The Challenges and Opportunities for China
中國的機遇與挑戰

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- The Twin Circulations
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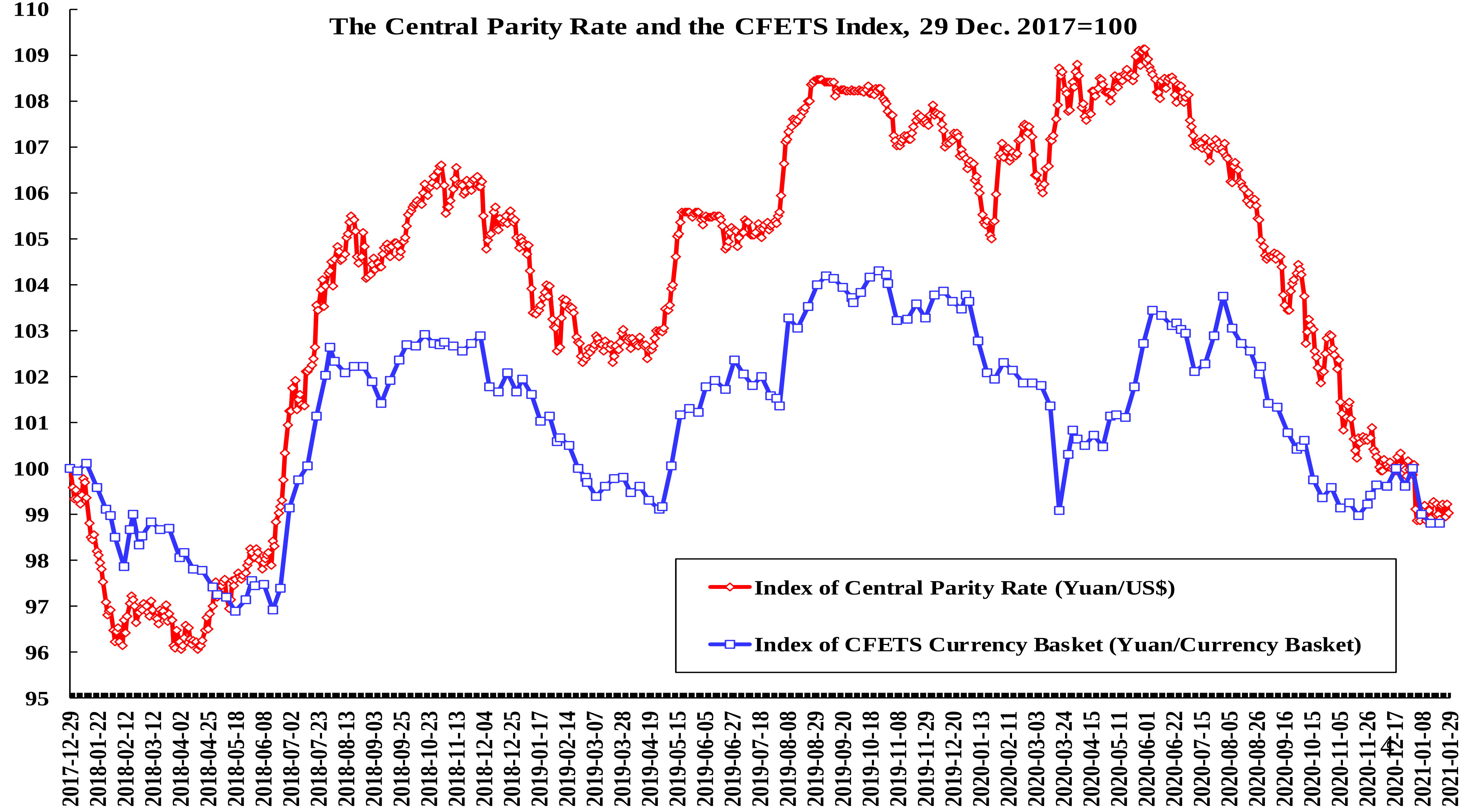
Introduction

- China is today the second largest economy (16.2% of the world GDP of US$87.8 trillion, compared to the 24.4% of the U.S.) and the second largest trading nation (10.7% of world trade compared to 11.3% of the U.S.) in the world.
- It is the fastest growing major economy in the world over the past forty years, averaging an over 9% annual real rate of growth and the only major economy that manages to achieve a positive rate of growth, 2.3%, in 2020 (and 6.5% Y-o-Y in 2020Q4).
- Yet Chinese per capita GDP was barely over US$10,000, compared to more than US$65,000 for the U.S. in 2019.
- The Chinese currency, the Renminbi, has been current-account convertible since 1994. Its exchange rate fluctuates in response to changes in supply and demand in the market but is approximately benchmarked to a trade-weighted basket of foreign currencies. However, it is not fully capital-account convertible. There still exists controls on both inflows and outflows on capital accounts.

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



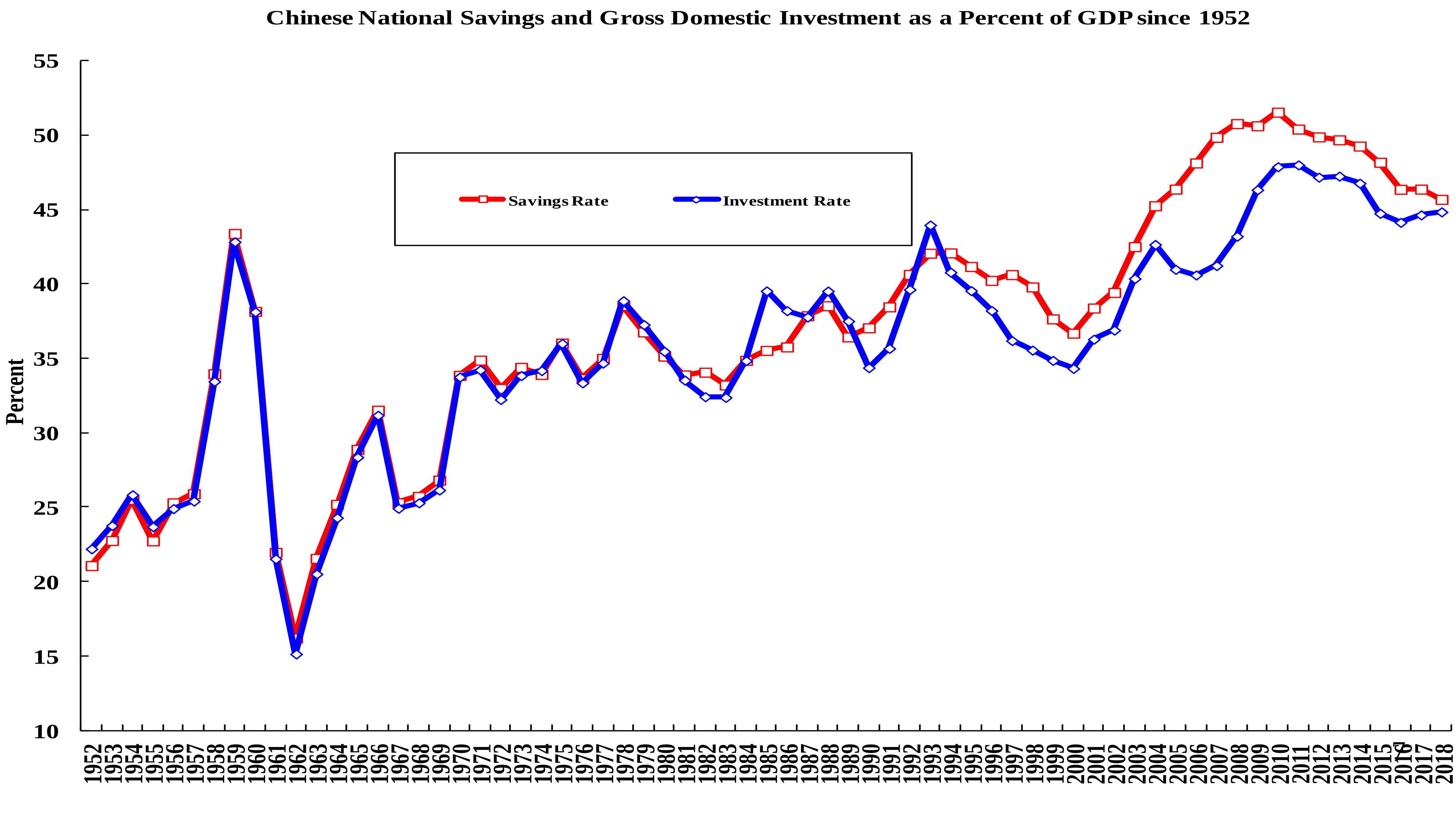
Introduction:
The Challenges and Opportunities

- Challenges:
  - The COVID-19 Epidemic (under control)
  - Continuing Economic Reform and Opening
  - China-U.S. Strategic Competition (continuing “new normal”)
- Opportunities:
  - De-Coupling as a “Sputnik” Moment
  - Creating a Shared Future for the World
  - The Greater Bay Area
  - The Belt and Road Initiative

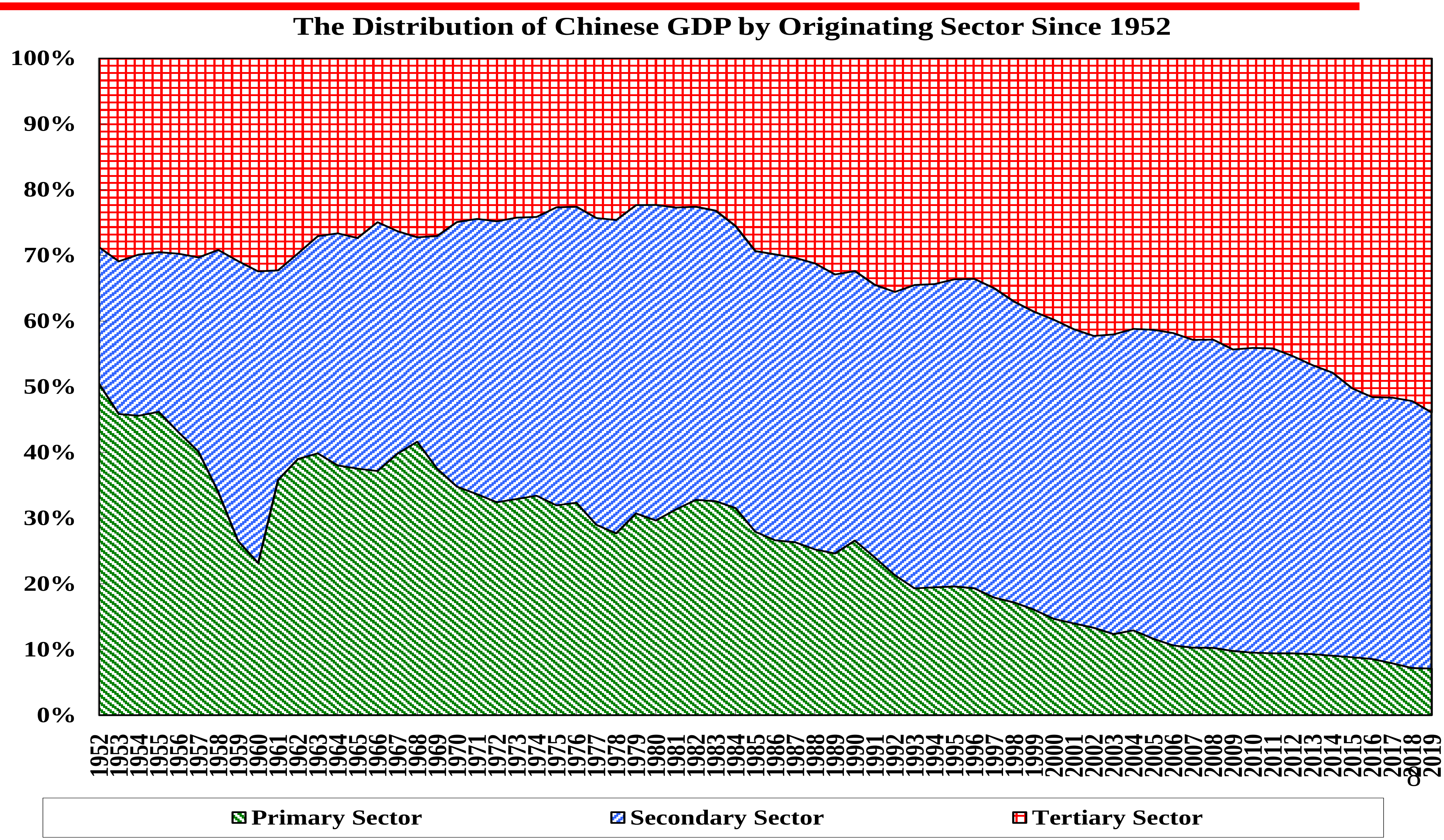
The Economic Fundamentals

- The Chinese national saving rate is very high—approximately 40%. It is also higher than the national investment rate, which is also around 40%. What this means is that the Chinese economy will have ample supply of new capital for its investments going forward.
- There is still significant surplus labour in the economy. The share of GDP originating from the primary (agricultural) sector is less than 10% but the share of employment is still in the mid-20%. Moreover, the Chinese mandatory retirement ages—55 for women and 60 for men—set in the early 1950s, are far too early given the current life expectancy of 77.5 years. A gradual increase in the mandatory retirement age to 65 or 70 should ensure the supply of labour and also enhance the household resources post-retirement at the same time.
- Human capital has been increasing by leaps and bounds in China. The tertiary enrollment ratio in China grew from 2.8% in 1993 to 53.8% in 2019. Thus, more than one out of two Chinese youth will have the opportunity of a college education. The annual number of college graduates increased from 1 million in 2000 to 8.7 million in 2019, approximately double the annual number of new college graduates in the U.S.

