than double the Chinese GDP per capita of US\$56,000. In fact, by 2050, Chinese GDP per capita will still be lower than the U.S. GDP per capita of US\$65,200 in 2019.

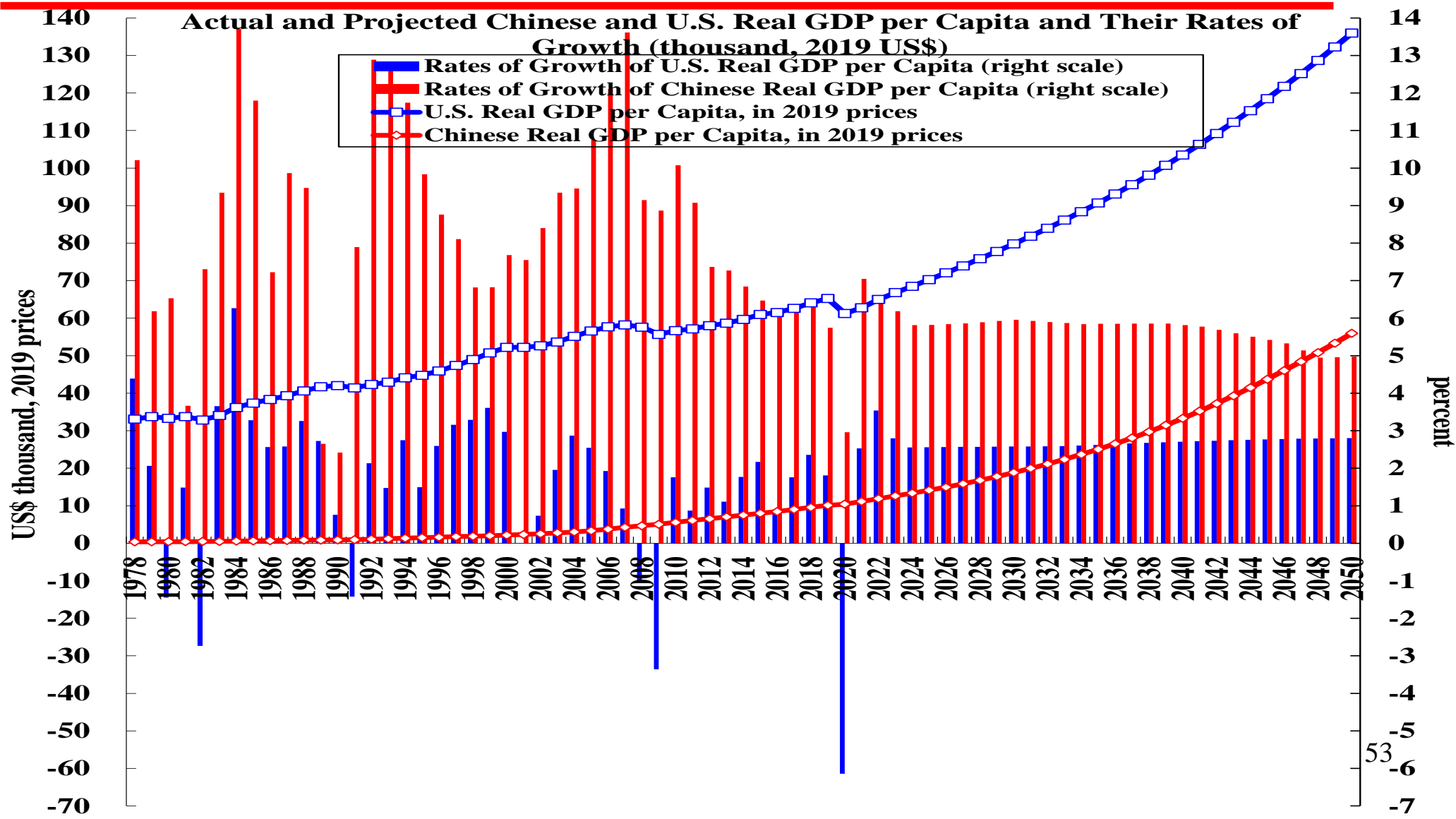
# Growth Rate vs. Level of Real GDP per Capita (thou. 2019 US\$): China, Japan and the U.S.



