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

Lawrence J. Lau 劉遵義

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

The Fifth Asian KLEMS Conference
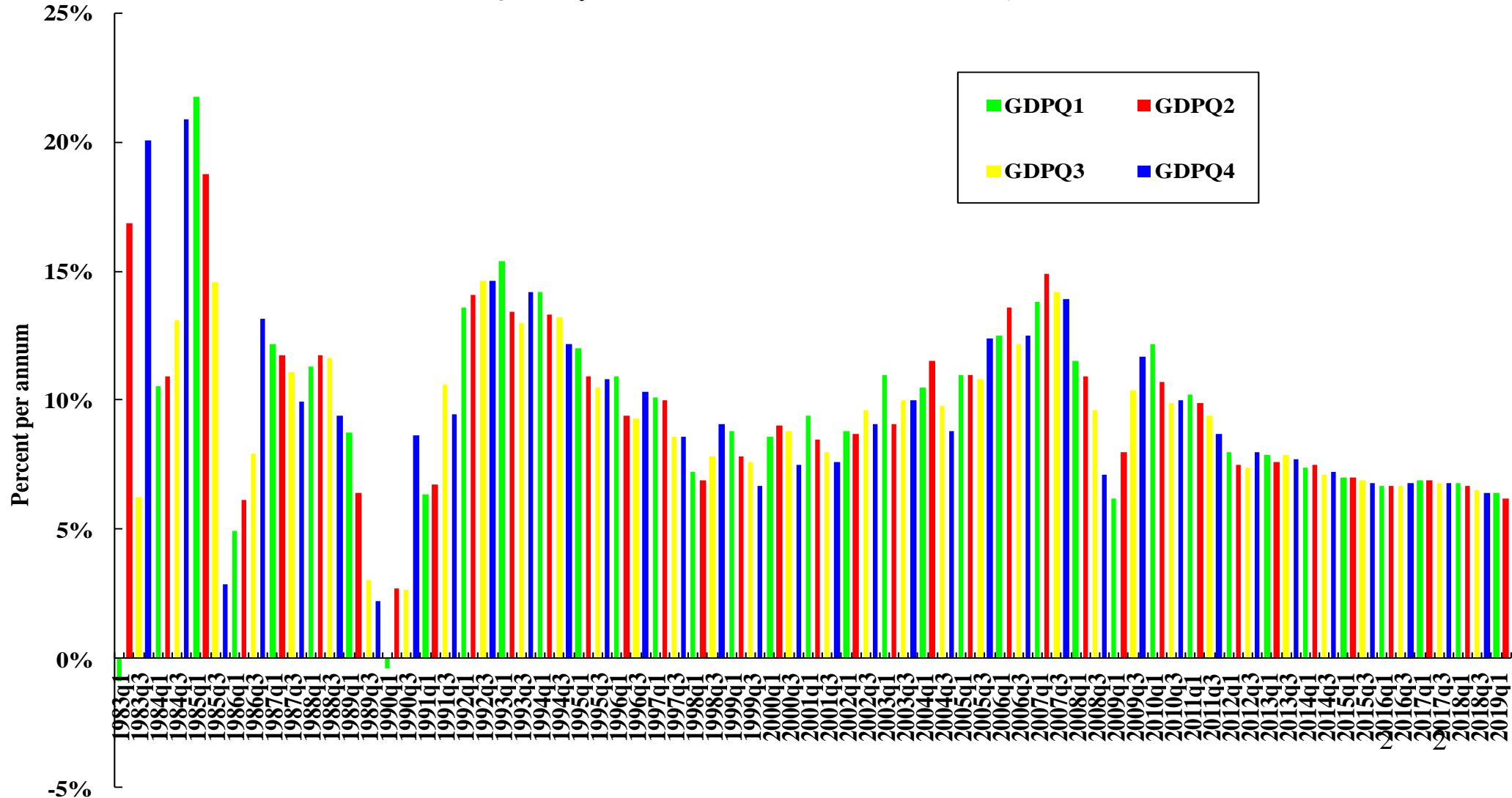Tsinghua University
Beijing, 14 October 2019

Tel: +852 3943 1611; Fax: +852 2603 5230
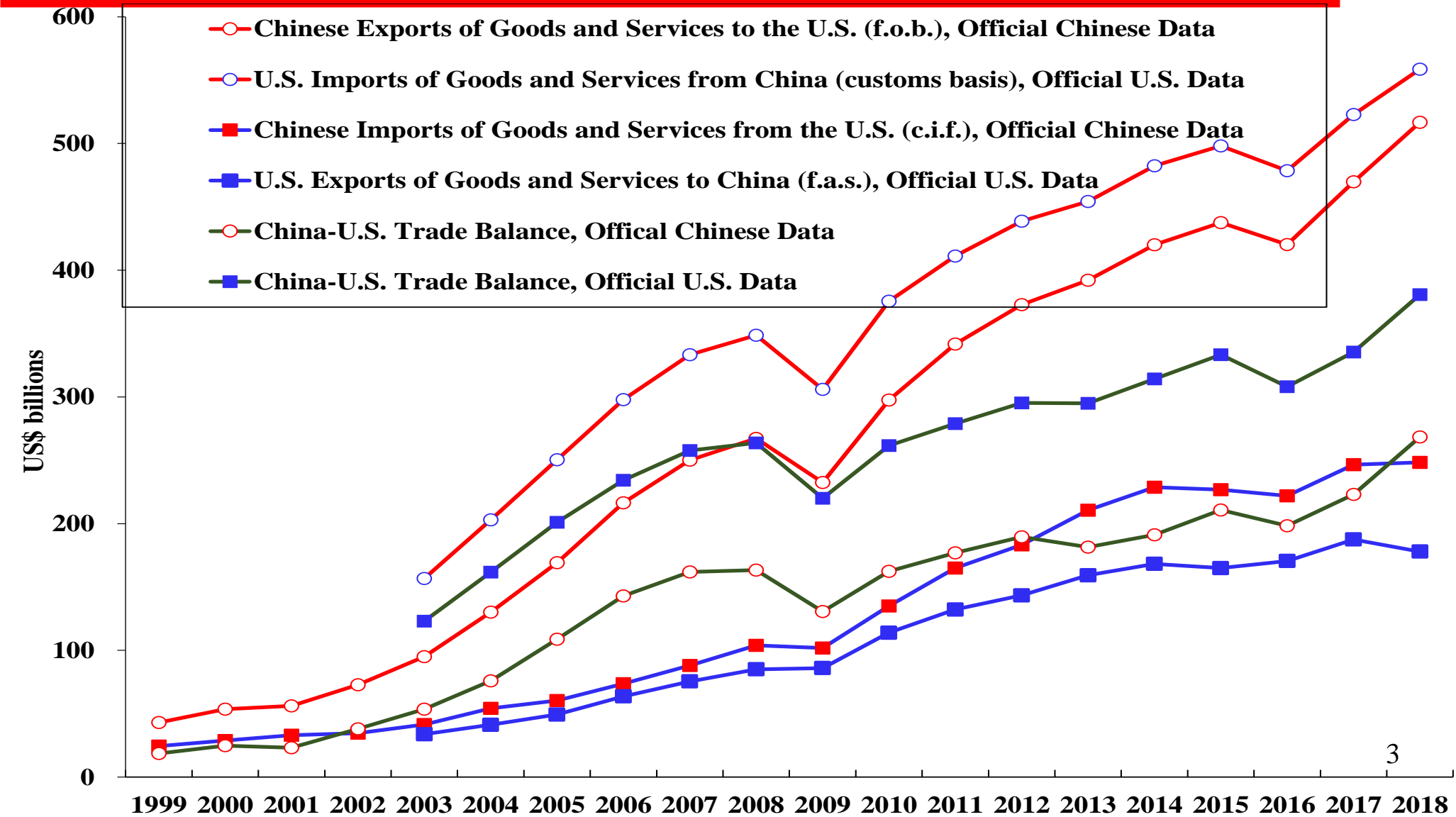Email: lawrence@lawrencejlau.hk; WebPages: www.igef.cuhk.edu.hk/ljl
*All opinions expressed herein are the author's own and do not necessarily reflect the views of any of the organisations with which the author is affiliated.