Economic Fundamentals: High National Savings and Investment Rates as % of GDP

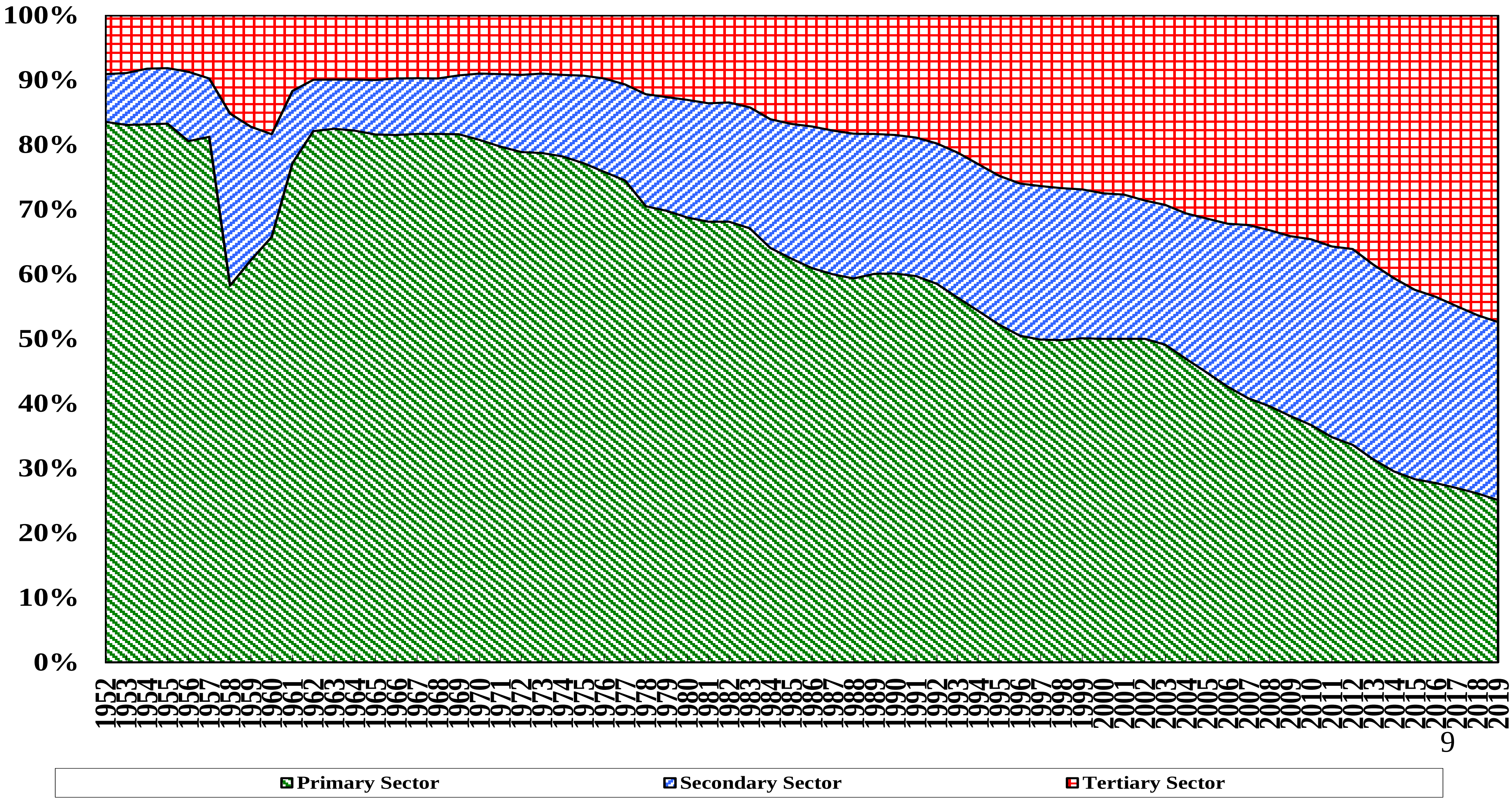


Economic Fundamentals: The Distribution of Chinese GDP by Sector Since 1952



Economic Fundamentals: The Distribution of Chinese Employment by Sector

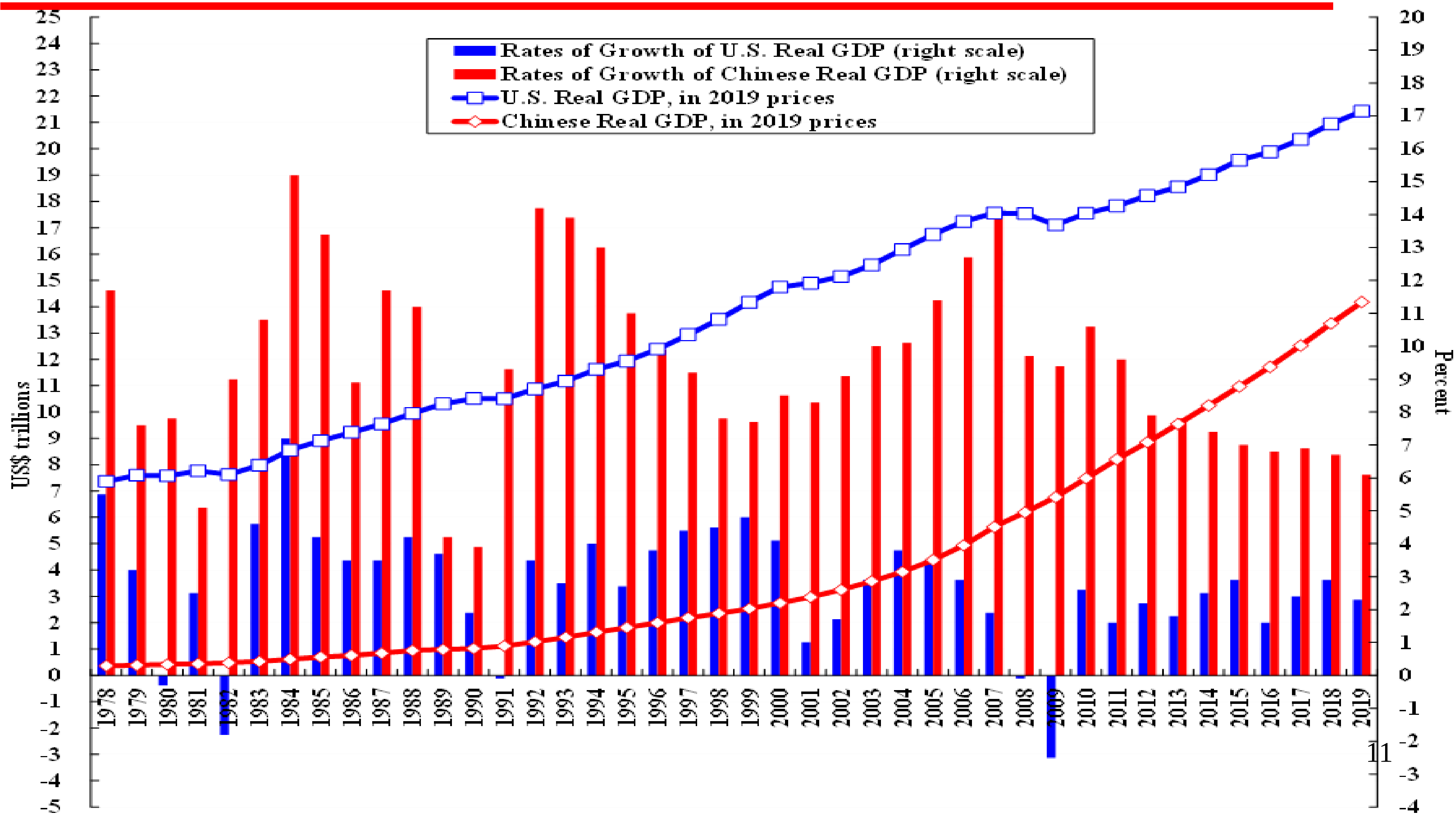
The Distribution of Employment by Sector since 1952



The Underlying Trends in the Chinese Economy

- The Continuing High Rate of Chinese Economic Growth
- The Declining Importance of International Trade and Direct Investment to China
- The Relative Independence of the Chinese Economy from External Disturbances

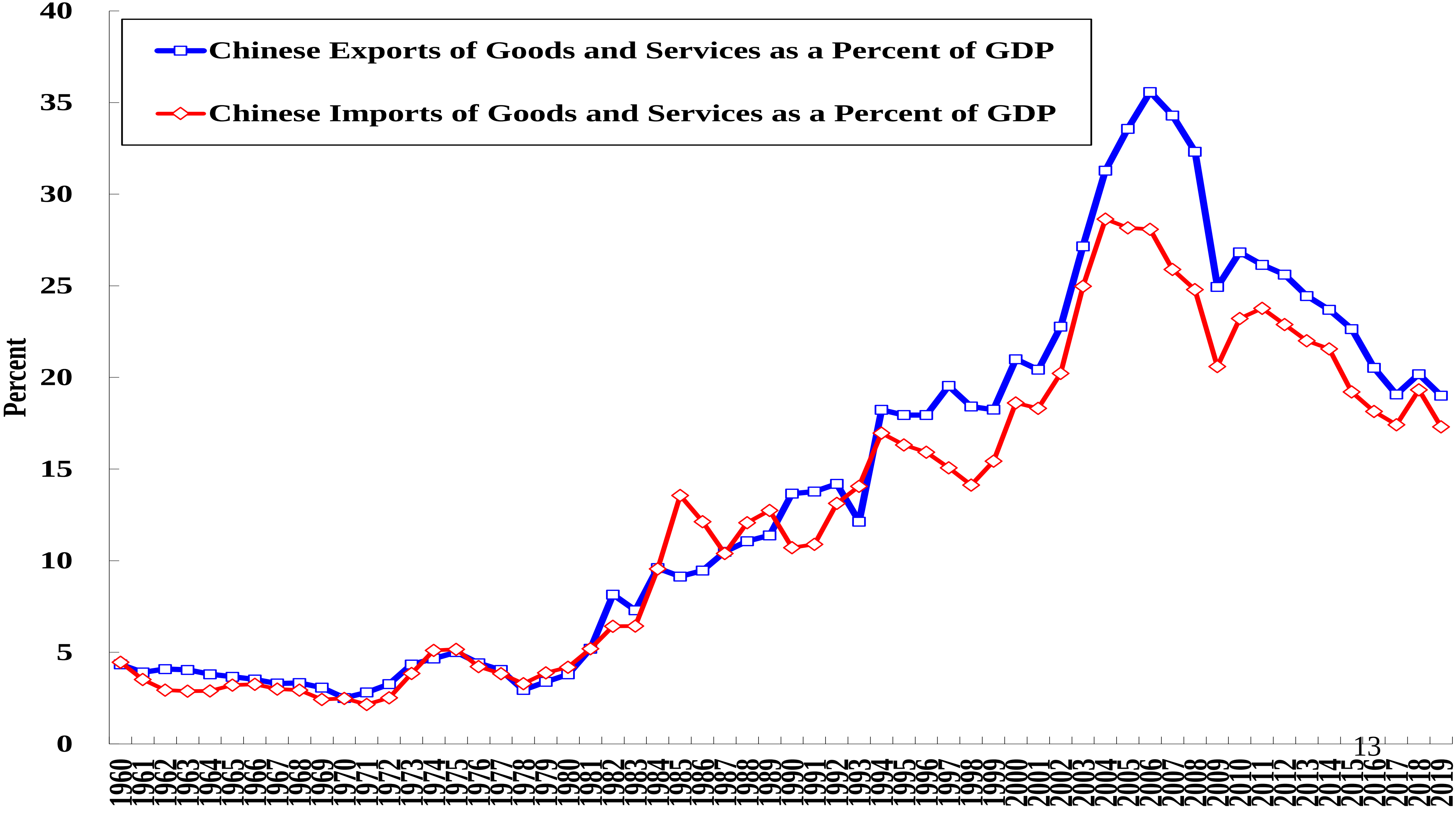
The Real GDPs and Their Rates of Growth: China and the U.S. (tril. 2019 US$ & %)



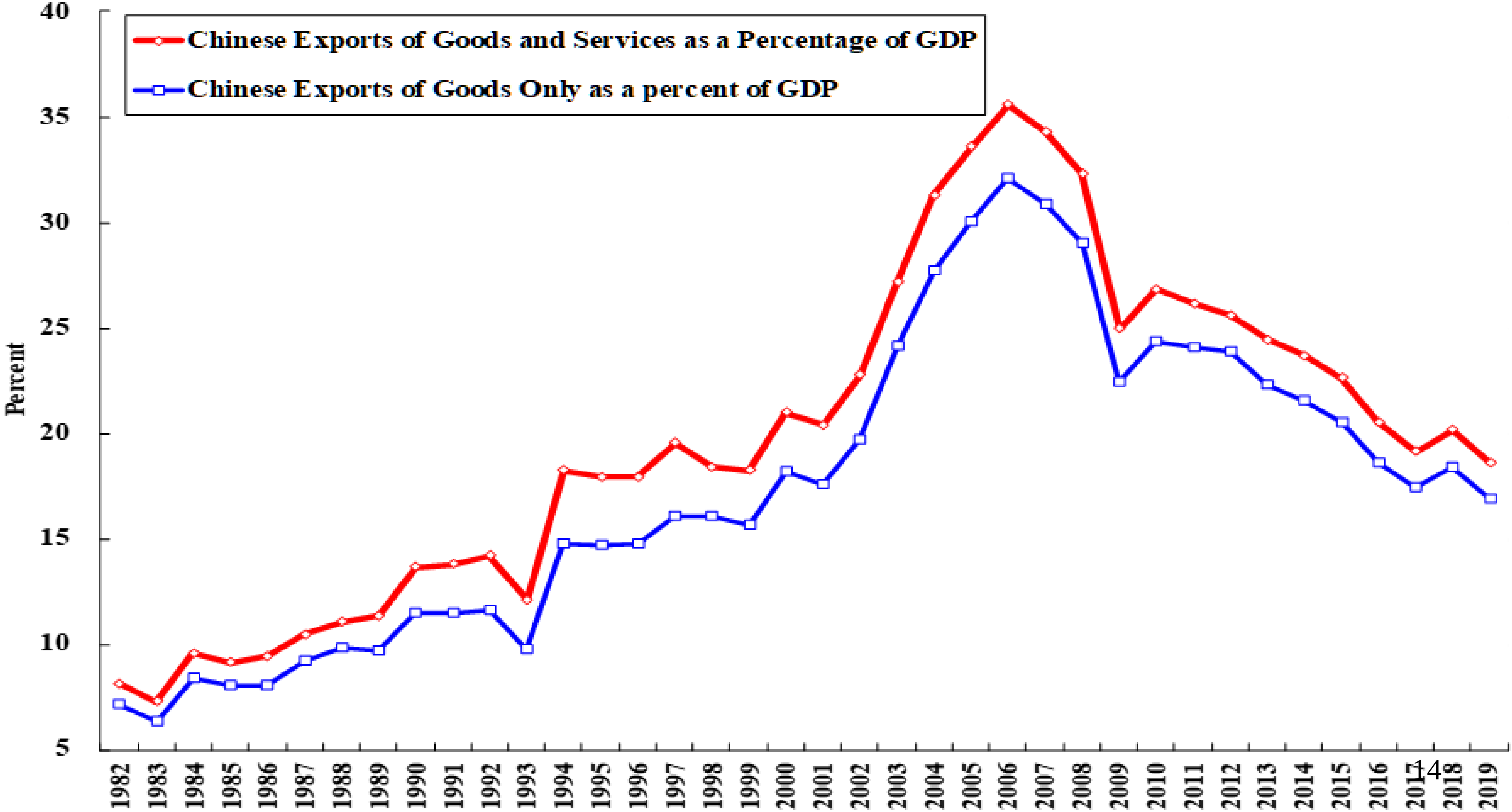
The Declining Importance of International Trade and Direct Investment to China

- 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.

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



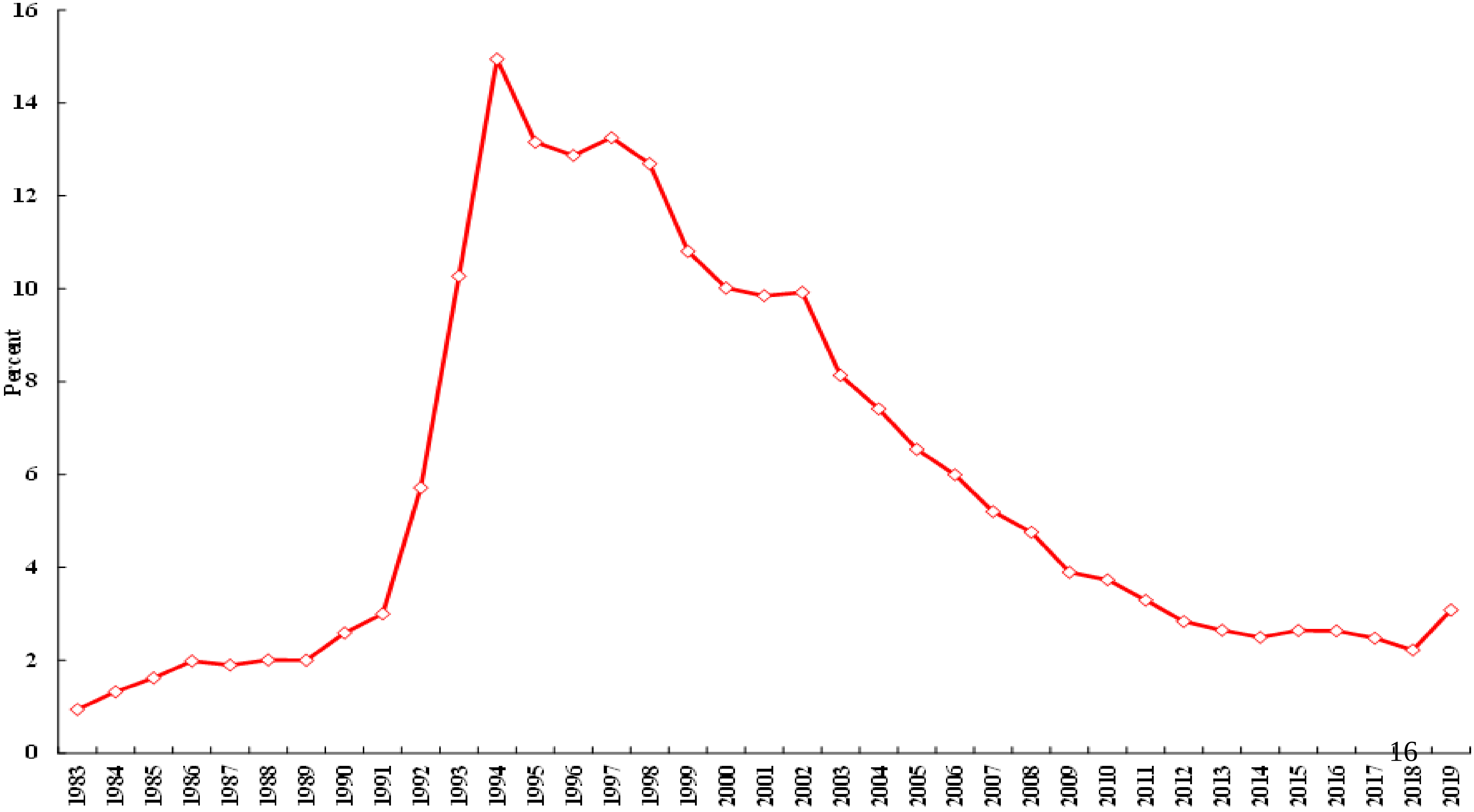
Chinese Exports of Goods and Services and Goods to the World as a Percentage of GDP