# Actual and Projected Real GDP & Its Rate of Growth, China & the U.S., (tril. 2019 US\$)



# Actual and Projected Real GDP per Capita & Its Rate of Growth, China & the U.S., 1,000\$



# China-U.S. Competition

## Technological Competition

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- ◆ No major country will want to give away or share its core competence. No major country wants to depend solely on another country for the supply of a critical commodity, product or technology. This is true of both China and the U.S.
- ◆ This is the one important reason why the U.S. has been so negative about Huawei and its 5G technology. Huawei is so much ahead of any U.S. firm in 5G. However, the expectation is that eventually there will be at least two viable 5-G technologies which are interoperable—one would be based on the Chinese system, and the other based on a U.S.-approved system, most likely developed by Ericsson and Nokia.
- ◆ I think Huawei will be able to survive and prosper. However, it is not necessarily bad for the world to have a second viable 5G provider. Competition in 5G will bring down the price for all consumers in the world. It is also good for the world to have another operating system for cell phones in addition to the Android and the IOS.
- ◆ In the field of super-computers, competition between China and the U.S. has resulted in improvements in performance every year. In 2018, the U.S. had the fastest super-computer in the world, the Summit. However, in 2016 and 2017, the fastest super-computer was a Chinese one, the Sunway TaihuLight.