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

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

The Different Measurements of the Bilateral Trade Balance

Chart legend:
- —○— Chinese Exports of Goods and Services to the U.S. (f.o.b.), Official Chinese Data
- —○— U.S. Imports of Goods and Services from China (customs basis), Official U.S. Data
- —■— Chinese Imports of Goods and Services from the U.S. (c.i.f.), Official Chinese Data
- —■— U.S. Exports of Goods and Services to China (f.a.s.), Official U.S. Data
- —○— China-U.S. Trade Balance, Offical Chinese Data
- —■— China-U.S. Trade Balance, Official U.S. Data

Y-axis: US$ billions (0 to 600)

X-axis: 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018

3

The Different Measurements of the Bilateral Trade Balance: A Summary

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

Chinese Trade Surplus and U.S. Trade Deficit in Goods and Services as Percents of Respective GDPs

Annual Chinese Trade Surplus and U.S. Trade Deficit in Goods and Services as Percents of Respective GDPs

Legend:
- Chinese Trade Surplus as a Percent of GDP
- U.S. Trade Deficit as a Percent of GDP

5
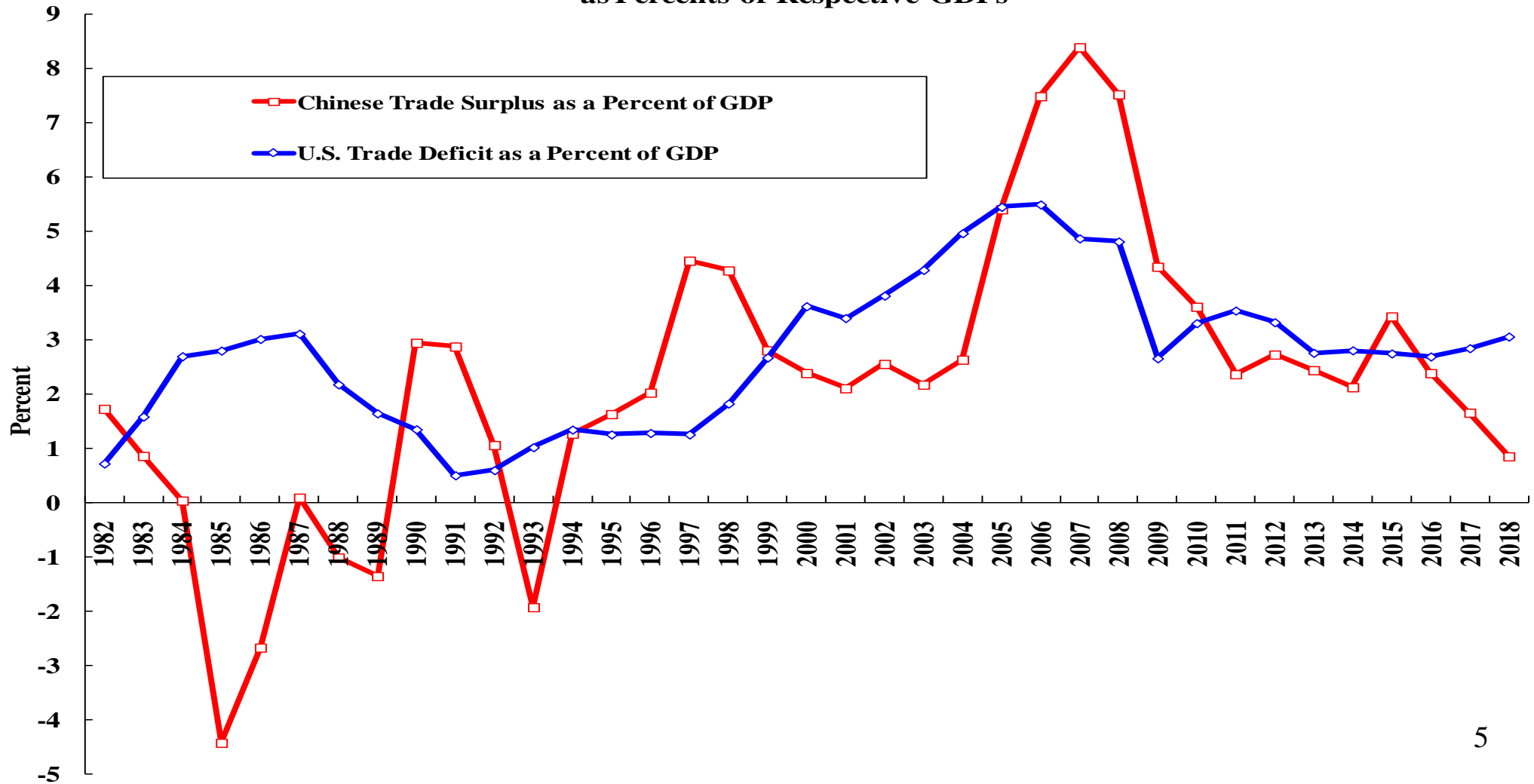
The Relative Benefits from the Bilateral Trade in Terms of Value-Added: A Summary

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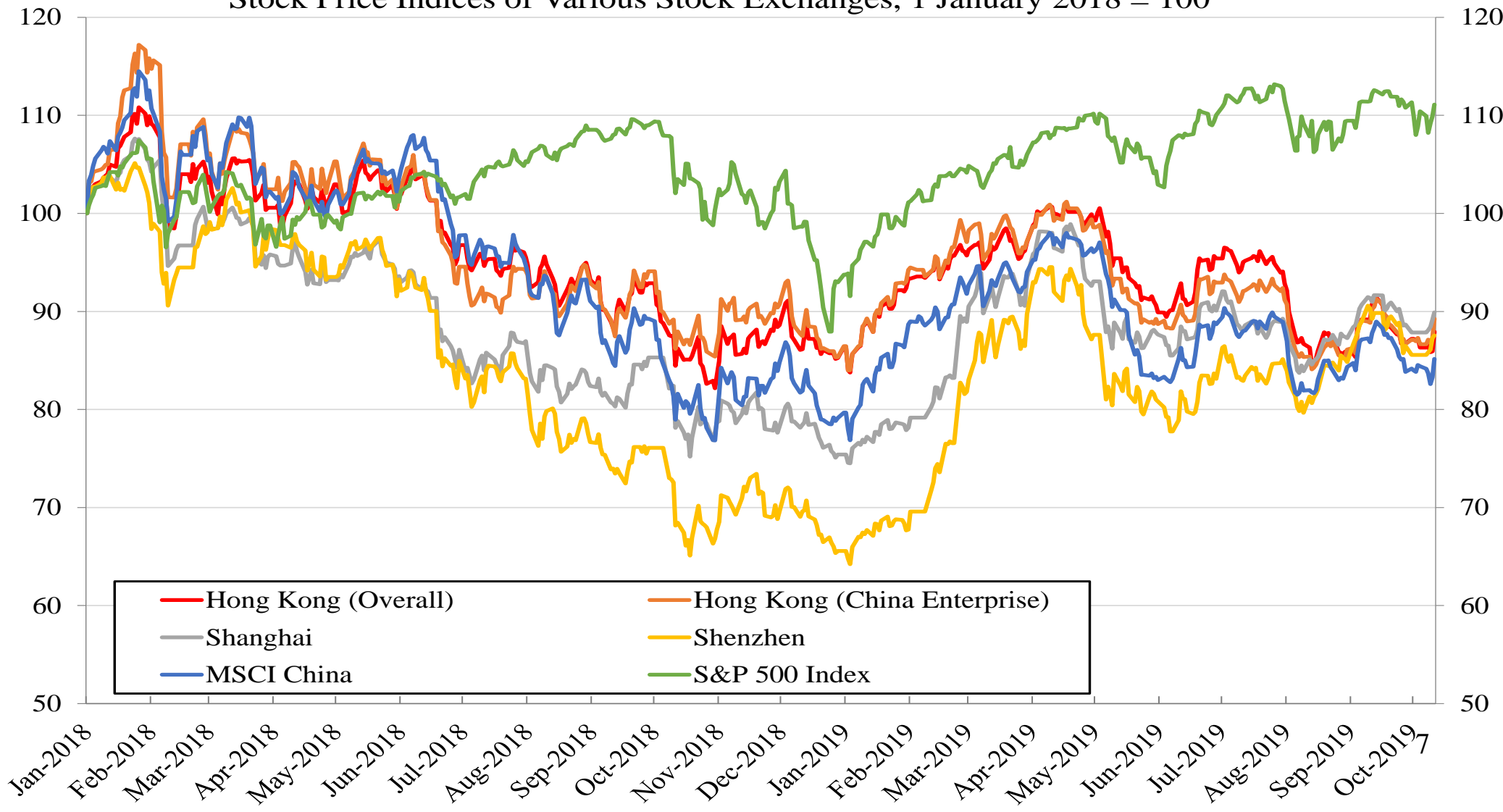
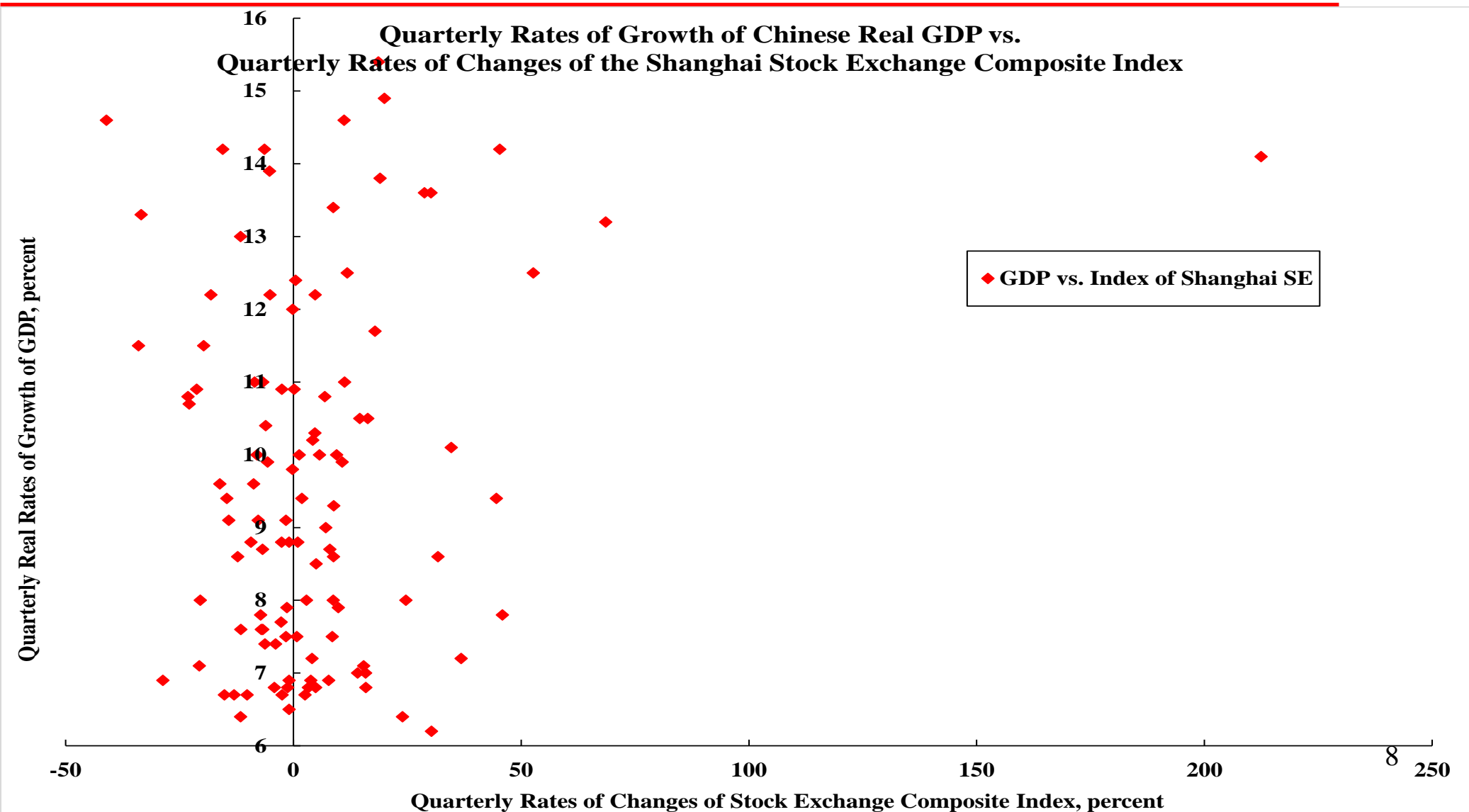| Measurement	China	The U.S.	Difference
Direct Value-Add	159.8	128.6	31.2
Indirect Value-Added	240.2	110.5	129.8
Total Value-Added	400.0	239.1	161.0