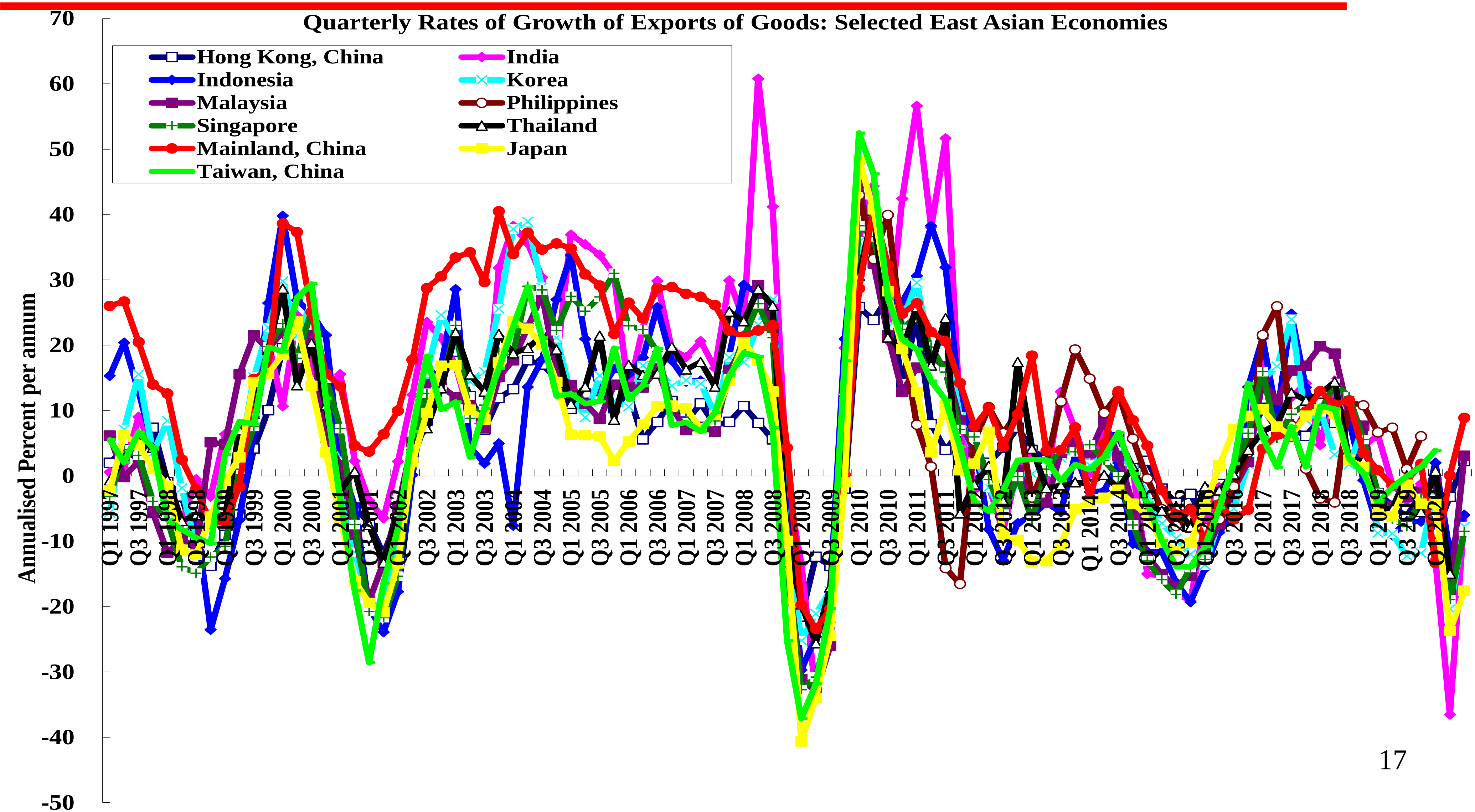
The Declining Importance of International Trade and Investment to China

- The share of inbound FDI in the gross domestic investment of China has fallen to 3% in 2019, hardly significant from a macroeconomic point of view. Chinese outbound direct investment has also been declining since it reached a peak in 2016.

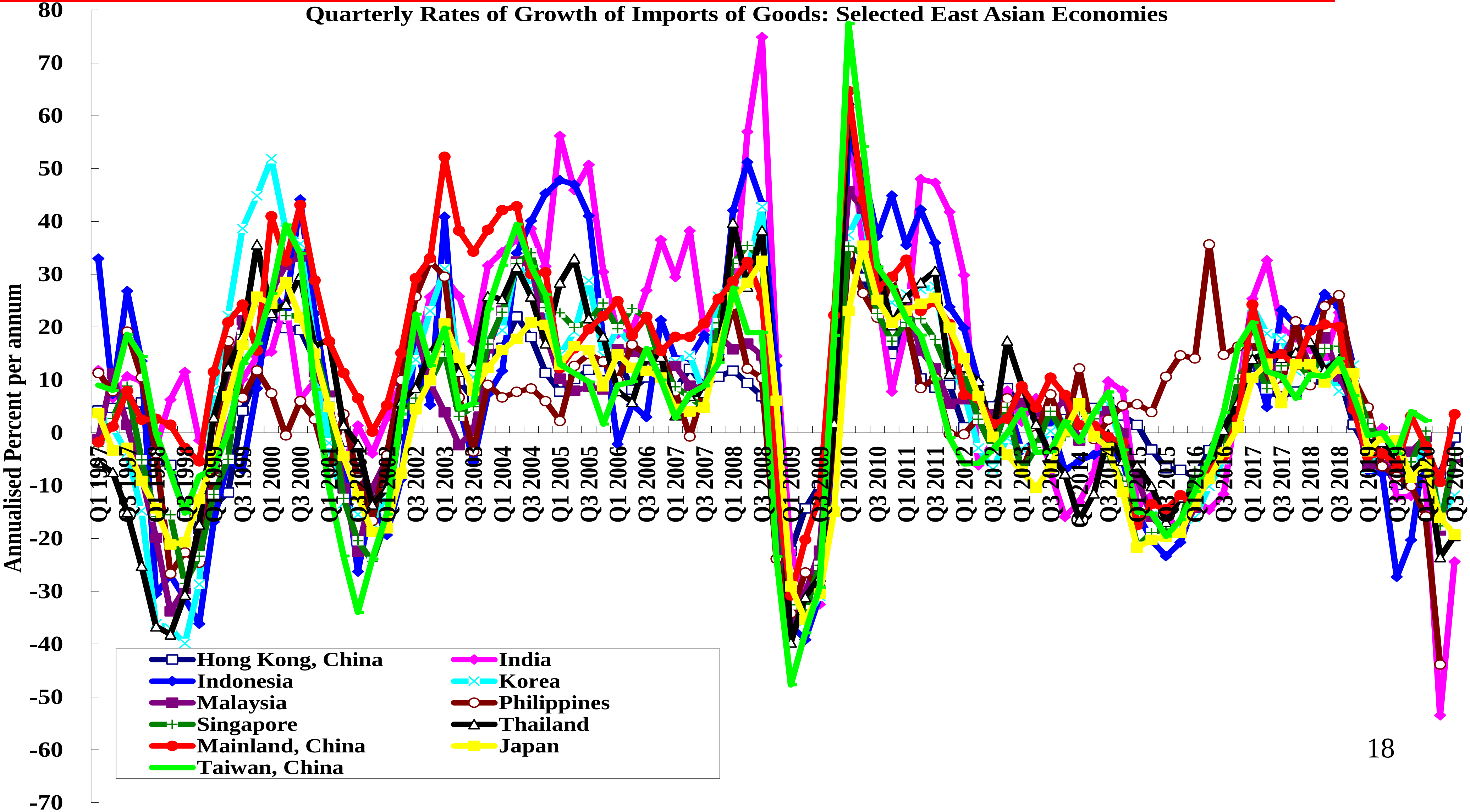
Chinese Inbound Foreign Direct Investment as a Percentage of Gross Domestic Investment



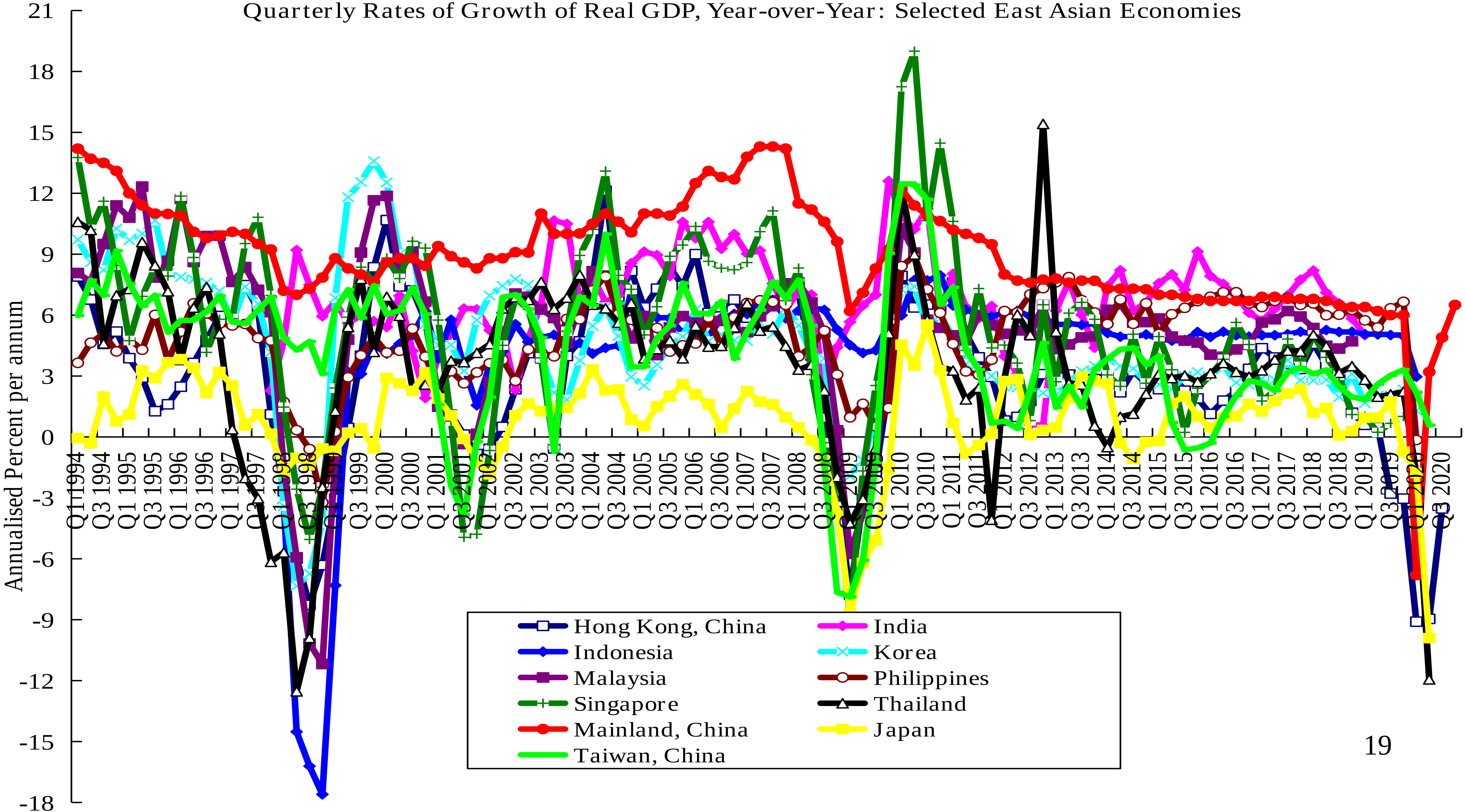
Quarterly Rates of Growth of Exports of Goods: Selected Asian Economies



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



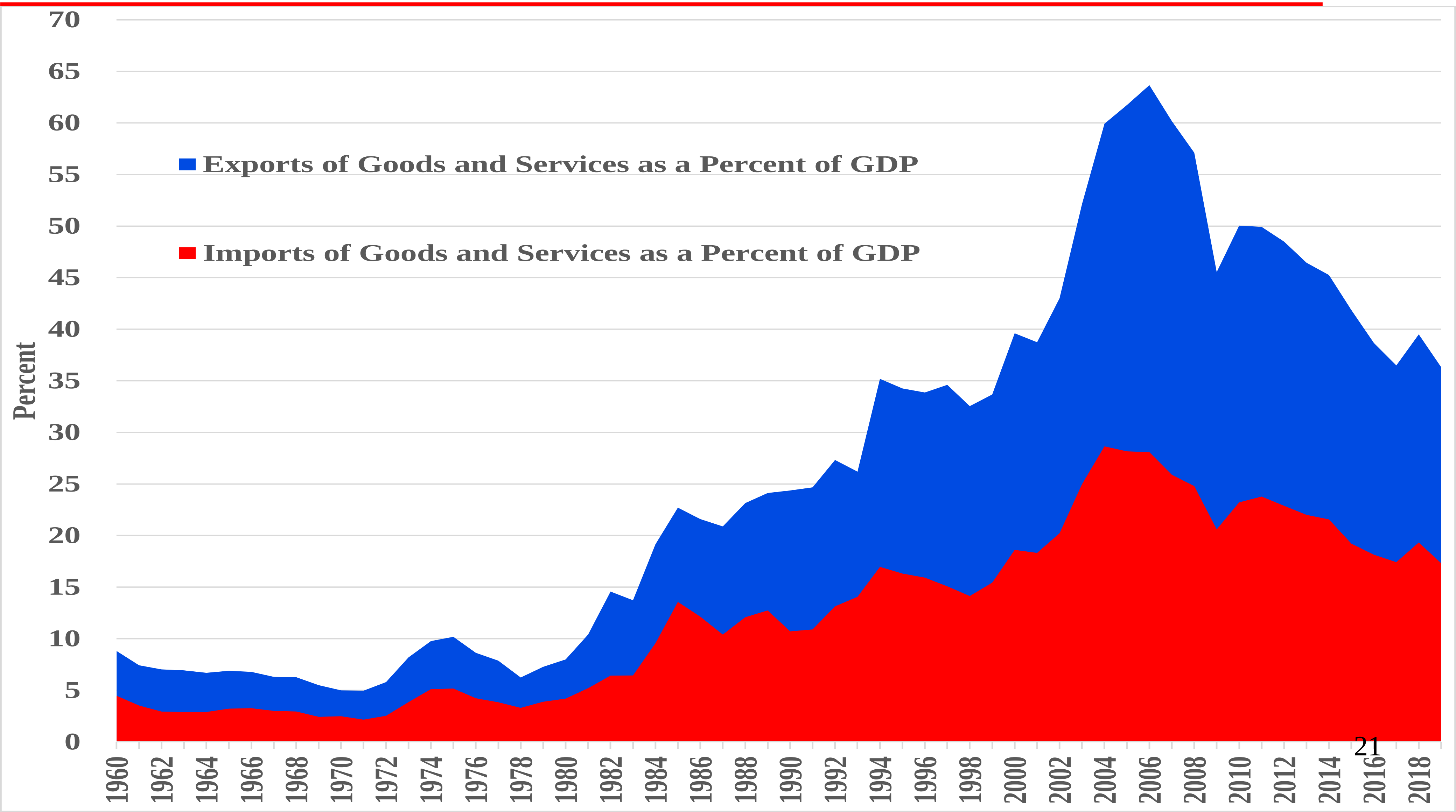
Quarterly Rates of Growth of Real GDP, Y-o-Y: Selected Asian Economies