# China-U.S. Competition

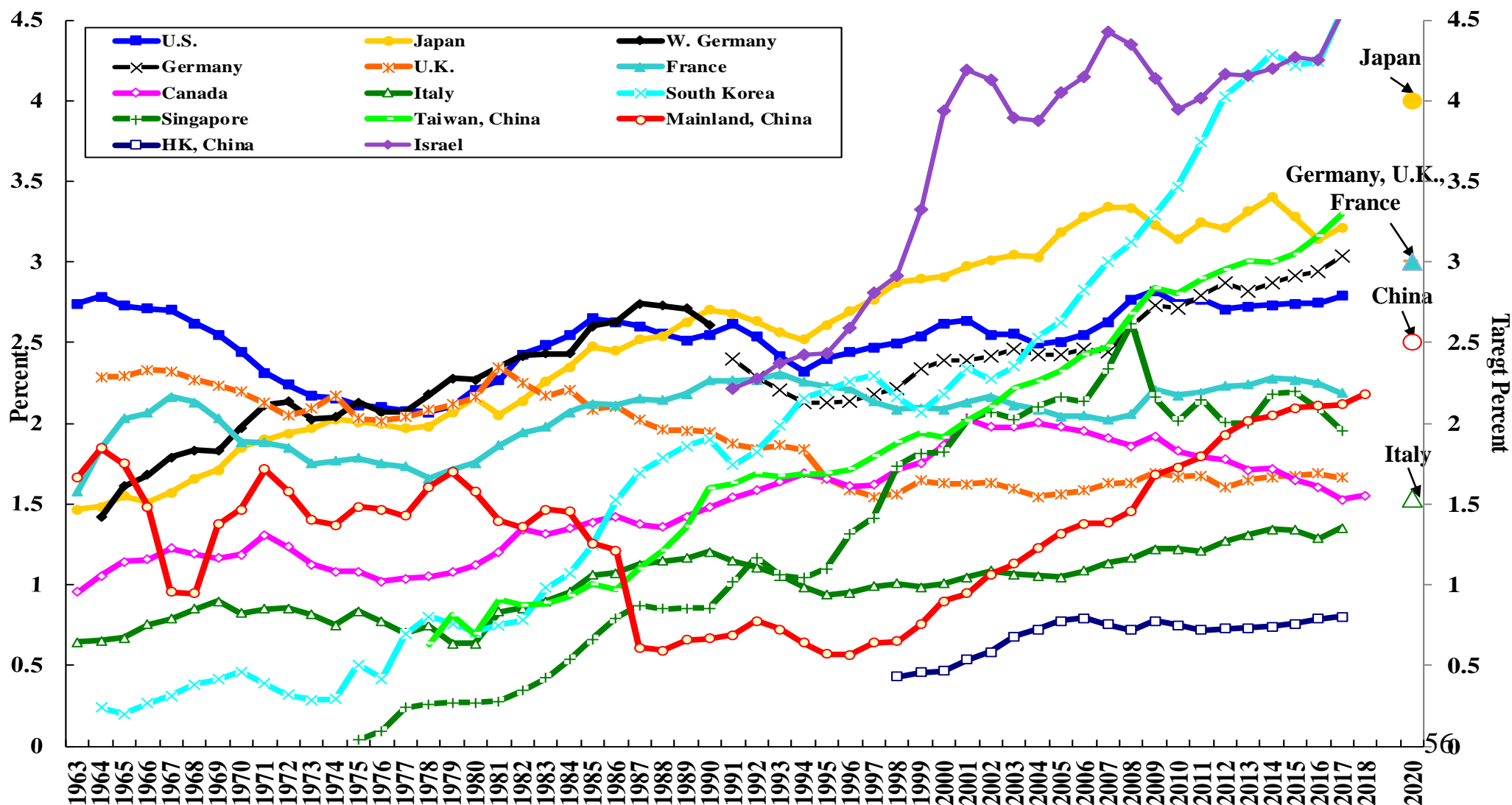
## Technological Competition

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- ◆ What China has to do is to make sure that it can produce all critical components and parts domestically so as not to be solely dependent on foreign suppliers. There are still many areas in which China cannot be self-sufficient, for example, pork, semiconductors and soy beans. But it can diversify its sources of supply