6

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

Stock Price Indices of Various Stock Exchanges, 1 January 2018 = 100

Legend:
- Hong Kong (Overall)
- Hong Kong (China Enterprise)
- Shanghai
- Shenzhen
- MSCI China
- S&P 500 Index

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

Quarterly Rates of Growth of Chinese Real GDP vs.
Quarterly Rates of Changes of the Shanghai Stock Exchange Composite Index

GDP vs. Index of Shanghai SE

Quarterly Real Rates of Growth of GDP, percent

Quarterly Rates of Changes of Stock Exchange Composite Index, percent

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

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

Legend:
- Index of CFETS Currency Basket (Yuan/Currency Basket)
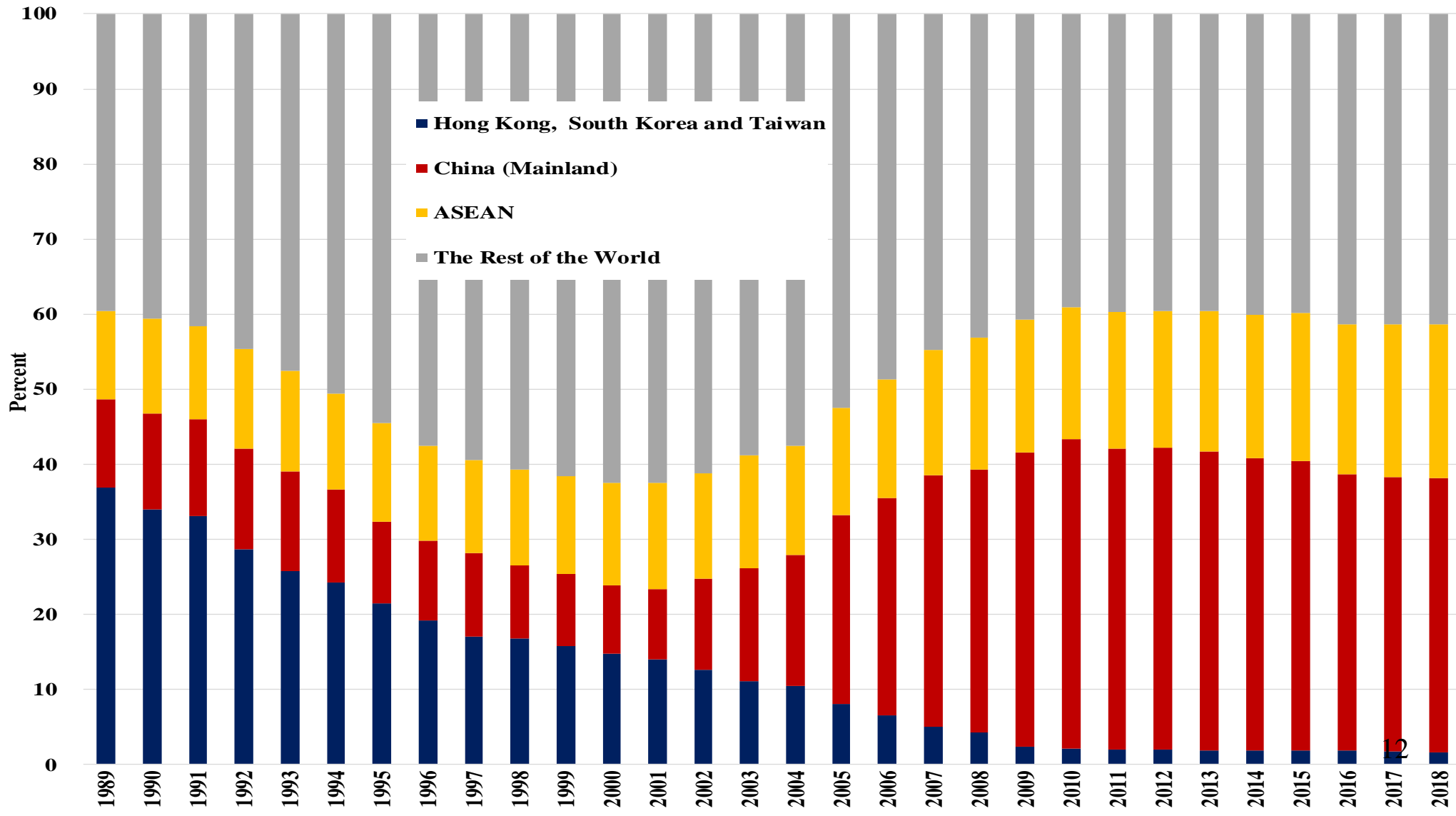- Index of Central Parity Rate (Yuan/US$)
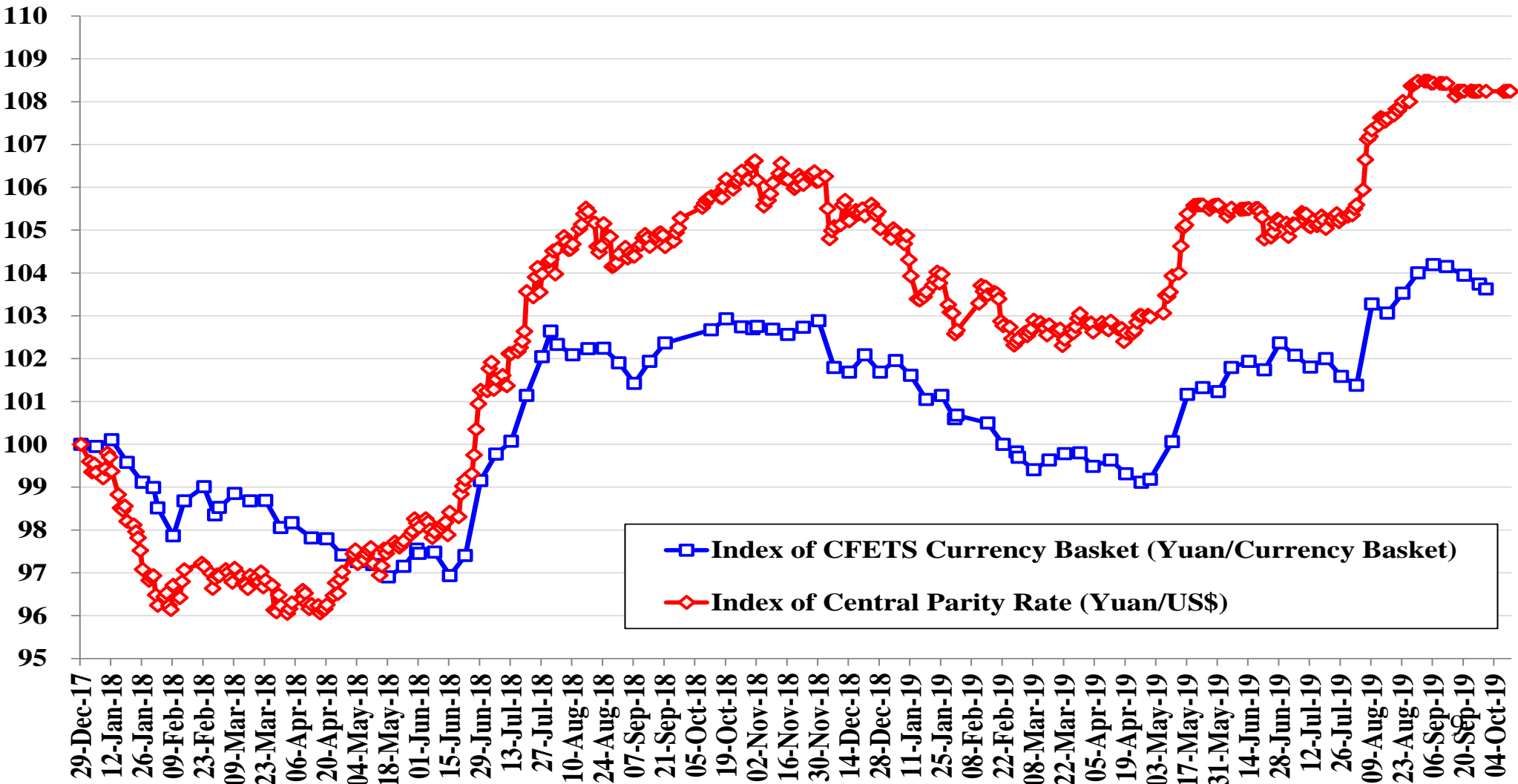
Chinese Exports of Goods and Services and Goods Only as a Percent of Chinese GDP