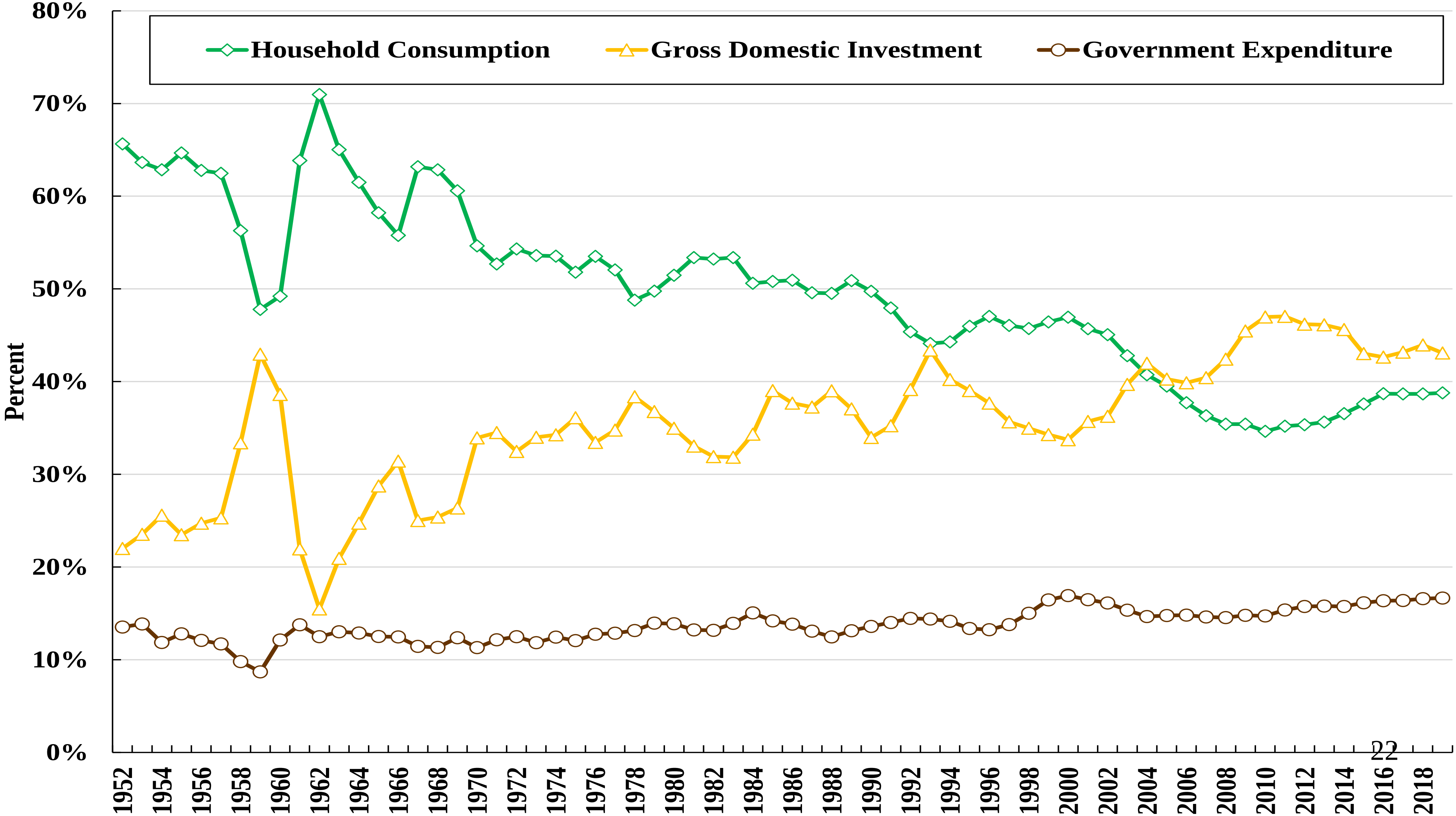
The Twin Circulations

- In August 2020, President XI Jinping of the People's Republic of China said, "**China should promote the formation of a new pattern of economic development, with the domestic circulation as the principal focus, and the twin domestic and international circulations mutually reinforcing each other**". This shows clearly that China's intention is to remain an active participant of the global economy, even though the domestic economy will become the dominant focus of its economic development. It is simply a reflection of the fact that the Chinese domestic market will exceed its international market, which is normal for large continental economies like China and the U.S.
- On 14 October, during the celebration of the 40th Anniversary of the establishment of the Shenzhen Special Economic Zone, President XI Jinping reaffirmed once again that China will continue its economic reform and opening.
- It is therefore clearly in China's interests that the global financial systems continue to enable and facilitate international trade and other cross-border transactions.

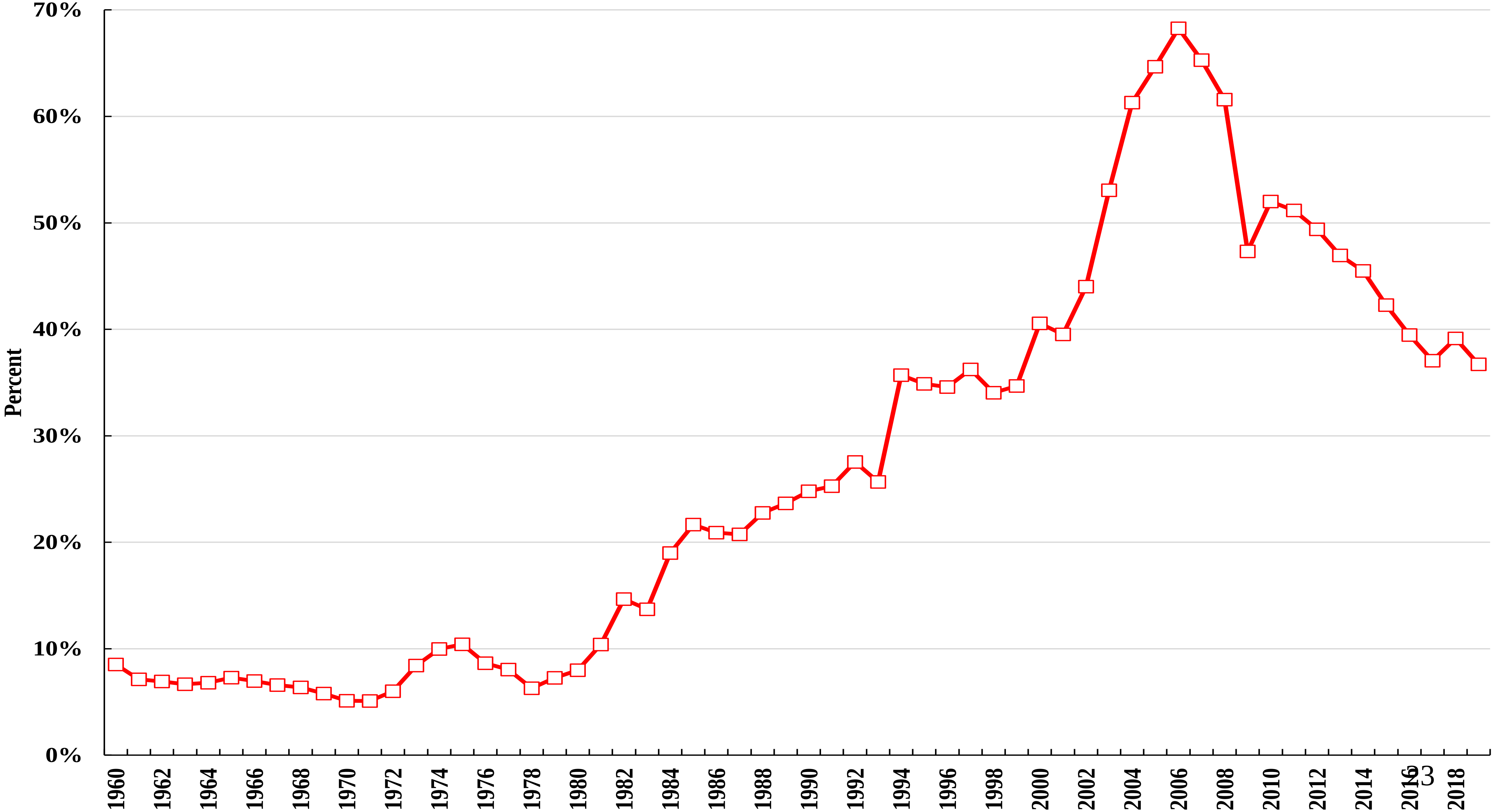
Chinese Exports and Imports of Goods and Services as a Percent of GDP, 1960-present



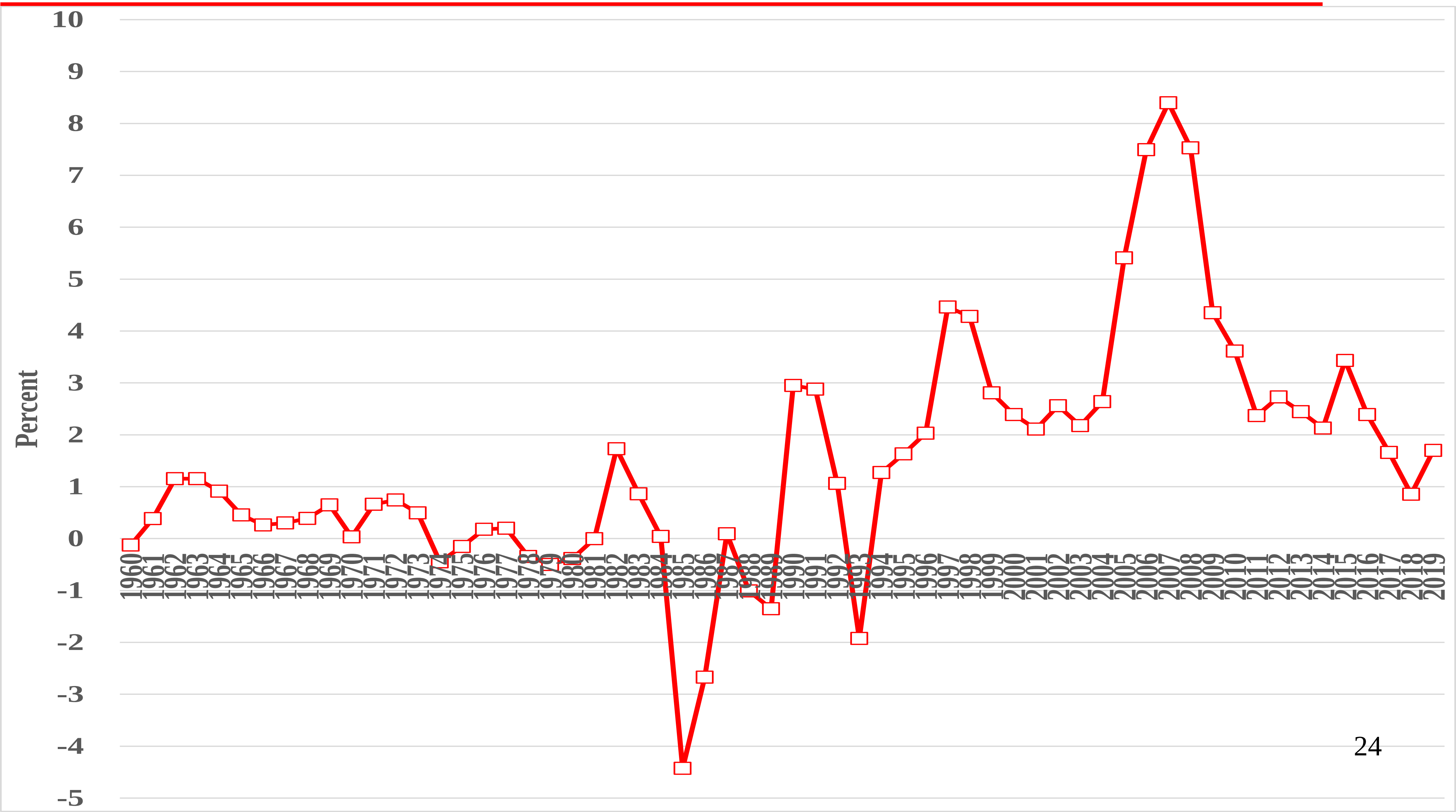
Household Consumption, Gross Domestic Investment, and Government Consumption (%)



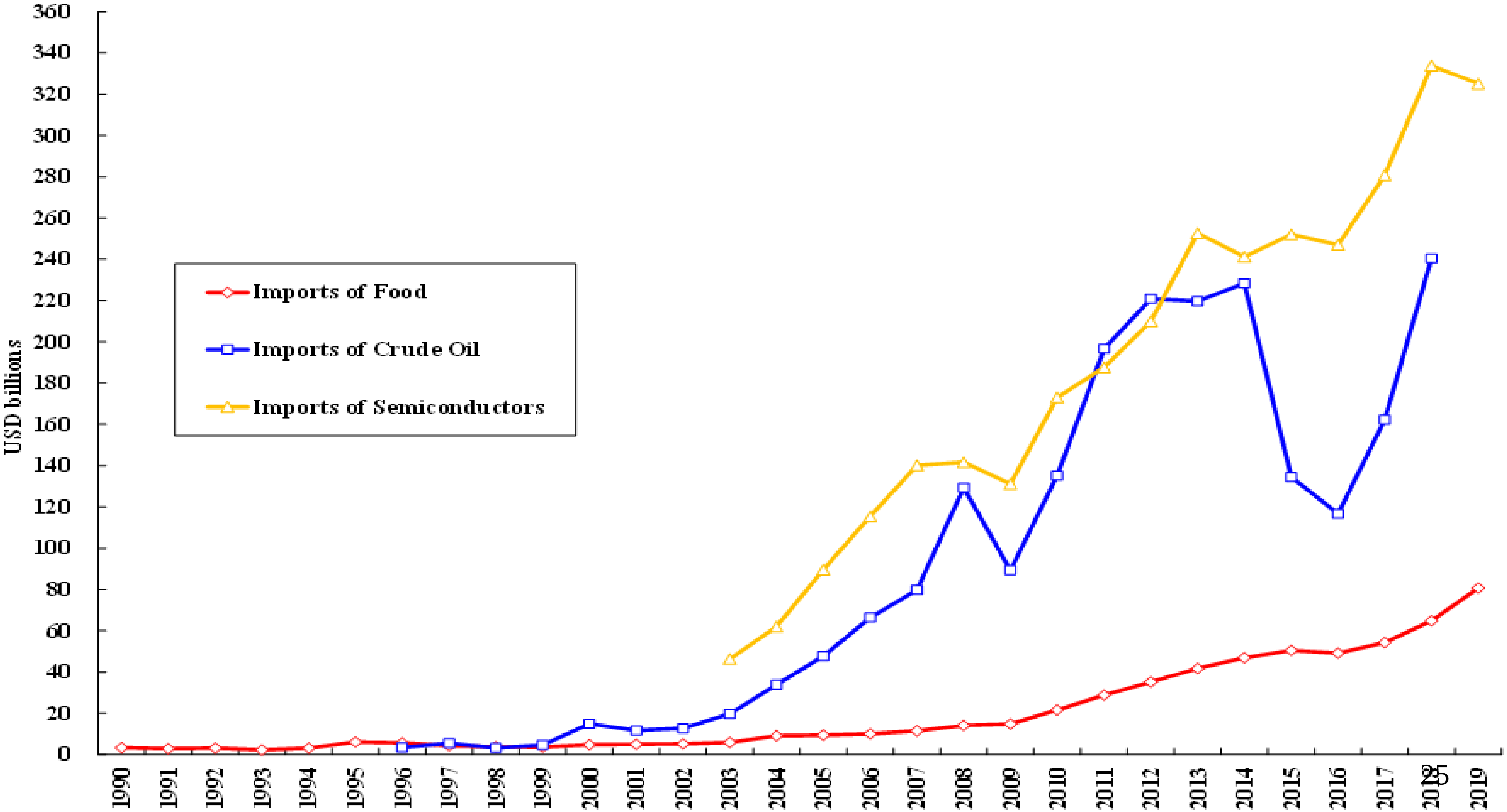
The Ratio of International Circulation to Domestic Circulation (percent)



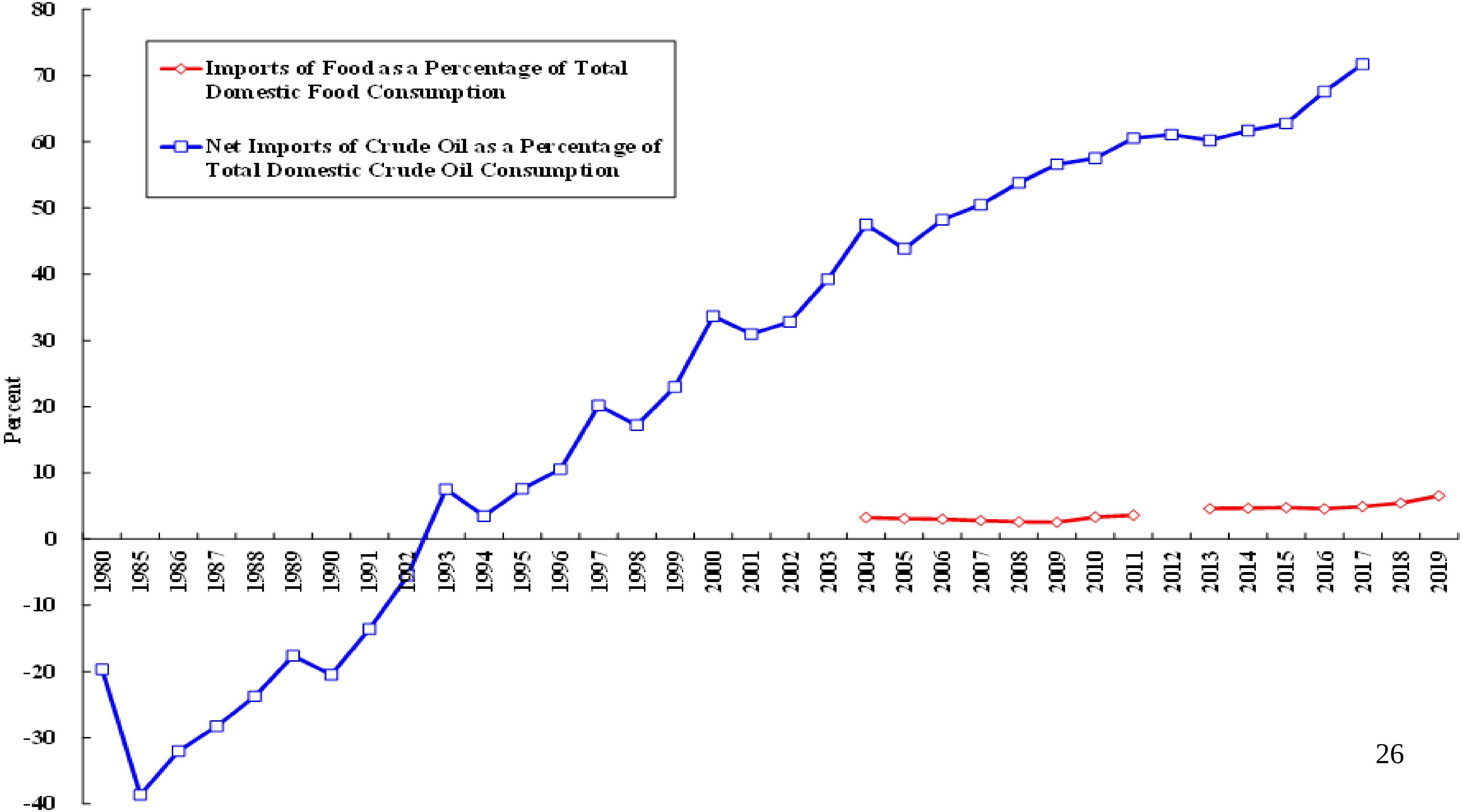
Chinese Trade Balance in Goods and Services as a Percent of GDP



Values of Imports of Food, Crude Oil and Semiconductors, US$ billions



Imports of Food and Crude Oil as Percentages of Total Domestic Consumption



Sustainability of the Twin Circulations

- The potential impacts of possible blockages of imports of critical commodities can be mitigated through appropriate diversification of the sources of supply. Food, oil and metal ores are widely available in the world—appropriate diversification of the sources of imports provides the insurance against unforeseen interruptions of supply.
- However, the bans on the exports of critical products such as advanced semiconductors and semi-conductor manufacturing equipment to China from the U.S. or other countries poses a serious challenge as they cannot be easily mitigated in the short run. This is indeed a "Sputnik" moment for China, as it was for the U.S. when the former Soviet Union launched the first man-made satellite into orbit in 1957. It calls for accelerated indigenous innovation to achieve break-throughs in these industries. It will take significant investment and time. China must become self-reliant in these critical industries.