to minimise the impacts of potential disruptions. China has been playing catch-up in terms of technology: artificial intelligence, quantum computing. It has already made very significant innovations in applications, e.g., Wechat pay and Alipay.
- ◆ Research and Development are key to technological advancement.

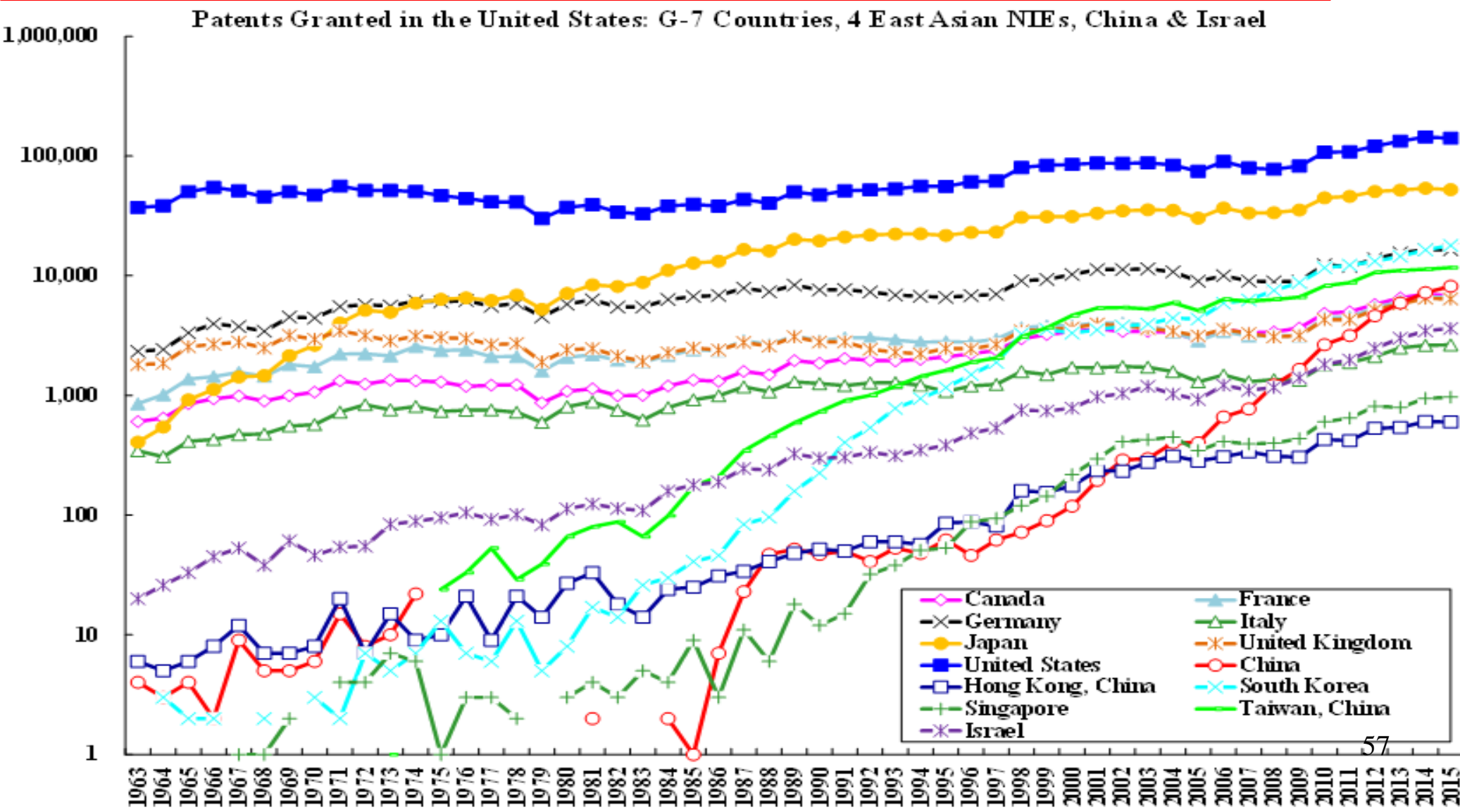
# R&D Expenditures as a Share of GDP and Their Target Levels at 2020: G-7 Countries, 4 East Asian NIEs, China & Israel