Legend:
- Exports of Goods and Services as a Percentage of GDP
- Exports of Goods Only to the World as a Percentage of GDP
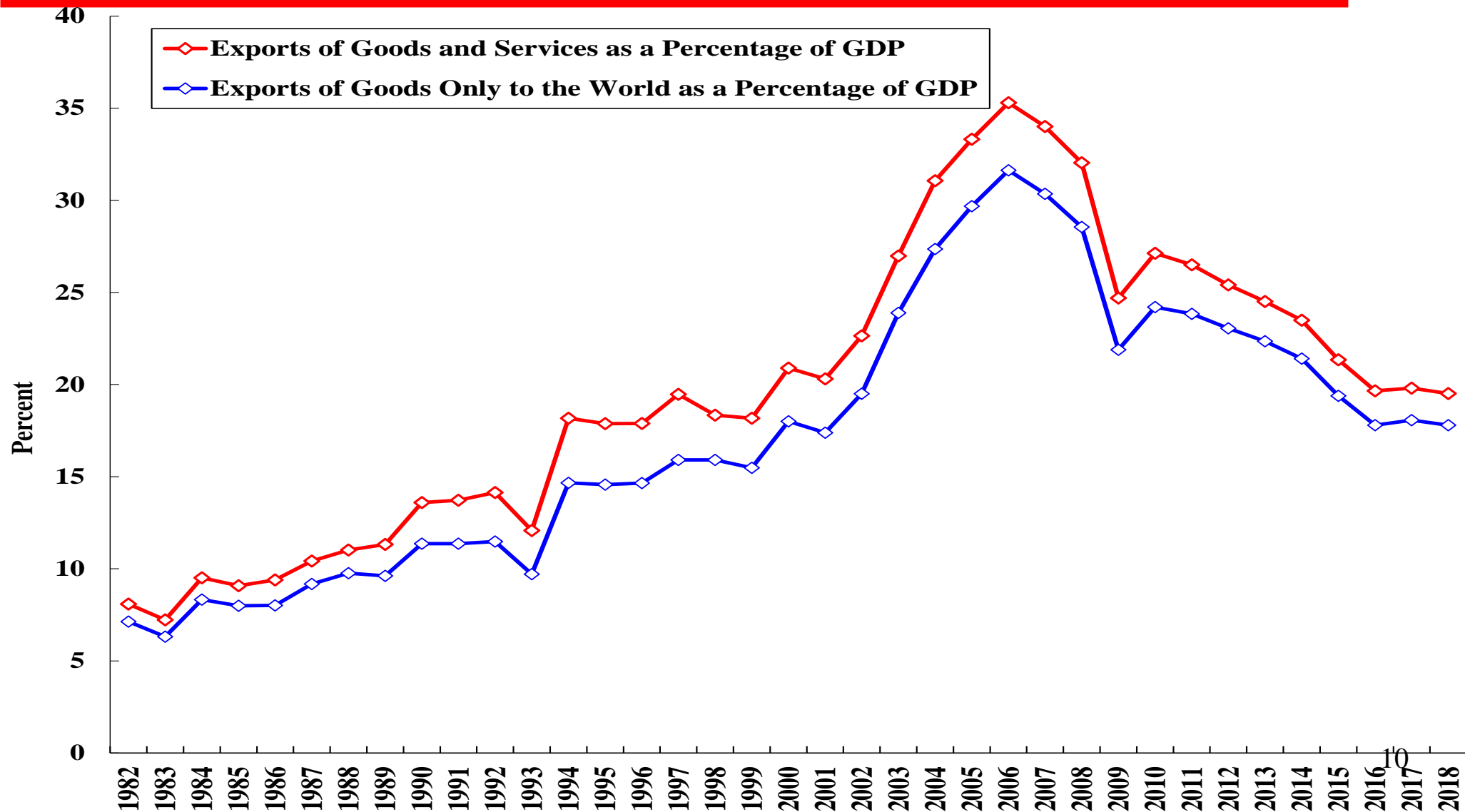
Chinese Exports of Goods and Services and Goods to the U.S. as Percent of Chinese GDP

11
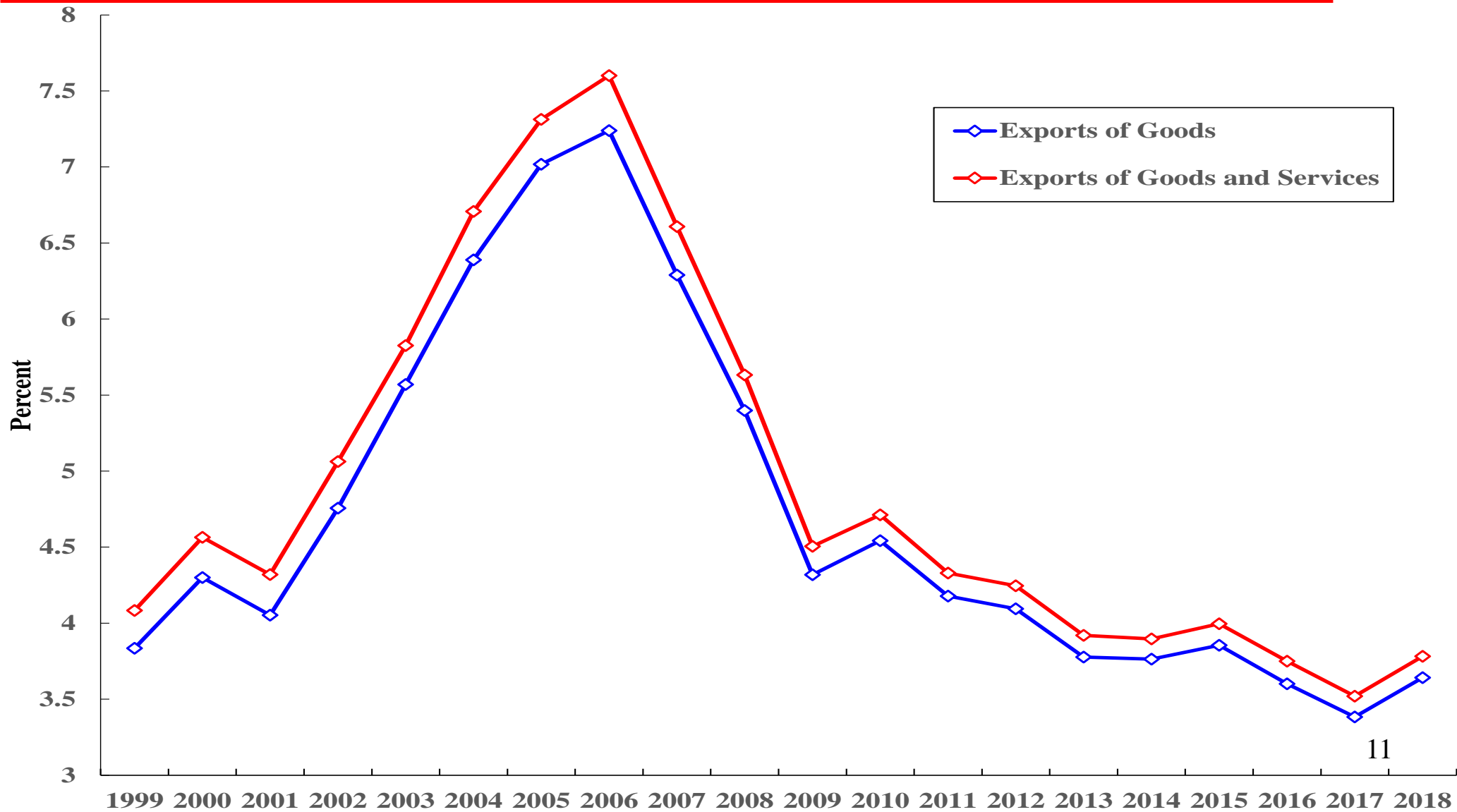
The Distribution of U.S. Apparel Imports by Countries and Regions of Origin