Sustainability of the Twin Circulations

- In critical core technologies, self-reliance is actually the rule rather than the exception. The former Soviet Union, France, China, India, Pakistan and North Korea all developed their individual nuclear-weapon capability indigenously, without any foreign assistance.
- China was able to develop the atomic bomb successfully in 1964, when the country was still very poor, with a per capita GDP less than US$200 in 2019 prices. Today, Chinese GDP per capita is over US$10,000, and China has ample supply of scientists and engineers. It should be able to find solutions for securing the supply of advanced semiconductors and semiconductor manufacturing equipment on its own.

Continuing Economic Reform and Opening: Economic Globalisation

- Economic globalisation has brought great benefits to the entire world since the 1950s. China owes its economic success in the past four decades in large measure to economic globalisation. However, further economic globalisation has been stalled by the recent rise of isolationism and protectionism around the world, and the situation is exacerbated by the COVID-19 pandemic.
- When two countries trade, their sets of consumption possibilities are enlarged. Consumption choices that are previously unattainable will become feasible. Thus, the welfare of both countries in the aggregate cannot decrease and in general must increase.

Continuing Economic Reform and Opening: Economic Globalisation

- However, the benefits have accrued to each country as a whole; but unfortunately, trade will also create both "winners" and "losers" within each country. The "winners" are the exporters, importers, the producers of export products, and their owners and workers, and the consumers and users of imports; and the "losers" are the owners and workers of the industries the products of which are displaced by imported competition.
- Even though trade actually generates enough gains in each country so that in principle everyone in both countries can be made better off than before, the benefits accrue to each country in the aggregate, and the free market can and will only reward the "winners" but cannot compensate the "losers". It is the responsibility of each government to redistribute part of the gains of the "winners" to the "losers" in its own country through transfer payments and re-training and re-employment programmes.

Continuing Economic Reform and Opening: Economic Globalisation

- But very few governments have done so adequately. It is the failure, over a long period of time, of governments to compensate the “losers” from economic globalisation that has led to the rise of populism, protectionism and isolationism worldwide. Today, the “losers”—the people who have been left behind by economic globalisation all these years—want to reverse economic globalisation, put up trade barriers and to try to bring the lost jobs back.
- China has done an excellent job in making sure that there are no “losers” in its economy. Everyone in China old enough will acknowledge that he or she is much better off than in 1978, more than 40 years ago. China has eliminated poverty according to Chinese standards by the end of last year, 2020.
- It is China’s intention and plan to continue its economic reform and opening in the future.

Continuing Economic Reform and Opening: Economic Globalisation

- However, if economic globalisation benefits both trading-partner countries, any economic de-globalisation that results in a reduction in international trade, whether through tariffs or export controls, harms both countries. Economic de-globalisation is therefore lose-lose for every country, because the choice set of every country is reduced.
- Tariffs and export controls can be imposed for allegedly national security reasons. However, one has to accept that critical products, processes and technologies will be carefully guarded by all countries for national security as well as commercial reasons. That is why any major power will have to be self-reliant on critical products, processes and technologies, or at least develop or find a second source.

Continuing Economic Reform and Opening: Economic Globalisation

- However, once a second source is available, export controls no longer serve any useful purpose but instead harms the country's own firms. Thus, international trade should be allowed to resume.
- It is likely that there will be at least two 5G telecommunication systems in the world. And there are already at this time at least three functioning positioning systems in the world—The Global Positioning System (GPS) of the U.S., the Galileo Satellite Navigation system of the European Union, and the Beidou Satellite Navigation system of China.
- The availability of at least a second source is actually beneficial for the world as a whole because it reduces the monopoly power (and price) of any country or firm prevents the use of the threat of exclusion. In addition, the redundancy can alleviate the risks of a catastrophic failure of one of the sources.

Continuing Economic Reform and Opening: Initiatives and Strategies

- On 15 November 2020, the **Regional Comprehensive Economic Partnership (RCEP) Agreement** was signed by 15 countries: the ten ASEAN countries, China Japan, Korea, Australia and New Zealand. (India, which was originally included, decided to withdraw.) This is the largest free trade agreement ever, covering approximately 30% of the world's population, GDP and international trade. There is a proposal to reduce the rates of tariffs to zero among the members of RCEP.
- On 30 December 2020, **the Comprehensive Agreement on Investment between China and the European Union** was successfully concluded.
- Negotiations are also underway among China, Japan and the Republic of Korea for a Free Trade Area.
- There is also the possibility of a Shanghai Cooperation Organisation (SCO) Free Trade Agreement, comprising China, India, Kazakhstan, Kyrgyzstan, Pakistan, Russia, Tajikistan, and Uzbekistan.
- China has recently expressed **a desire to join the Comprehensive and Progressive Trans-Pacific Partnership (CPTPP)**.
- Going forward, China should pursue the "Four Zeroes" strategy—zero tariffs, zero non-tariff barriers, zero subsidies and zero export restrictions--with like-minded countries on a reciprocal basis, with "infant industry" and "national security" exceptions.

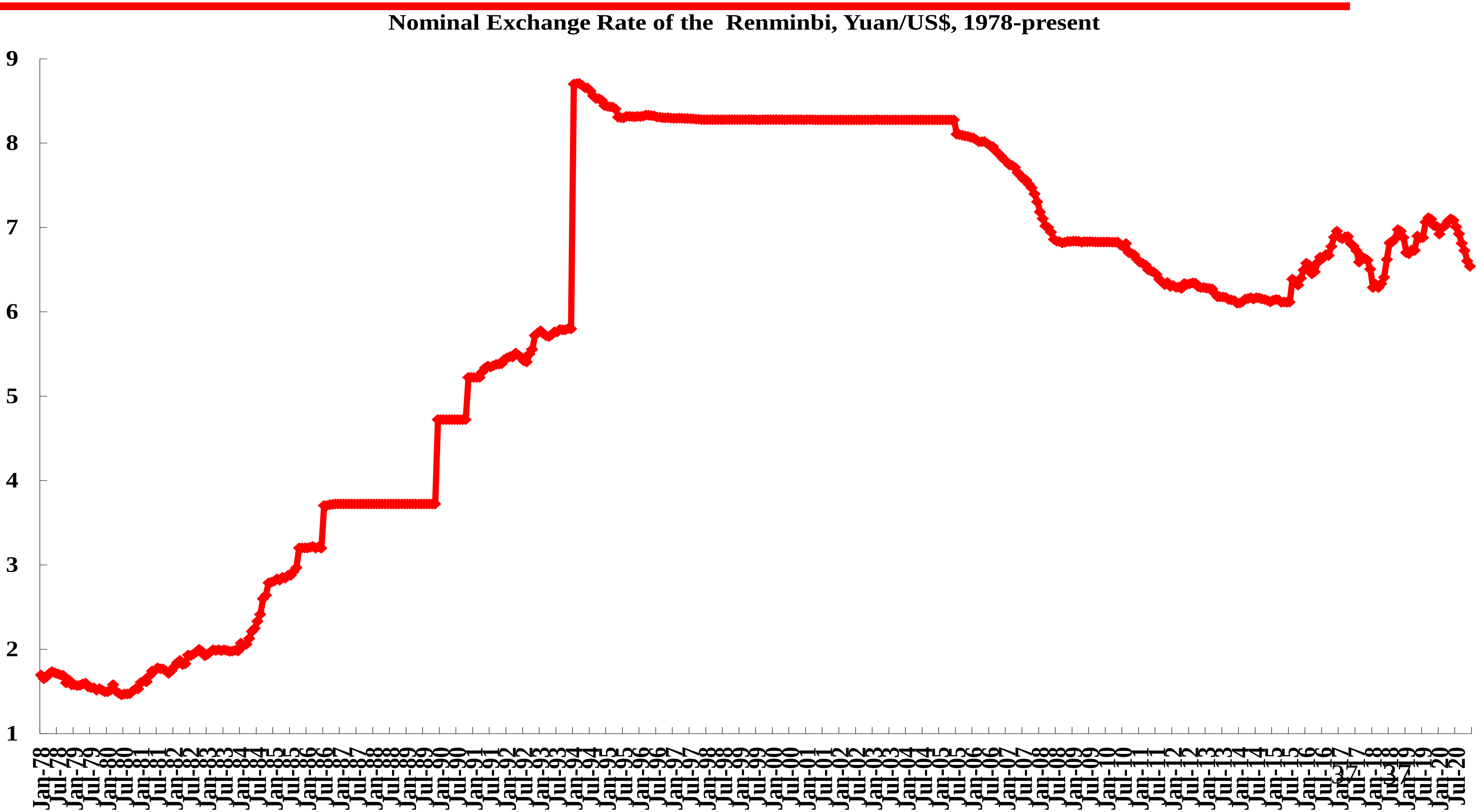
Continuing Economic Reform and Opening: The Internationalisation of the Renminbi

- As part of the continuing economic globalisation, China will be trying to increase the use of its own currency, the Renminbi, in the invoicing, clearing and settlement of its international transactions.
- One U.S. Dollar was worth less than 2 Yuan in 1978. Beginning in the early 1980s, the Renminbi devalued almost continuously until 1 January 1994, when it became current-account convertible with an exchange rate of 8.7 Yuan per US$. Since then, the Renminbi has appreciated in both nominal and real terms. It currently trades at just less than 7 Yuan per US$. In real terms, it has appreciated by almost 50%.

The Internationalisation of the Renminbi

- The Renminbi has been current-account convertible since 1 January 1994 and still is, that is, foreign exchange earned from Chinese exports of goods and services can be readily converted into Renminbi and Renminbi used as payments for imports of goods and services can be readily converted into foreign exchange.
- It is not completely capital-account convertible because some capital-account inflows and outflows still need prior government approval.
- However, as long as Renminbi can be used to purchase goods and services both inside and outside of the Mainland, people are willing to hold the Renminbi for transaction purposes.

Nominal Exchange Rate of the Renminbi, Yuan/US$, 1978-present



The Internationalisation of the Renminbi

- China is committed to be an active participant in the global economy. One of China's goals is to achieve essentially balanced international trade. If the international trade in goods and services combined is approximately balanced for a country, then the exchange rate of its currency should be considered neither under-valued nor over-valued. Recent Chinese international trade is closed to being balanced.
- Recent exchange rates of the Renminbi appear to have been following the value of a trade-weighted basket of foreign currencies rather than a fixed peg to the US$. (Mainland-U.S. trade is approximately 20% of total Mainland international trade.) Such a policy is reasonable as it makes little sense for Chinese exporters to raise prices to the other 80% of their customers simply because the U.S. Dollar has appreciated vis-a-vis the Renminbi or vice versa, which will be the case if the Renminbi is pegged to the U.S. Dollar at a fixed exchange rate. By using the exchange rate of the trade-weighted basket as a benchmark, the international purchasing power of the Renminbi is also kept approximately constant and stable.
- Actually, all exporters, importers and foreign direct investors of the world prefer relatively stable exchange rates rather than fluctuating exchange rates.

The Economic Impacts of China-U.S. Strategic Competition : The De-Coupling of Economies

- De-coupling is costly, but it is like second-sourcing, and has benefits.
- De-coupling of the supply chains can take two forms—imposition of tariffs and non-tariff barriers, and the use of export controls.
- Cross-border direct and portfolio investments.
- Access to international clearing and settlement systems.
- Educational exchanges.

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

- 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 the supply of a critical raw material, component, part or technology.
- Economic de-coupling per se can be costly, especially in the short run, 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 can prevent monopolisation, reduce monopoly power, lower prices, and lead to a more stable and more competitive world economy for the benefit of all consumers, wherever they may be.
- Second-sourcing is not free--it is just like buying insurance. But like insurance, having a second source also has benefits. The obvious one is to be free of dependence on a single supplier from a country whose interests may differ from yours. The second is to be protected from unforeseen disruptions of the supply chain from natural and man-made disasters. The third is the possible 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?

De-Coupling of Supply Chains

- In the short run, the costs of the de-coupling of supply chains will not be low for China, especially in the high-technology sector. This may even affect trade in services. The de-coupling will turn out to be lose-lose for both sides, certainly initially.
- For example, 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, but Intel will lose significant sales.
- In the short run, Huawei may not be able to procure the advanced semiconductors that it needs for its cell phones and 5G equipment.

De-Coupling of Supply Chains

- These are "Sputnik" moments for China, as the 1957 successful launch of the first man-made satellite into space by the former Soviet Union was for the U.S. at the time. China must step up its investment in R&D massively, especially in basic research, so that it does not have to depend on other countries for the supply of critical products, parts, equipment and technologies.
- Every major country must make provisions for sudden and unforeseen disruptions of supply. No major country wants to depend solely on another country for the supply of a critical input.
- The U.S. does not want to be put in the position to have to rely solely on Huawei for its 5G telecommunication technology, which is understandable. That is why it is doing all it can to try to destroy Huawei. But it may mean a delay in the roll-out of 5G in the U.S. and a higher cost of the 5G telecommunication equipment.
- 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.