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

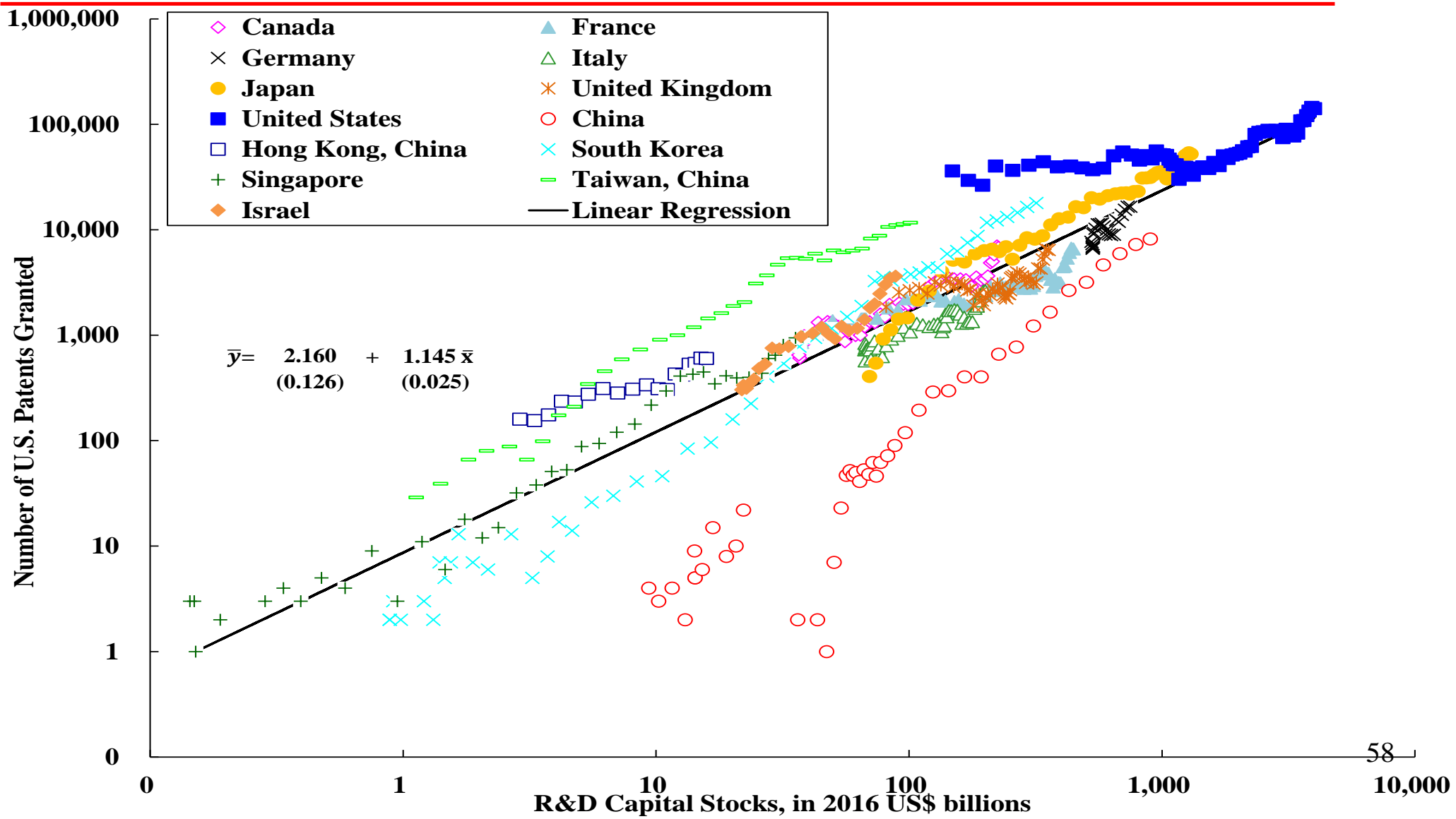




# Patents Granted in the United States: G-7 Countries, 4 East Asian NIEs, China & Israel

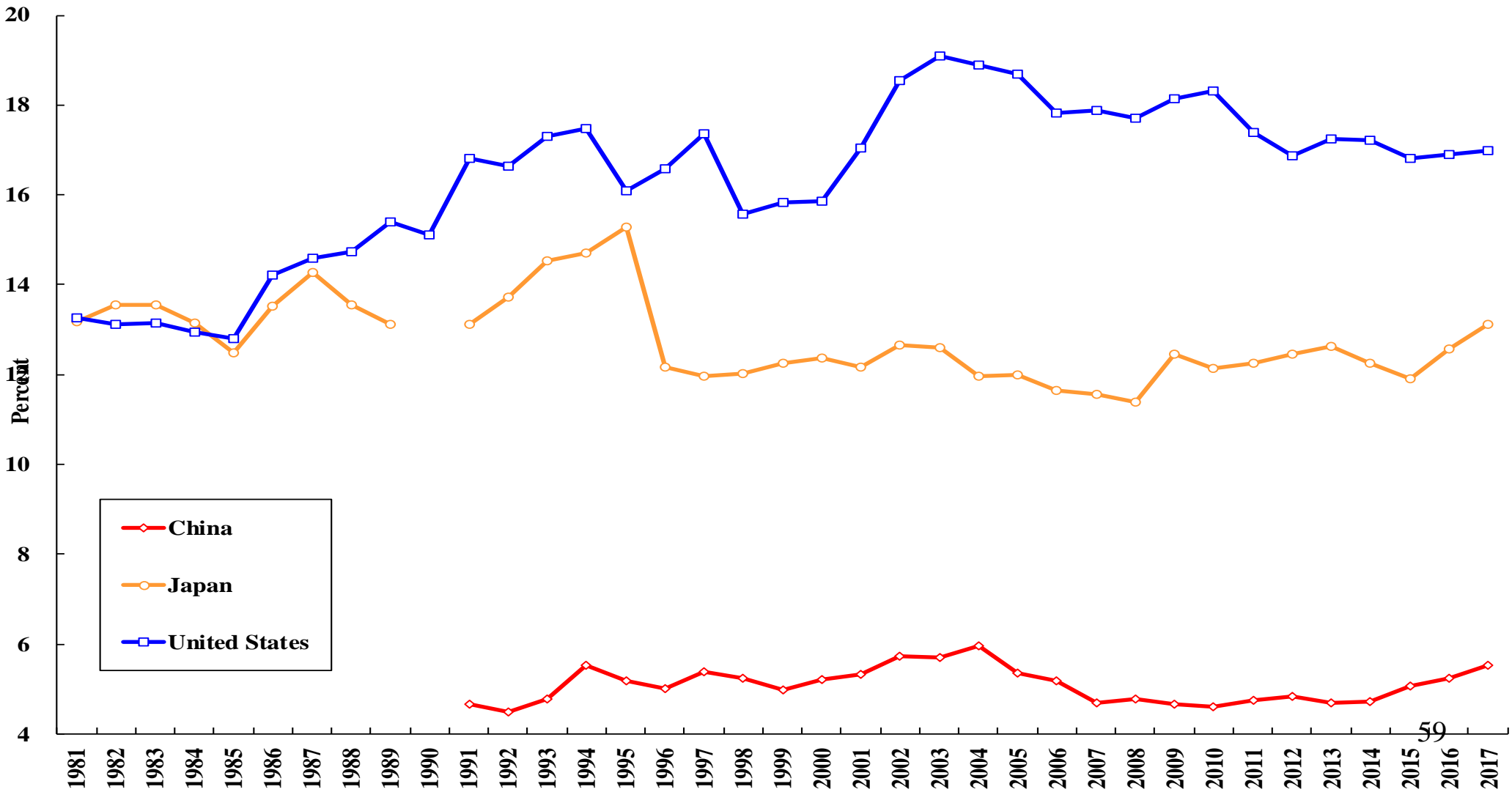


# U.S. Patents Granted and R&D Capital Stocks: G-7 Countries, 4 EANIEs, China & Israel



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

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



# China-U.S. Competition

## Technological Competition

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- ◆ There is also the competition for the development of a vaccine for or a specific anti-viral drug for COVID-19.

# The “Thucydides’s Trap”

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- ◆ Prof. Graham Allison, of the Kennedy School of Government at Harvard University, has written a book titled **Destined for War**, about the inevitability of a war between China and the U.S. 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’s Trap”, drawing on the book by Thucydides, **History of the Peloponnesian War**, a war in ancient Greece (431-404 B.C.) between Athens and Sparta.

# The “Thucydides’ s Trap”

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- ◆ However, the rise of the former Soviet Union between the end of the Second World War and 1990 provides a counter-example that an established power and a rising power must go to war. The truth is that a thermonuclear war today is so devastating that there are effectively no real winners. It is this “mutually assured destruction” that prevented the former Soviet Union and the U.S. from going to war and instead entering into a number of arms control treaties such as the Anti-Ballistic Missile (ABM) Treaty. And it will similarly prevent wars between major powers in the future.