Legend:
- ■ Hong Kong, South Korea and Taiwan
- ■ China (Mainland)
- ■ ASEAN
- ■ The Rest of the World

Y-axis: Percent (0 to 100)

X-axis: 1989, 1990, 1991, 1992, 1993, 1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018

12

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

Legend:
- Exports of Goods and Services as a Percent of GDP
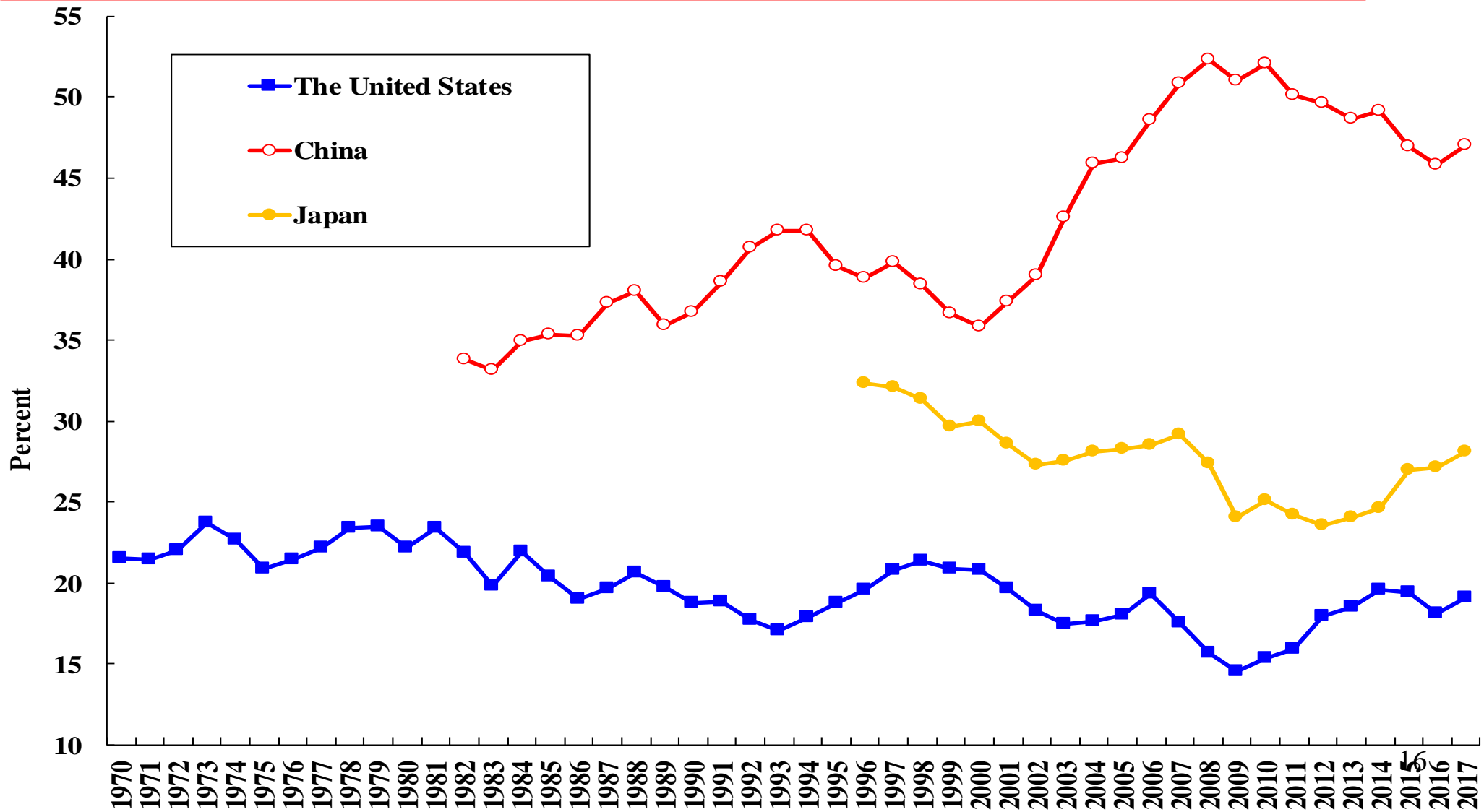- Exports of Goods Only to the World as a Percent of GDP

13
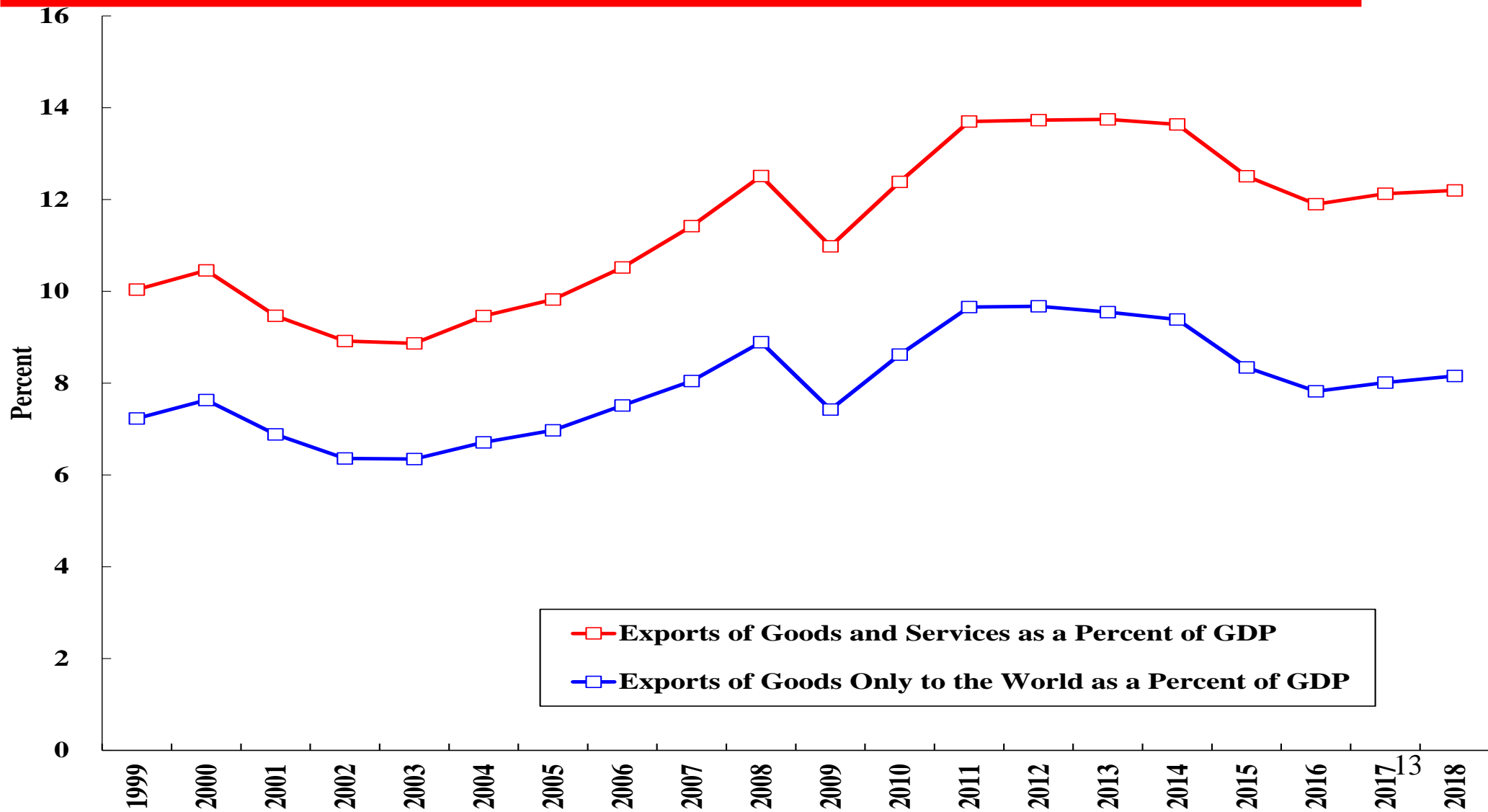
U.S. Exports of Goods and Services and Goods Only to China as Percent of U.S. GDP
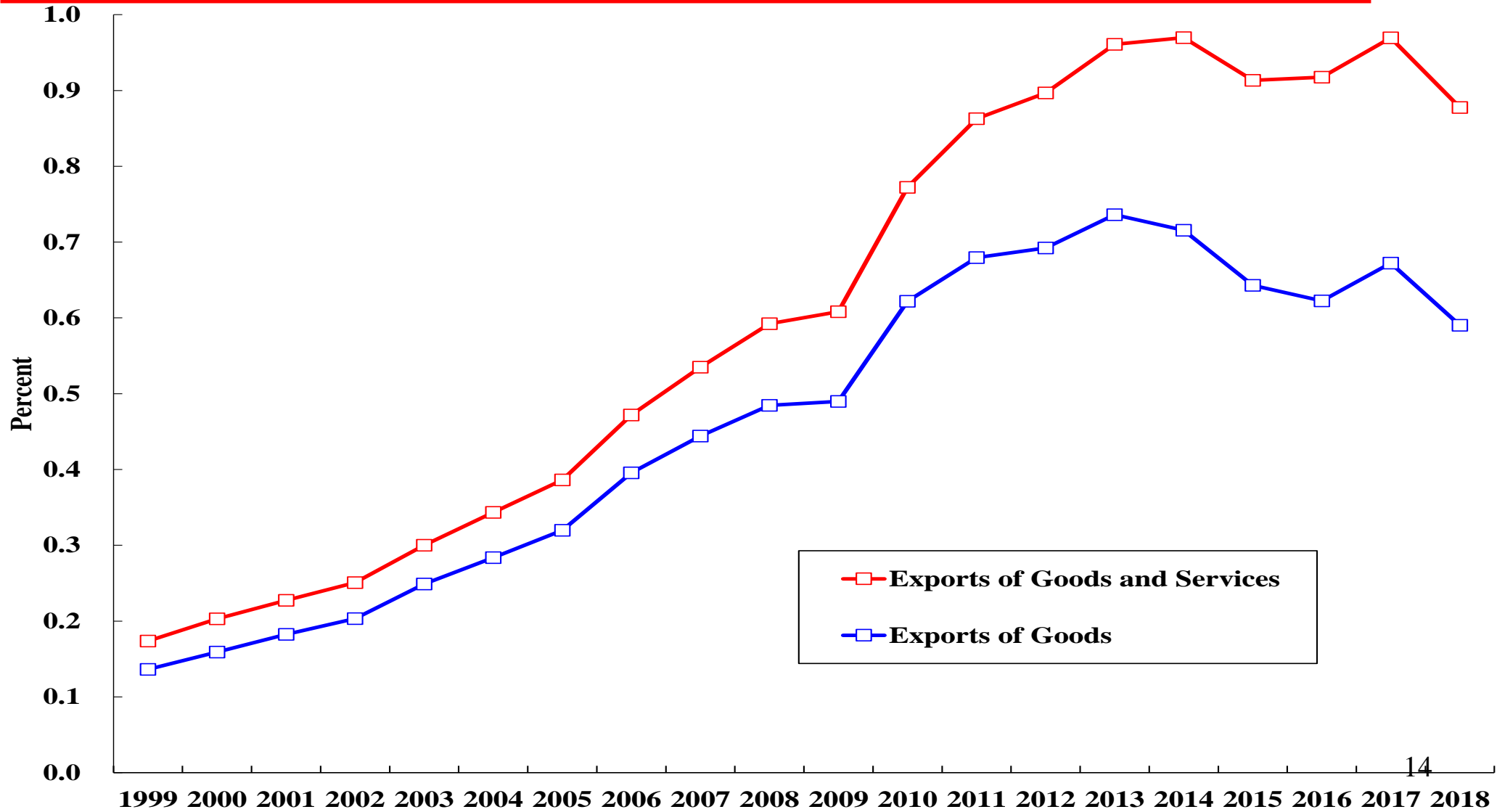
Growth Rate vs. Level of Real GDP per Capita (2018 tril. US$): China, Japan and the U.S.