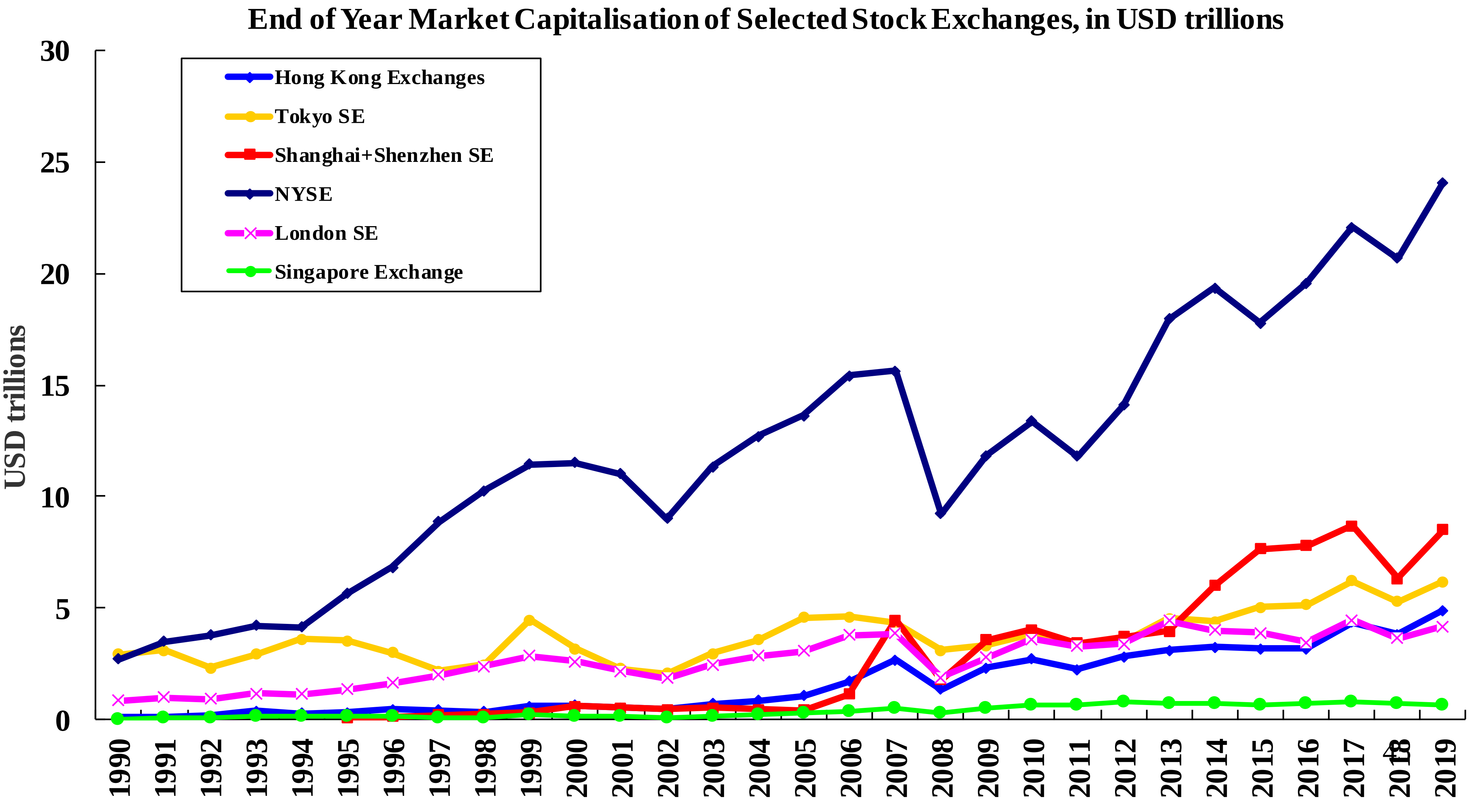
Cross-Border Direct and Portfolio Investments

- 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 in the U.S., especially in high-technology industries, by CFIUS, and therefore greater uncertainty as to the eventual approval of the proposed investment. This gives potential Chinese 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 largely 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".

Cross-Border Portfolio Investments: 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 (American Depositary Receipts (ADRs)) 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.

End-of-Year Market Capitalisation of Selected Stock Exchanges



De-Coupling of the Capital Markets

- On 20 May 2020, the U.S. Senate passed the "Holding Foreign Companies Accountable Act", with the intention of potentially de-listing the Chinese enterprises listed in New York. However, the economic impact should be completely manageable.
- 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.
- Netease, JD.com and YumChina have returned to Hong Kong for secondary listings.
- Many of the Chinese enterprises publicly listed in New York take the form of "variable-interest entity" to circumvent the law against foreign ownership in certain industries. Such a legal form may be subject to challenge in the future.
- In the longer term, given that China has become a major source of savings and wealth itself, there is also the potential of U.S. and other foreign companies raising capital in China by issuing Chinese Depositary Receipts (CDRs).
- More recently, U.S. Persons are forbidden to invest in certain Chinese enterprises identified by the U.S. as affiliated with the Chinese military.

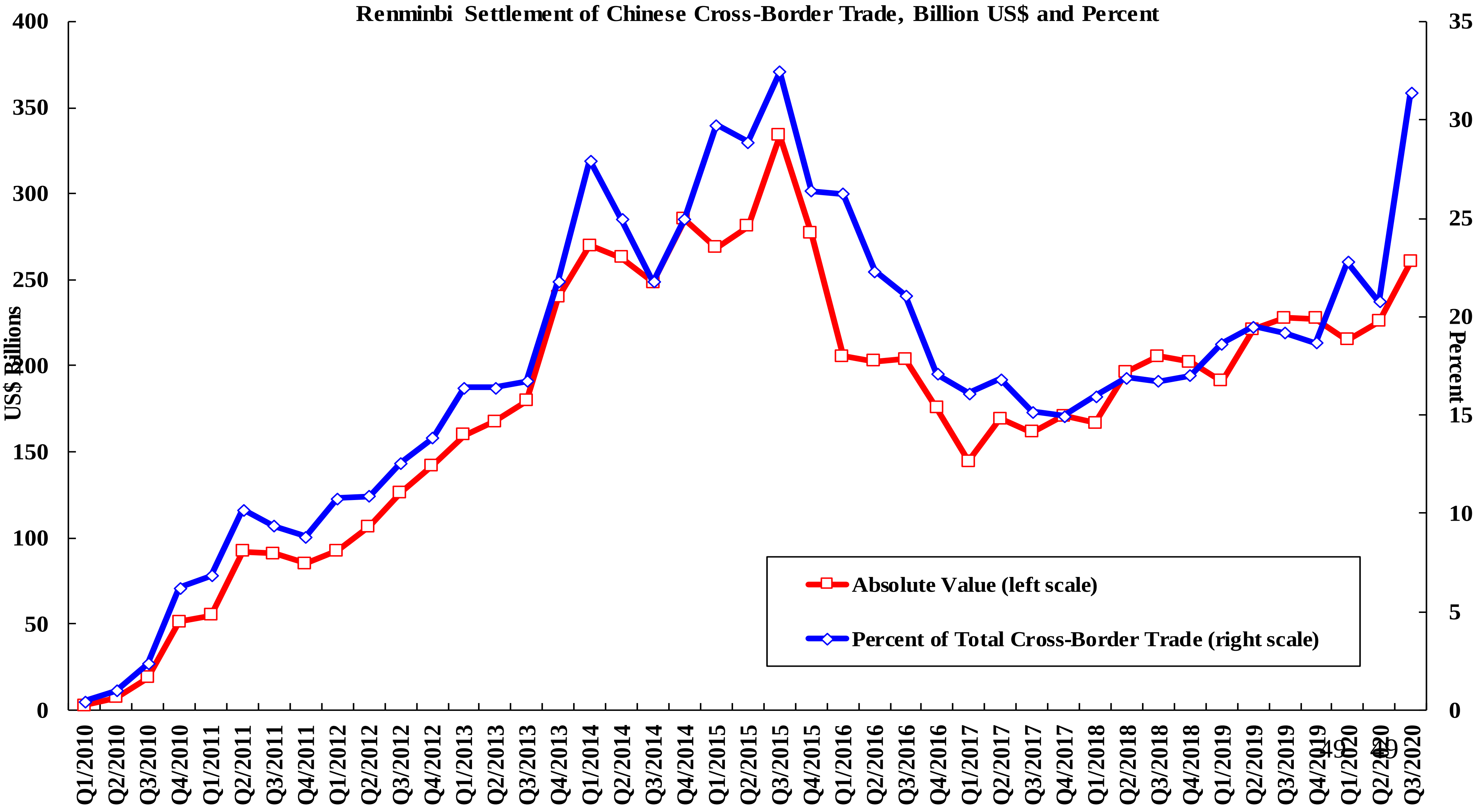
Access to International Clearing and Settlement Systems

- The U. S. Dollar is the predominant international medium of exchange today--approximately 38% of all international transactions is settled in U.S. Dollars, even though the U.S. accounts for only 11.3% of all international trade (including trade in both goods and services). This gives rise to seigneurage for the U.S.
- Before 2010, almost all Chinese international transactions were settled in U.S. Dollars, using the Society for Worldwide Interbank Financial Telecommunication (SWIFT) system.
- Then China began to settle part of its international transactions in Renminbi in 2010. The share of settlement in Renminbi began to rise and grew steadily until it reached a peak of 32.5% in mid-2015. Because of an abrupt devaluation of the Renminbi in mid-2015, it declined to 15.6% in February 2017. Then it began to recover, and was at 38.0% in August 2020. There is still a great deal of room for the Renminbi to expand its use in the settlement of Chinese international transactions.

Access to International Clearing and Settlement Systems

- However, there is now some uncertainty whether Chinese exporters and importers and their banks can continue to use the SWIFT system to clear and settle international transactions in US$ in the future. The U.S. has the power to prohibit the clearing and settlement in U.S. dollars, which must go through New York, and/or to use the SWIFT system.
- In the medium to long run, China will try to encourage its trading-partner countries to settle in their own respective currencies rather than in US$, reducing transaction costs and exchange risks all around as well as the dependence on the SWIFT system.

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



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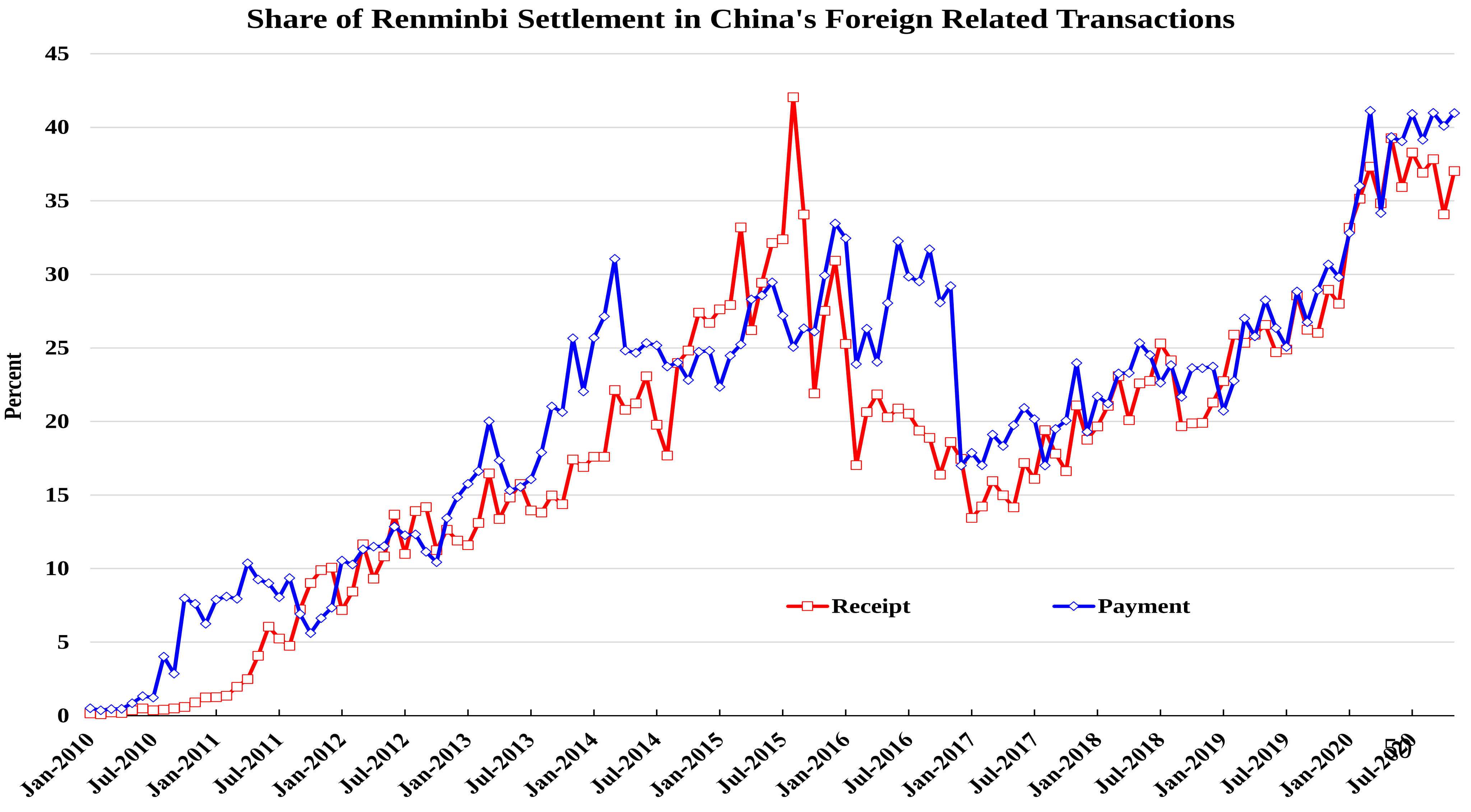
Share of Renminbi Settlement in China's Foreign Related Transactions



The Inherent Advantages of Clearing and Settlement in Own Currencies

- However, there are inherent advantages for two trading-partner countries to invoice, clear and settle their bilateral trade transactions in their own currencies:
- (1) Only a single currency exchange is involved, thus reducing transaction costs. (If a third-country currency is used, there will be two currency exchanges, for example, from one local currency into US$, and then from US$ into the other local currency.)
- (2) Since there is a time lag between the placement of an order and the actual delivery and payment, there will also be two exchange rate risks that have to be separately assumed by the respective exporter and importer if a third-country currency is used instead of one of the two own currencies.
- (3) Using own currencies for clearing and settlement reduces the need for official foreign exchange reserves that have to be maintained by the respective central banks.

The Inherent Advantages of Clearing and Settlement in Own Currencies

- Given these advantages, all countries should prefer to invoice, clear and settle their international trade transactions in their own currencies insofar as possible. The central banks of the trading-partner countries should enter into currency swap agreements with one another, and stand ready to buy or sell forward one another's currencies at cost from or to bona fide exporters and importers to encourage the use of own currencies for their trade transactions. It will lower the costs and raise the net benefits of economic globalisation to all the trading countries.
- Two trading-partner countries do not invoice, clear and settle their bilateral trade transactions in their own currencies only because they do not trust each other's currency. This situation arises most commonly because the bilateral trade is not balanced. If the bilateral trade is balanced, no one will be left holding a currency that it does not want to hold, and no one should object to the use of own currencies.
- The establishment of regional banks for international settlements can facilitate clearing and settlement of international transactions among a group of countries in a region in their own currencies, using as a model the Bank for International Settlements in the 1950s.

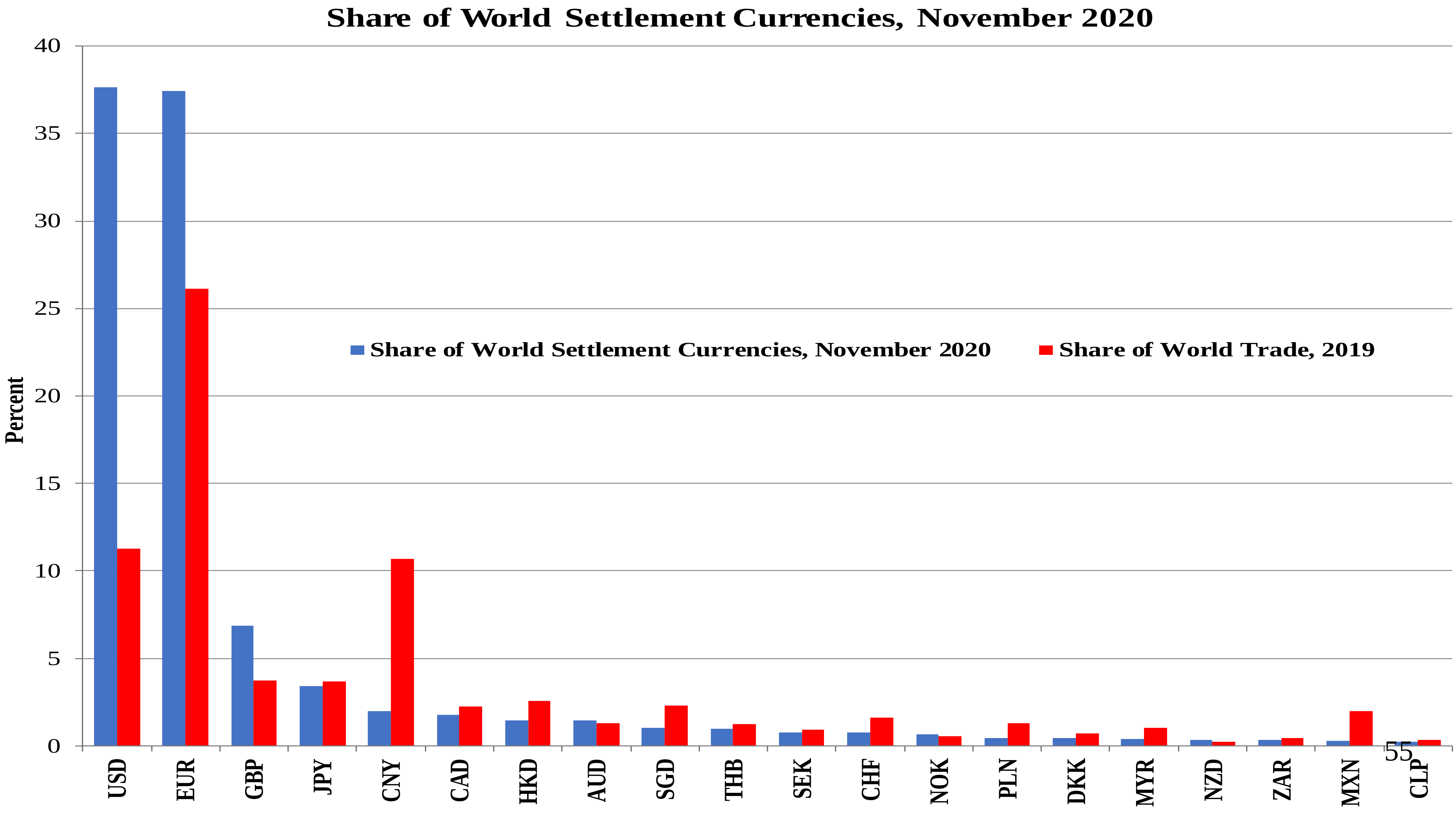
De-Coupling of the International Clearing and Settlement System

- The first step towards the internationalisation of the Renminbi is for China to persuade its trading-partner countries to use their own currencies to clear and settle their bilateral trade transactions. This will reduce both transactions costs (only one currency exchange) and exchange rate risks (only one exchange rate risk). The People's Bank of China (PBoC) should stand ready to buy or sell forward currencies at cost from or to bona fide exporters and importers to encourage the use of own currencies for clearing and settlement.
- In 2015, the People's Bank of China (PBoC) developed and launched the Cross-Border Interbank Payment System (CIPS) for the clearing and settlement of cross-border RMB transactions, which operates independently of the SWIFT system.
- The second step is to enable other countries to trade among themselves using their own currencies to clear and settle their bilateral trade transactions. The Bank for International Settlements experience in post-World War II Western Europe provides an example of how this can be done, to the benefit of all participating countries. China, possibly together with Japan and the Republic of Korea, can form a Bank for East Asian Settlements for this purpose.
- The Renminbi should not aspire to replace the U.S. Dollar, certainly not any time soon, especially since China does not wish to run a large trade deficit. But China can and should encourage the use of own currencies for settlement of international trade transactions by all countries, as was the case under the Bretton Woods agreement.