- ◆ 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 the Communist system on other countries. China has no intention of proselytising its ideology or system of government to other countries and hence its competition with the U.S. is basically non-existential and should not lead to a hot war.

# Concluding Remarks

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- ◆ 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 and now the dispute on the origin of the COVID-19 virus are only symptoms of the potential possible conflicts between the two countries.
- ◆ Regardless of the ultimate outcomes of the COVID-19 epidemic and China-U.S. trade war, the Chinese economy is poised to grow at an average annual rate of between 5% and 6% over the next three decades.
- ◆ The U.S. economy is projected to grow at 3% per annum, its average long-term rate of growth over the past several decades, during the same period.
- ◆ The Chinese economy is likely to surpass the U.S. economy in terms of aggregate real GDP at market prices around 2030.
- ◆ However, Chinese real GDP per capita will lag behind that of the U.S. until at least the end of the 21st Century.

# Concluding Remarks

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- ◆ I believe the key to improving China-U.S. relations is for both countries to put themselves in the position of the other country. This way, they will understand what, why and how the other side thinks and acts. I believe U.S. fear of Chinese domination of the 5G technology is real and it will not go away. Similarly, Chinese fear of being cut-off from the supply of advanced semiconductors is also real. For both countries, having a second (domestic or otherwise) source can solve the problem.
- ◆ The U.S. is used to being number one and having its way. It will take time for the U.S. to begin to feel comfortable being number two, or to share influence with another country.
- ◆ Both countries have to learn to treat a friendly country as an equal. Historically neither China nor the U.S. have had such an experience.