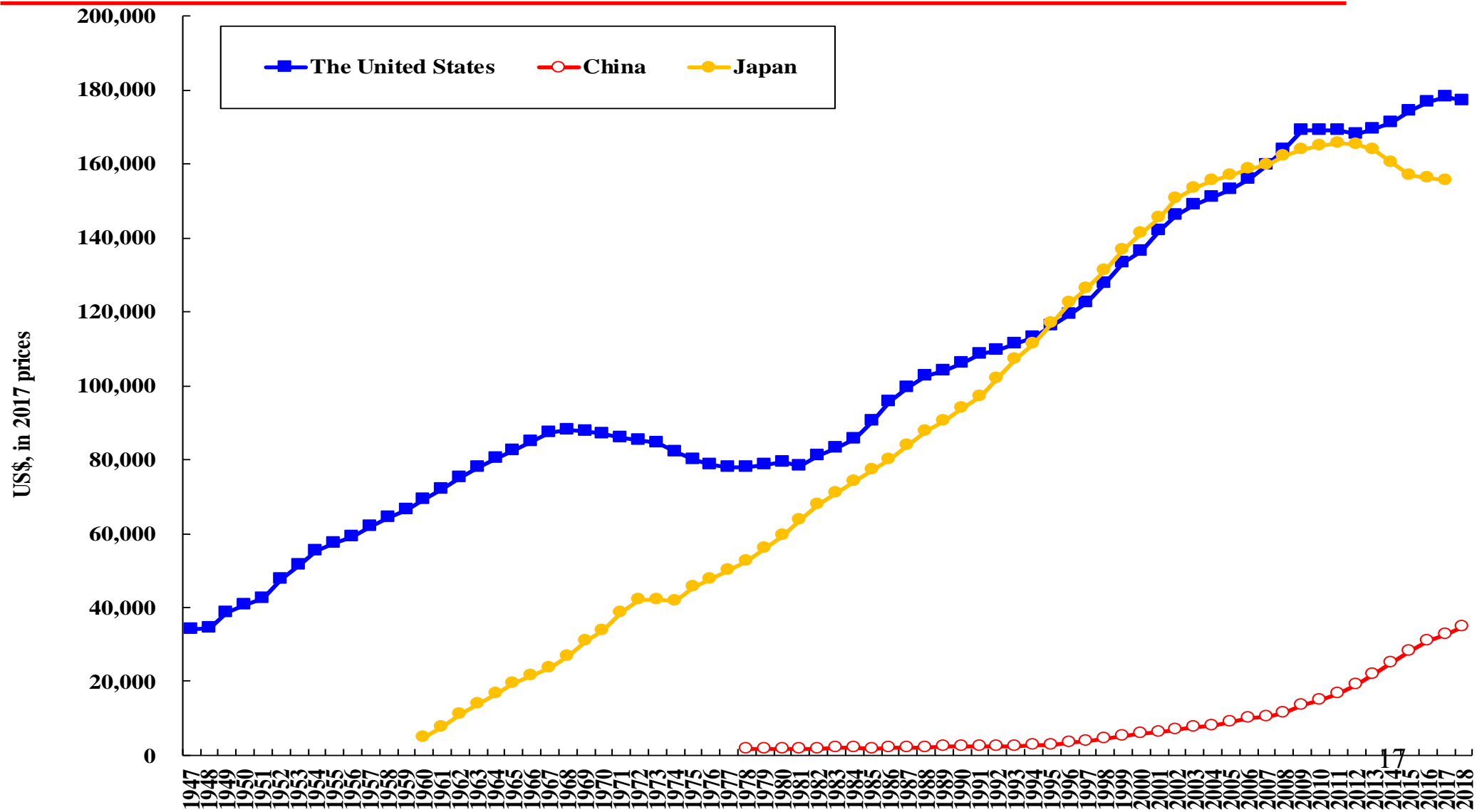**Real GDP per Capita, thousand USD, in 2018 prices**