De-Coupling of the International Clearing and Settlement System

- The U.S. Dollar is currently the most important medium of international exchange. It accounts for 38% of world settlement of all international transactions even though the U.S. accounts for only 11.3% of all international trade (including both goods and services) transactions. For most countries, international trade transactions constitute the bulk of their international transactions, but this is not true of major international investors such as the U.S. and Japan.
- In contrast, even though China accounts for 10.7% of all international trade, almost as much as the U.S., only 2% 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 3.4% 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, especially international trade transactions.

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



The Internationalisation of the Renminbi: The Interbank Clearing and Settlement System

- China does not aspire to replacing the U. S. Dollar as the dominant international medium of exchange, but only wishes to protect itself and avoid the risk of being arbitrarily denied the use of the international system of clearing and settlement--**the Society for Worldwide Interbank Financial Telecommunication (SWIFT)** system--which the U.S. has periodically tried to use as an instrument of its unilateral sanctions, for example, against Iraq and Russia.
- The People's Bank of China has developed the **Cross-Border Interbank Payment System (CIPS)**, launched in 2015, for the clearing and settlement of cross-border RMB payments among international banks and financial institutions in real time, operating independently of the SWIFT system. The CIPS can help to facilitate the internationalisation of the Renminbi In principle, the CIPS system can also be used to process payments in currencies other than the Renminbi among its members.
- Recently, a consortium of European countries have also established the INSTEX system so that they could conduct humanitarian trade with Iran without using the SWIFT system.

The Digital Payment Platforms

- Digital payment platforms, such as Alipay or WeChat Pay, which work off a mobile telephone, can enable real-time settlement and automated currency exchange. They are thus a vast improvement over credit cards and debit cards. (These digital payment platforms are sometimes also referred as "digital currencies", but they are strictly speaking not "digital currencies". They only enable payment in the regular currencies by digital means. These digital payment platforms will potentially replace the use of cash and also allow an economy to leap-frog completely the personal-checking-account phase.
- These digital payment platforms can also be used to facilitate the parallel circulation of two or more currencies in the same area. For example, there are many border areas between two or more countries or currency areas in which more than one currency may circulate in parallel (between Canada and the U.S., and between China, Korea and Russia). Potentially the Guangdong-Hong Kong-Macau Greater Bay Area is also a place where three currencies, the Hong Kong Dollar, the Macau Pataca and the Renminbi, may circulate in parallel.

The Digital Currency for Electronic Payment (DCEP) of the People's Bank of China

- The "Digital Currency for Electronic Payment (DCEP)", developed by the People's Bank of China (PBoC) is a true digital currency but not a crypto-currency. It always has the same identical value as the regular currency issued by the PBoC and is under its centralised control and management. Moreover, its ownership records are transparent to the commercial banks involved and the PBoC. It has a real-name requirement for the owner/user and uses a block-chain as a ledger record.
- Unlike the digital payment platforms, the PBoC digital currency does not charge any fees to its users (neither the payer nor the payee). In this sense it works just like regular paper currency. Moreover, it is completely open to any potential user and non-discriminatory (but on a real-name basis). Furthermore, it does not require the internet for transactions.
- It is likely to supplant Alipay and WeChat Pay or at least reduce their monopoly power eventually.
- Finally, the data on the users of DCEP will be kept confidential and will not be used by PBoC for profit-making purposes. DCEP will definitely reduce the monopolistic power and the profitability of the current electronic payment platforms.

The Digital Currency for Electronic Payment (DCEP) of the People's Bank of China

- There is one additional feature of the DCEP that will come in handy for the PBoC, and that is, in the enforcement of capital control and in the detection and prevention of financial crimes.
- The block-chain distributed ledger for the DCEP means that each payment (receipt) can potentially be traced back to its ultimate origin, no matter how many times it has changed hands or has been sub-divided or combined until it is fully converted into physical cash.
- The block-chain feature enables the enforcement of capital control, if any, and facilitates the tracing of money laundering and terrorist financing as well as other criminal activities such as bribery, drug dealing, extortion and tax evasion.

The Future of Cryptocurrencies

- It is most unlikely that any sovereign government, China, the U.S., the U.K., you name it, will tolerate the existence of a cryptocurrency within its borders because it will lead to one or more of the following potential consequences:
  - (1) Loss of seigneurage by the central bank;
  - (2) Loss of control of monetary policy;
  - (3) Loss of tax revenue; and
  - (4) Loss of capital control

  in addition to various types of crimes..
- Private cryptocurrencies will be outlawed for the same reasons that private commercial banks are forbidden to issue their own bank notes freely and that large-denomination notes have been withdrawn from circulation by many governments, including the U.S., as a way of fighting crimes.

Educational Exchanges

- In 2020, there are an estimated 360,000 Chinese students enrolled at U.S. educational institutions. They generate, conservatively speaking, at least US$18 billion worth of expenditures in the U.S. a year, on the assumption of US$50,000 per student per 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.
- 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 probably not any more with respect to China.

Educational Exchanges

- 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.
- However, it is also possible that the de-coupling will lead to more Chinese scientists and engineers returning to China from the U.S.

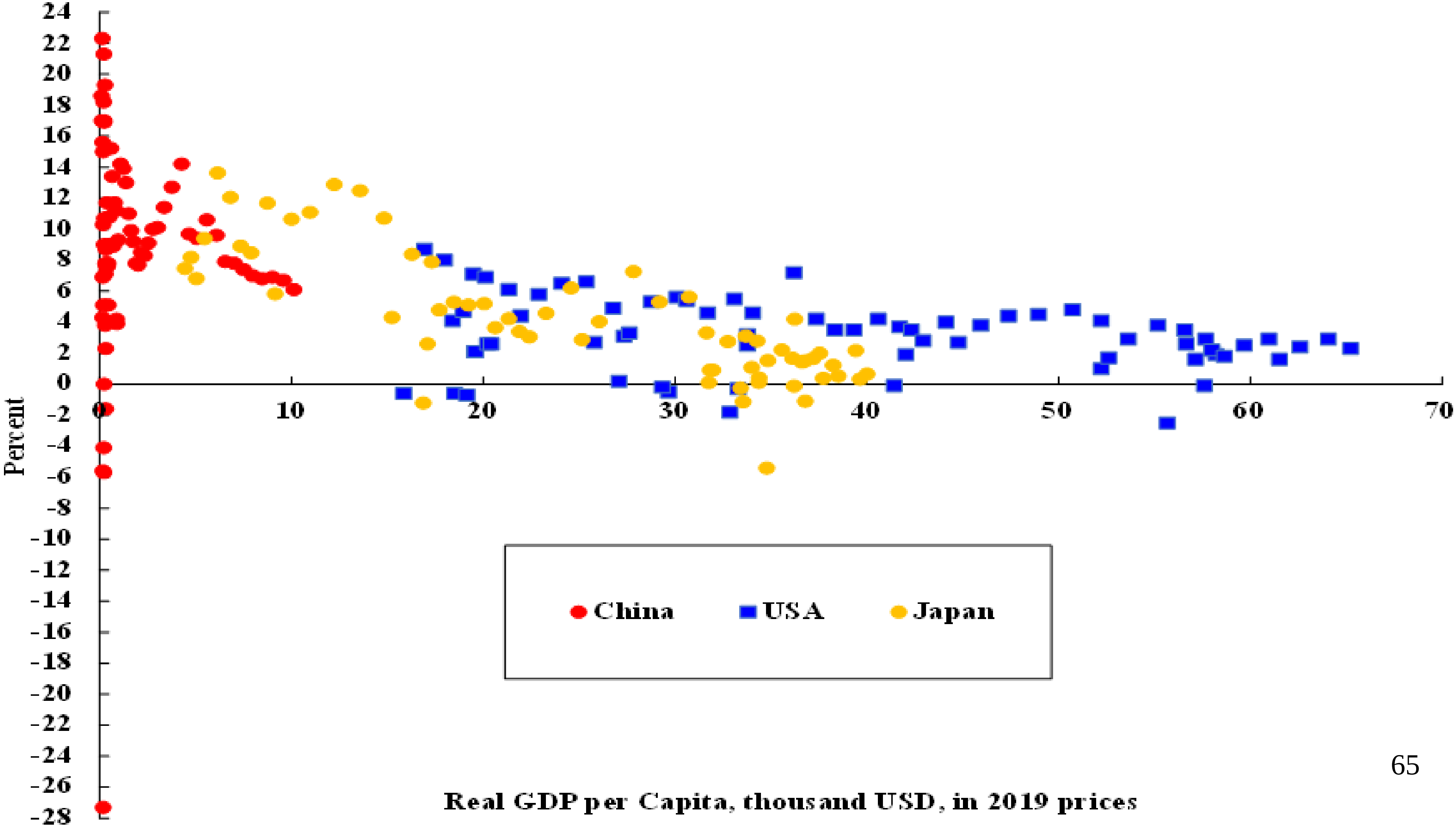
The Economic Impacts of China-U.S. Strategic Competition: The Diversion of Trade

- Light manufactured imports from China to the U.S. are likely to be replaced by exports from Vietnam, Bangladesh and Cambodia.
- Chinese imports from the U.S. are likely to be sourced from other countries to the extent possible.
- Exports from the U.S. and other countries to China subject to U.S. national security export restrictions are likely to be developed indigenously in China.

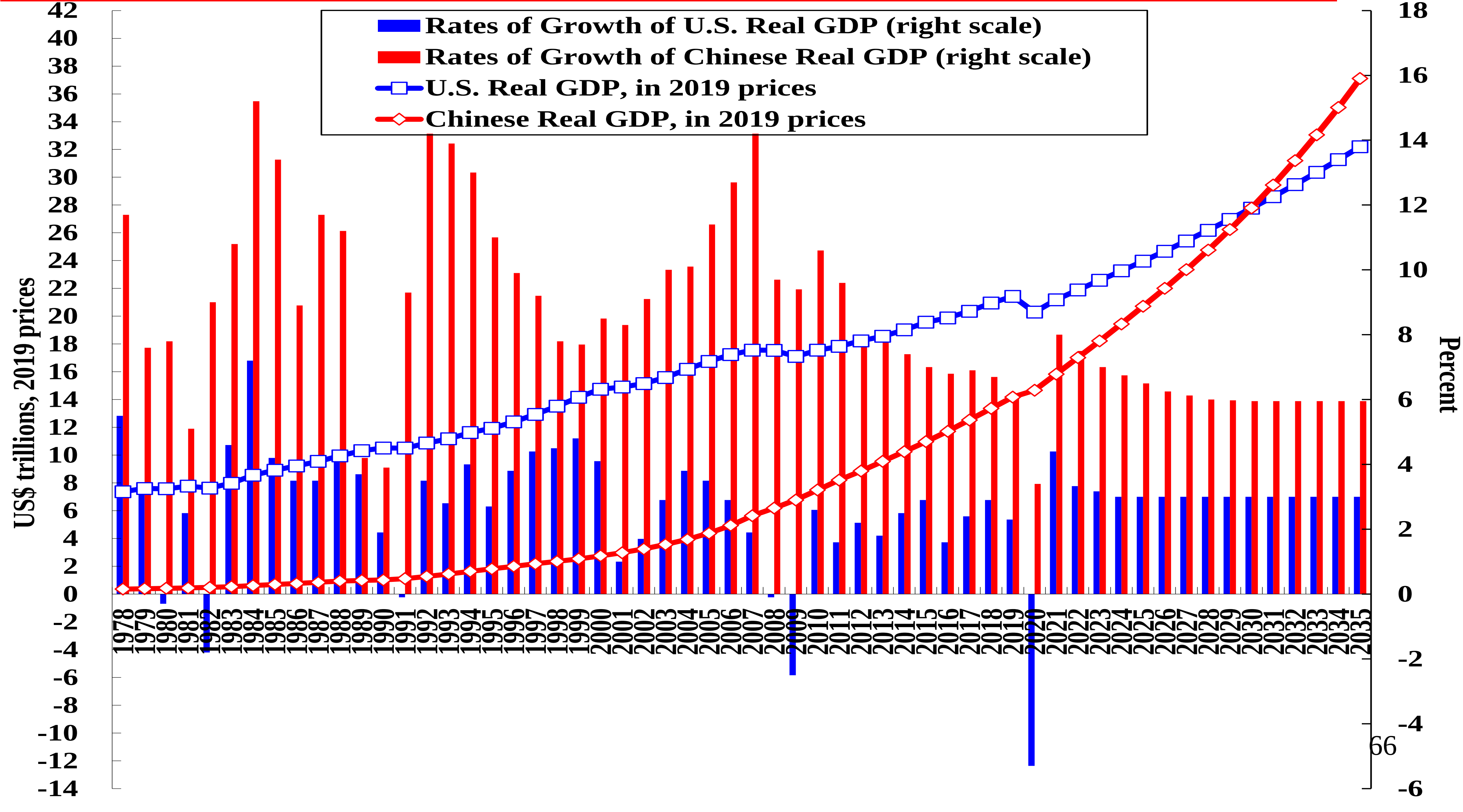
Long-term Projections of the Chinese and U.S. Economies

- We project Chinese and U.S. GDPs and GDPs per capita for the next 15 years.
- It is an empirical regularity that as the real GDP per capita of a country rises, the rate of growth of its GDP falls.
- We assume that the Chinese economy will grow at approximately 6% per annum, declining gradually to just below 6% by 2035, after the recovery from the pandemic. We assume that the U.S. GDP will grow at its long-term average of 3% per annum, also after the recovery from the pandemic. The difference in the assumed rates of growth is due, in part, to the considerably lower Chinese real GDP per capita relative to the U.S.
- The COVID-19 pandemic may have the unintended 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.