15
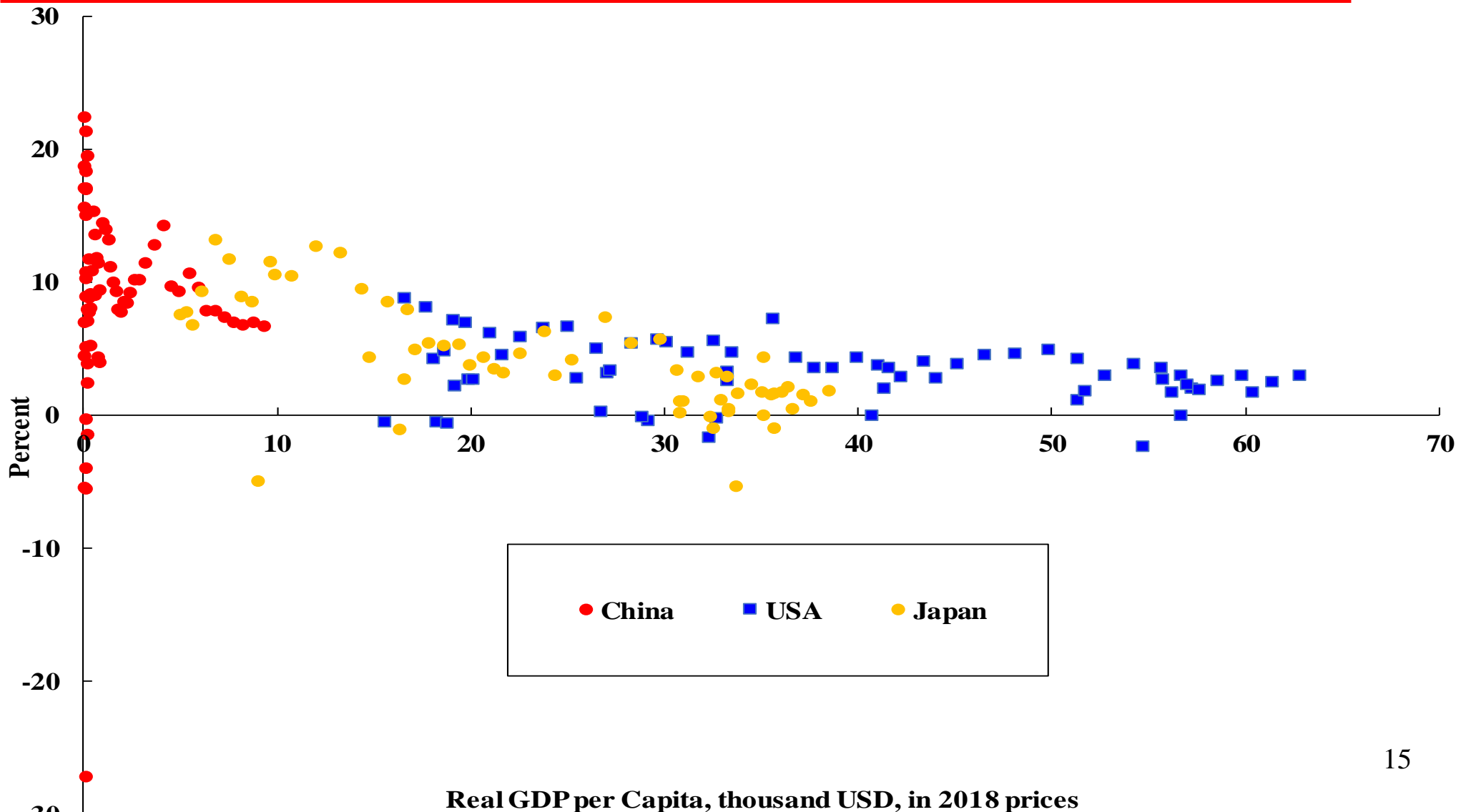
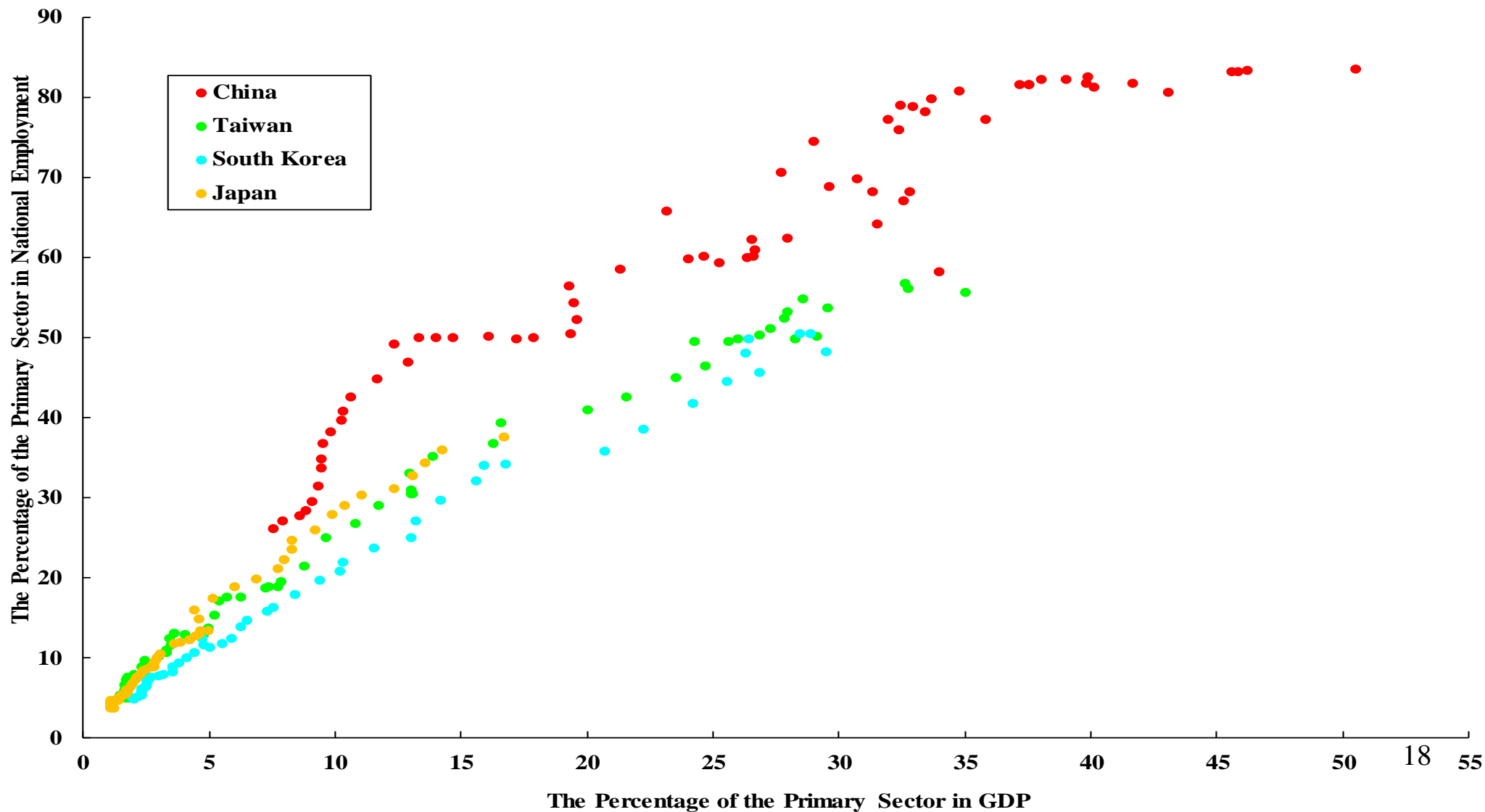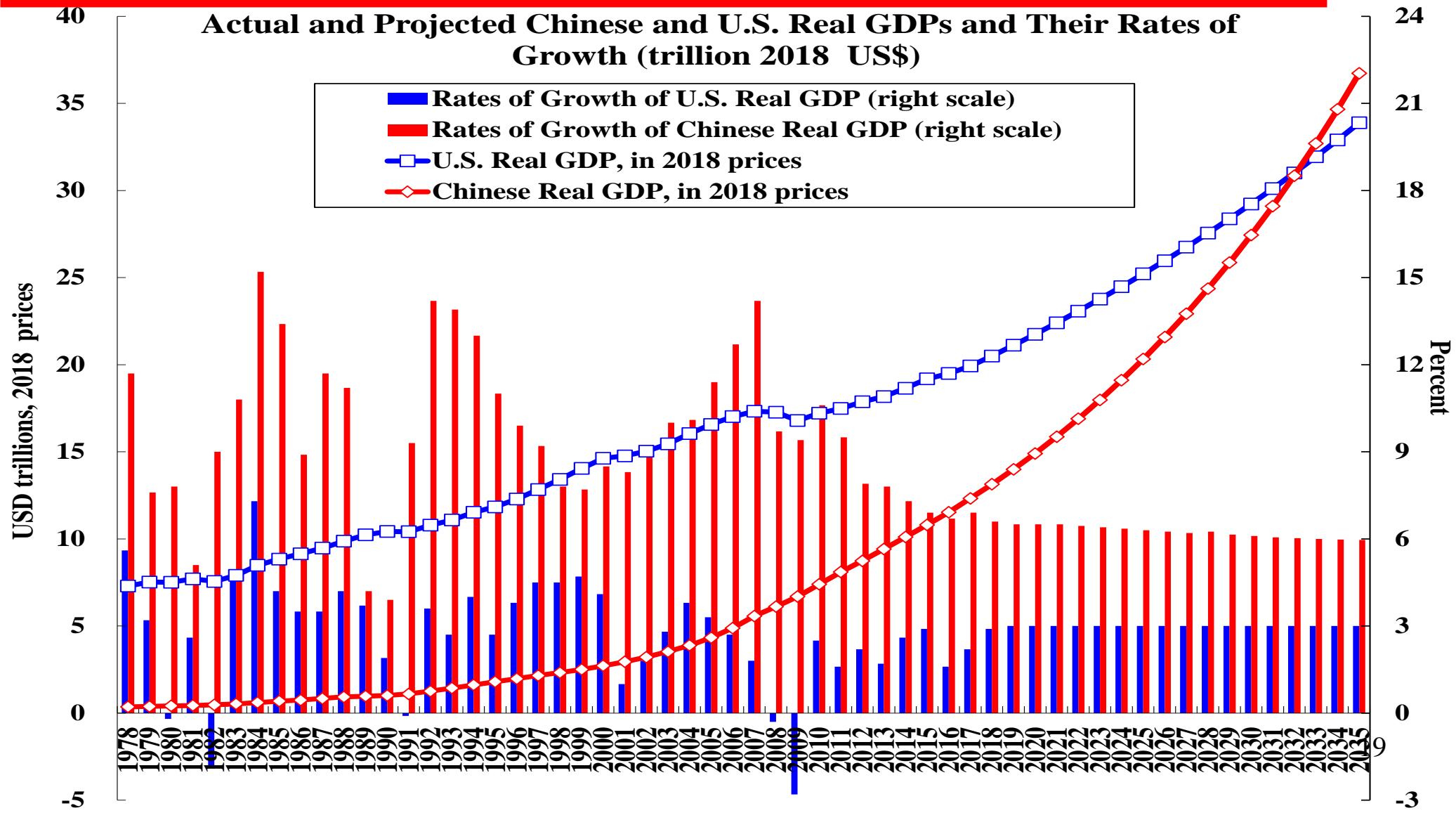# Comparison of National Savings Rates: China, Japan and the U.S.