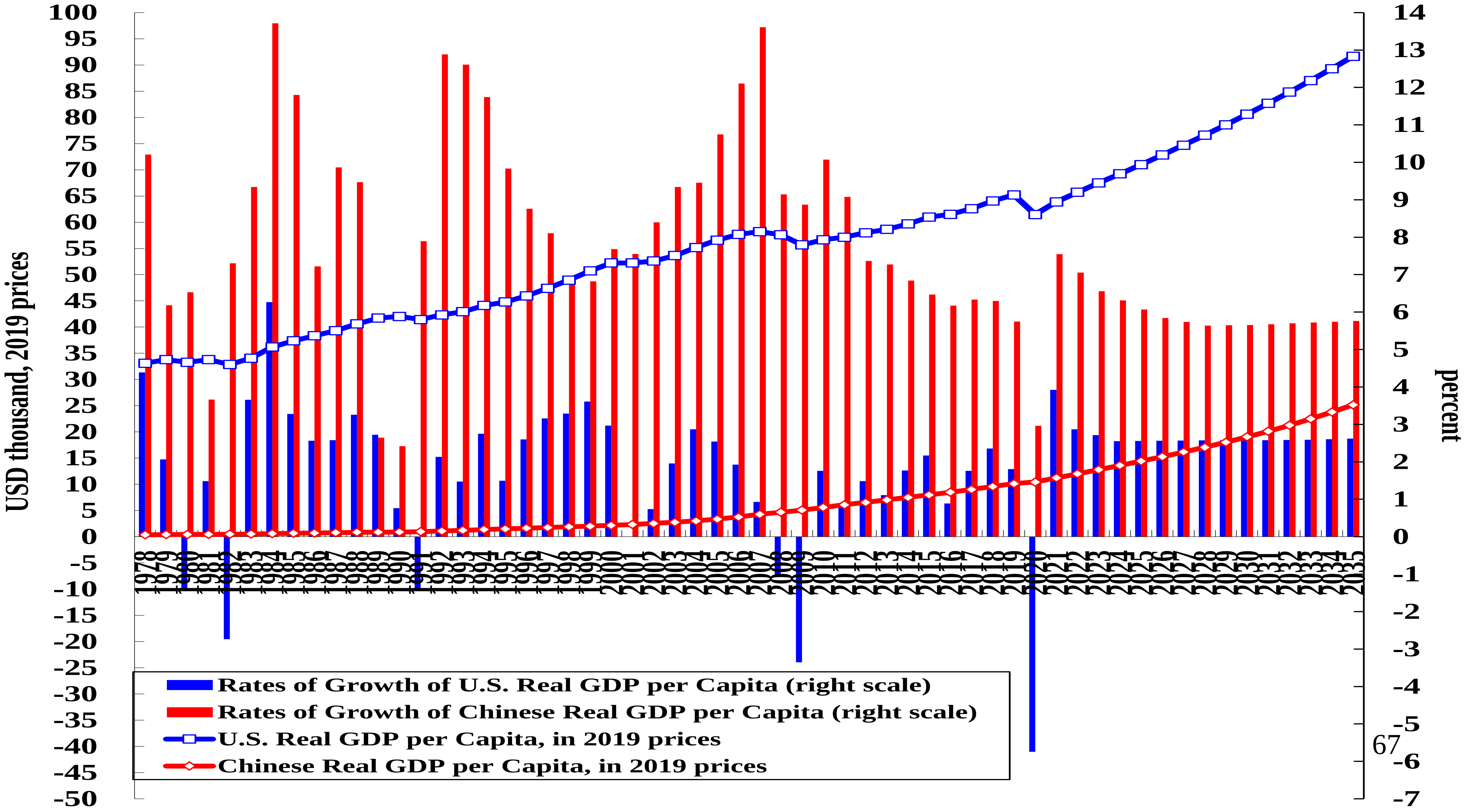
Rate of Growth of GDP vs. Level of Real GDP per Capita: China, Japan and the U.S.



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 Projections of the Chinese and U.S. Economies

- Our projections suggest that in 2030, the Chinese aggregate real GDP (US$27.79 trillion in 2019 prices) is likely to just barely edge out the U.S. aggregate real GDP (US$27.77 trillion in 2019 prices). The implied average real rates of growth between 2019 and 2030 are approximately 6% for China and 2.5% for the U.S., reflecting the fact that the Chinese economy will continue to grow at a projected 2.3% whereas the U.S. economy is projected to contract approximately 3.5% 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$80,600 will still be more than four times the projected Chinese GDP per capita of US$19,040.
- Chinese real GDP per capita will lag behind that of the U.S. until at least the end of the 21st Century.

Economic Integration of the Guangdong-Hong Kong-Macau Greater Bay Area (GBA)

- The Guangdong-Hong Kong-Macau Greater Bay Area (GBA) is a major national development strategy of China.
- The GBA consists of nine contiguous cities in the Pearl River Delta region of the Guangdong Province--Guangzhou, Shenzhen, Dongguan, Foshan, Huizhou, Jiangmen, Zhaoqing, Zhongshan and Zhuhai--and the Hong Kong and Macau Special Administrative Regions.
- In 2019, the total population of the eleven cities within the GBA were 72.7 million, with a combined GDP of US$1.67 trillion, accounting for almost 12% of Mainland GDP, and an average GDP per capita of US$ 22,925 in 2019.
- By comparison, the U.K., the world's sixth-largest economy in 2019, had a population of 66.7 million, a GDP of US$2.82 trillion and a GDP per capita of US$42,300.
- Based on the recent annual real rates of growth of approximately 7% for the GBA and 1.86% (the average over the decade 2009-2019) for the U.K., the GBA will likely catch up with the U.K. in terms of GDP by 2030, with a GDP per capita exceeding US$ 40,000 in 2019 prices. This does not take into account that the U.K. GDP may decline 10% in 2020 because of the COVID-19 pandemic.

The Guangdong-Hong Kong-Macau Greater Bay Area (GBA) 2019 Statistics

City/SAR	GDP ranking	GDP (US$ billion)	GDP per capita ranking	GDP per capita (US$)	End 2019 Population (million)
Total		1,666		22,925	72.7
Shenzhen (深圳)	1	385	3	29,124	13.4
Hong Kong (香港)	2	368	2	49,019	7.5
Guangzhou (广州)	3	338	5	22,388	15.3
Foshan (佛山)	4	154	6	18,860	8.2
Dongguan (东莞)	5	136	7	16,102	8.5
Huizhou (惠州)	6	60	9	12,315	4.9
Macau (澳门)	7	54	1	80,463	0.7
Zhuhai (珠海)	8	49	4	25,118	2.0
Jiangmen (江门)	9	45	10	9,760	4.6
Zhongshan (中山)	10	44	8	13,269	3.4
Zhaoqing (肇庆)	11	32	11	7,719	4.2

The Sum is Greater Than Its Separate Parts: 9 + 1 + 1 > 11.

- Why is the sum greater than its separate parts? The closer economic integration of the GBA works like a mini version of economic globalisation. Every city will be better off with the new opportunities because it always has the option of continuing with the status quo ante. If any city does anything different from before voluntarily, it must be better off.
- The increased economic connectivity, whether due to improvements in the inter-city basic infrastructure or to the elimination of legal and other barriers to the free flow of factors, makes possible new economic activities that are not possible previously, thus adding new value and increasing both GDP and employment.
- However, while closer economic integration will make every city in the GBA better off as a whole, it will also create both winners and losers in each city. The free market system cannot and will not compensate the losers in each city, it is up to the government of each city to compensate any losers created by the closer economic integration.

Establishment of the Pilot GBA Free Trade Zone

- The benefits of the closer economic integration of the GBA can best be realised if the entire GBA becomes a Greater Bay Area Free Trade Zone (GBAFTZ). This means, for example, the same product imported into Hong Kong or Shenzhen will cost the same, which should put an end to smuggling.
- Ideally, a free trade zone should imply the free flows of the following four factors **within** the entire GBAFTZ:
  - (1) Goods and services;
  - (2) People (Human capital);
  - (3) Capital; and
  - (4) Information.
- Smooth and efficient flows of goods, services and people within the GBA require inter-connecting inter-city infrastructure.
- Free flows within the GBAFTZ also imply that it will have free flows with the rest of the world through Hong Kong and Macau given their status as free ports. However, this in turn requires the regulation of the flows of the four major factors between the 9 cities of the GBA and the rest of Guangdong Province and the Mainland ex Guangdong. Otherwise the entire Mainland will also become effectively totally opened up.

Free Flow of Capital within the GBA: Parallel Circulation of the Three Currencies

- Three currencies, the Renminbi, the Hong Kong Dollar, and the Macanese Pataca, are used in the GBA. They should be allowed to circulate in parallel in all the GBA cities on an informal basis (the legal tender in each city will continue to be its local currency). One or more commercial banks can commit to merchants accepting a non-local currency a preferential rate of exchange into the local currency. Electronic payment platforms as well as "smart" cash registers can make the parallel use of three currencies possible and almost completely seamless to all.
- The entry-exit permit will allow a holder in the GBA to open bank accounts in any financial institution in the GBA and in any or all of the three GBA currencies.
- The use of dual currencies, the Hong Kong Dollar and the Renminbi, on both the Hong Kong and Shenzhen stock exchanges should be allowed for all market participants, with the condition that an investor has to sell the securities in the same currency that the investor has bought the securities. This is actually equivalent to the current arrangement under Shanghai-Hong Kong Connect and Shenzhen-Hong Kong Connect which does not require the conversion of Renminbi into Hong Kong Dollar or vice versa in these transactions.

Free Flow of Capital within the GBA: The Use of the Digital Currency of PBoC

- The Digital Currency for Electronic Payment (DCEP), introduced by the People's Bank of China (PBoC) can be pilot-tested in the GBA. It can be used to facilitate the free flow of capital within the GBA and at the same time maintain control on capital flows between the Mainland ex GBA and the rest of the world.
- The digital currency, which uses the distributed ledger technology, also referred to as the block-chain technology, allows all fund flows to be tracked and traced continuously. (The block-chain technology is also used in bitcoins and other similar virtual cryptocurrencies.)
- All remittances from Hong Kong and Macau into the Guangdong part of the GBA will be in the form of digital Renminbi currency. Similarly, all remittances from Mainland ex the Guangdong part of the GBA into the Guangdong part of the GBA will also be in the digital Renminbi currency. Thus, the flows of these funds can be tracked and traced.

Free Flow of Information within the GBA: Real-Name Registration with Authentication

- Uniform and timely access to the correct information on the part of all participants in a market is crucial for the efficiency of the market system. This means, in today’s world, they must have ready access to the internet.
- We propose that the Central Government consider allowing unrestricted information access to the internet through a special gateway for the 9 Guangdong cities of the GBA to all pre-registered qualified users under the conditions that
  - (1) A user must use verified up-to-date real-name registration; and
  - (2) A user must also agree and submit to multiple online real-time continuous biometric authentications including fingerprint, facial and retina recognition, and voice authentication every time he or she goes online.
- This should prevent an internet user from using the identity of another person. Moreover, since the servers can be monitored, most users will not want to lose their internet access privileges by accessing forbidden websites.

A Vision for the GBA: A Leading International Centre of Finance, Innovation and Technology

- The GBA has sufficient economic mass—GDP, population, wealth, human capital and the vast hinterland of a supportive China to compete with any other bay area in the world.
- The GBA, building on the foundations of Hong Kong, is the natural home of the "International Financial Centre" for East Asia. Future initiatives can include the development of an active, deep, liquid and wide bond market in both Renminbi and Hong Kong Dollar, the formation of an East-Asia-wide stock exchange, and the establishment of a re-insurance market for East Asia.
- Within the GBA, Hong Kong and Shenzhen together can become a global innovation, venture investment, start-up and financing hub, combining the Silicon Valley, Route 128, New York Stock Exchange and NASDAQ into one, serving not just the GBA but the entire Mainland and East Asia. Today, Silicon Valley has no commercial-scale manufacturing any more, but the GBA still has ample room for commercial-scale manufacturing.
- With all the first-rate universities in the GBA, and the desirable living conditions, the GBA can attract human capital from everywhere to become a leading centre of advanced basic research.

The Belt and Road Initiative

- The Belt and Road initiative is a multi-decade project. In its initial phase, the objective is to enhance inter-connectivity y among economies through the construction of basic infrastructure such as highways, railroads, ports, and airports.
- Enhanced inter-connectivity of communication and transportation, coupled with the ready availability of electric power, can together create and enable new economic activities. For developing economies, basic infrastructure can often lead economic development—that is, their availability creates their own demands--once they are built, demands will come.
- A new land-based Silk Road linking China and Europe can bring great prosperity to East Asia (including Western China) and Europe and all the countries en route.

Beyond Economics: Creating a Shared Future for the World

- Cooperation in Controlling Future Pandemics
- Preventing Further Climate Change
- Halting Further Nuclear Proliferation

Beyond Economics: Cooperation in Controlling Present and Future Pandemics

- China can assist other countries in controlling the COVID-19 pandemic, drawing from its own successful experience. Blockade and lockdown; rapid, and if necessary, mandatory testing; thorough contact tracing; maintaining personal hygiene; and social-distancing.
- China has a couple of COVID-19 vaccines in late-stage development. They include the Sinopharm, or China National Pharmaceuticals Group, vaccine and the Sinovac vaccine. China is committed to making the vaccine available through COVAX, a World Health Organization initiative. It is also ready to provide the vaccines to low-income countries at cost or even for free. China has committed to donate 2 billion doses of the COVID-19 vaccine to countries which cannot afford to pay.

Beyond Economics: Cooperation in Controlling Present and Future Pandemics

- All countries should be prepared for the possible recurrence of this or the occurrence of another pandemic, even with an effective and safe vaccine, because the virus may mutate, or a new virus may appear. More hospitals with intensive care units should be built; elderly care homes should be retrofitted with isolation wards; more doctors and nurses should be trained; and more medical equipment and supplies should be stocked.
- There should be continuing international cooperation, coordination, and sharing of research on bacteria, germs and viruses and on vaccines and treatments.
- Perhaps a world medical emergency corps like Médecins Sans Frontières can be organised under the auspices of the WHO, complete with mobile emergency hospitals, medical equipment and supplies, and ready to be deployed at the first signs of a potential pandemic.
- Moreover, the world must collectively remake the rules of international travel. It may be necessary to go back to having certificates issued by the WHO, but in digitalised form (e.g., a "health code"), similar to the yellow cards that we used to carry decades ago, which would indicate what kinds of vaccinations, inoculations and antigens we already have, so that we can be exempted from the quarantine requirements.

Beyond Economics: Preventing Further Climate Change

- China will fulfill or exceed its commitments under the 2015 Paris Agreement; in particular, its carbon emissions will peak by 2030. In addition, President Xi Jinping of the People's Republic of China has also pledged that China will become carbon-neutral by 2060. This bold commitment from the currently largest carbon emitting country in the world, accounting for 28% of global emissions, provides the basis for everyone to work together.
- More recently, Prime Minister Yoshihide Suga of Japan has also announced that Japan will become carbon-neutral by 2050, the same date as an earlier commitment by the European Union.
- All of this will have huge implications on the development of the entire world economy, including both the Chinese and Japanese economies, during the next several decades, as major structural shifts occur in fixed investments in basic infrastructure and in both supply and demand of goods and services.
- If this "carbon-neutrality" project of China turns out to be successful, it can show the way for other developing countries to achieve carbon-neutrality.

Beyond Economics: Halting Further Nuclear Proliferation

- Nuclear proliferation poses a danger to the whole world. Nuclear weapons in the wrong hands, for example, in the hands of criminal organisations, extremists or terrorists, can do catastrophic damage. The world must cooperate to halt further nuclear proliferation.
- If all currently nuclear nations can commit to a policy of "no first use", it will greatly reduce the incentive for other nations to develop a nuclear weapon as a potential deterrent against nuclear blackmail.
- However, ultimately, success in halting further nuclear proliferation depends on building mutual trust among all nations.

Concluding Remarks

- The cashless digital payment platforms being launched around the world as well as the Digital Currency for Electronic Payment (DCEP) of the PBoC will lead to the demise of personal checking accounts in almost all countries, just like the mobile telephones replacing the fixed landline telephones. They will also supplant the use of cash.
- While the introduction of the Chinese centralised digital currency per se is not expected to affect the acceptance of the Renminbi in the clearing and settlement of international transactions significantly, it will facilitate the gradual relaxation of the remaining control of capital into and out of parts of the Mainland and eventually Mainland as a whole.
- There will be greater use of own currencies for clearing and settlement of cross-border transactions. One implication of the greater use of own currencies is the growth of direct bilateral currency markets.
- There will also be more regional groupings of countries to enable and facilitate collective own-currency clearing and settlement, using the experience of the Bank for International Settlements in the 1950s as a template, and if necessary coordinated real exchange-rate adjustments.

Concluding Remarks

- The potential competition and rivalry between China and the U.S. on many fronts—economic, technological and geo-political--is likely to be the "new normal" in the next decade or so. 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 has no intention whatsoever to change the political system of the U.S. and is therefore not an existential threat to the U.S.
- There may well emerge parallel but inter-operable systems for many functions and services such as the clearing and settlement of international financial transactions, global satellite positioning and 5G telecommunication. The resulting competition and redundancy may actually protect and stabilise the world economy from potential monopolistic practices, catastrophic failures and arbitrary unilateral actions, and perhaps even improve the quality of the services.

Concluding Remarks

- With China's continuing participation in the world economy, and given its high rate of growth, China will eventually become not only the largest economy in the world, but also the largest trading nation in the world. It will become not only the world's factory, but also the world's market.
- The governance of the world financial institutions such as the International Monetary Fund and the World Bank will gradually undergo changes, reflecting the changed composition of the global economy. As a major beneficiary of economic globalization, China will continue to support an open, rule-based international economic order.
- 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.