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

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

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

Actual and Projected Chinese and U.S. Real GDPs and Their Rates of Growth (trillion 2018 US$)

Legend:
- Rates of Growth of U.S. Real GDP (right scale)
- Rates of Growth of Chinese Real GDP (right scale)
- U.S. Real GDP, in 2018 prices
- Chinese Real GDP, in 2018 prices

Y-axis (left): USD trillions, 2018 prices
Y-axis (right): Percent

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

Actual and Projected Chinese and U.S. Real GDP per Capita and Their Rates of Growth (thousand, 2018 US$)

Legend:
- Rates of Growth of U.S. Real GDP per capita (right scale)
- Rates of Growth of Chinese Real GDP per Capita (right scale)
- U.S. Real GDP per Capita, in 2018 prices
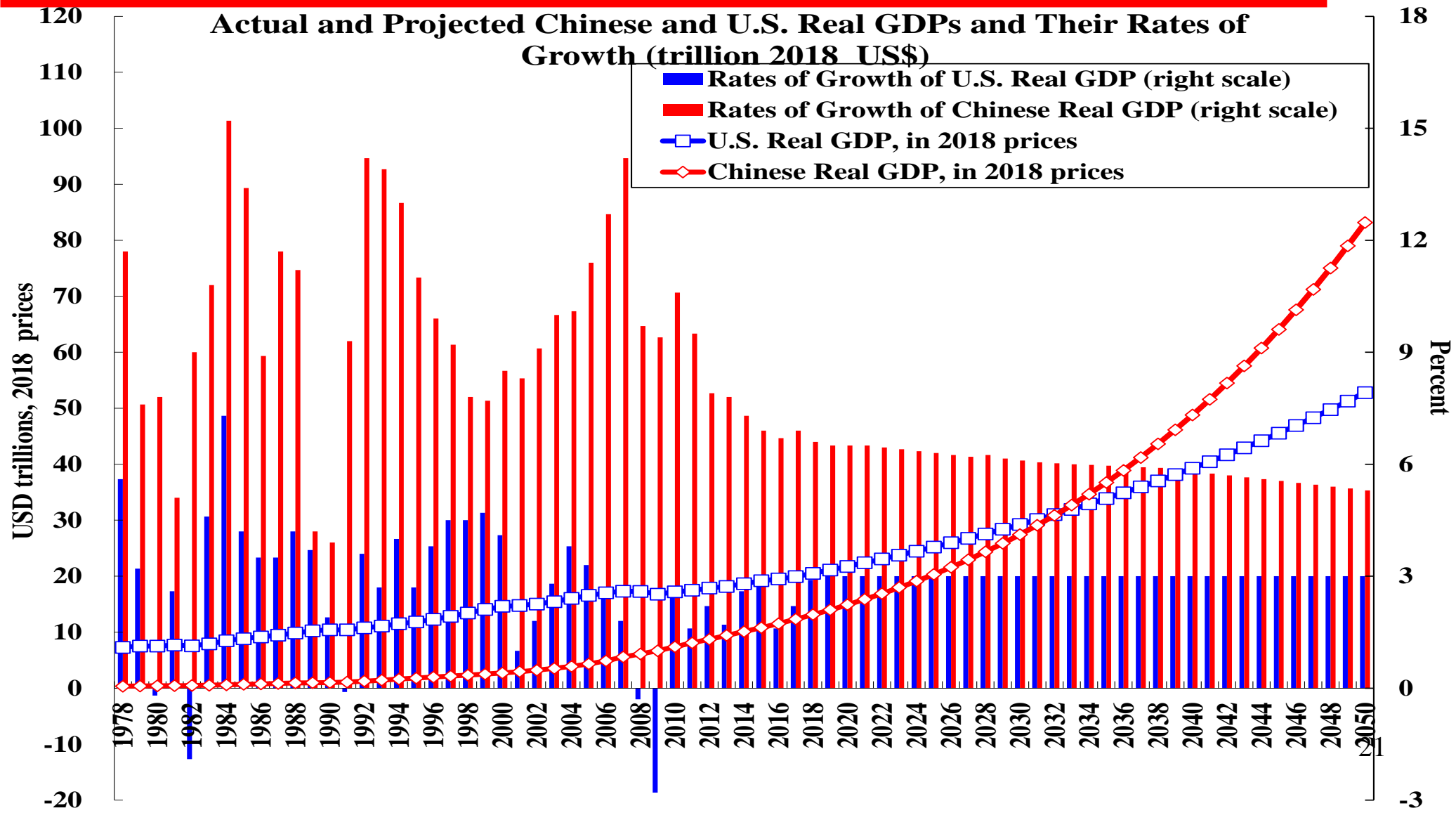- Chinese Real GDP per capita, in 2018 prices

20

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

Actual and Projected Chinese and U.S. Real GDPs and Their Rates of Growth (trillion 2018 US$)

Legend:
- Rates of Growth of U.S. Real GDP (right scale)
- Rates of Growth of Chinese Real GDP (right scale)
- U.S. Real GDP, in 2018 prices
- Chinese Real GDP, in 2018 prices

Y-axis (left): USD trillions, 2018 prices
Y-axis (right): Percent

21
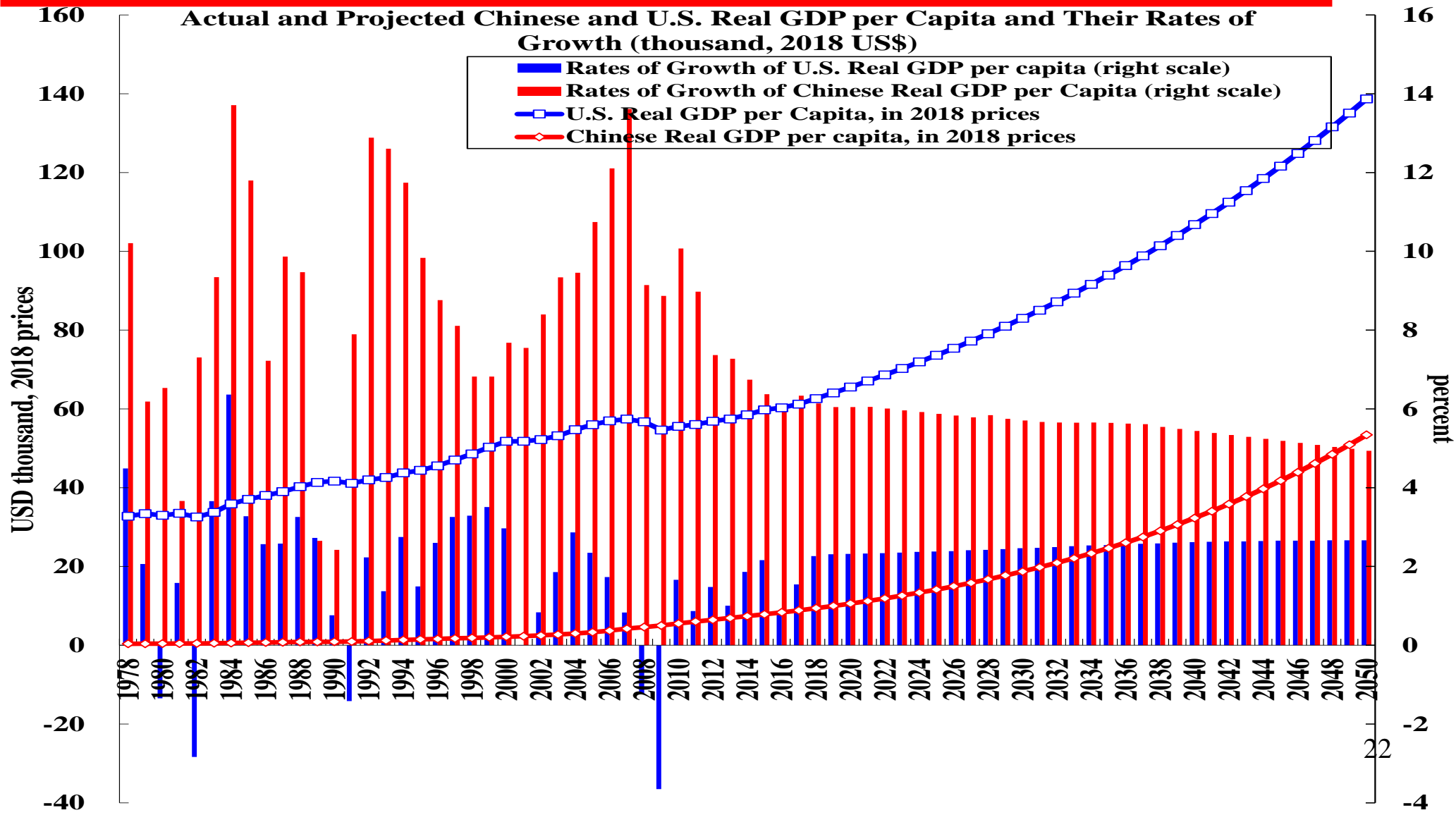
Actual and Projected Chinese and U.S. Real GDP/ Capita and Their Rates of Growth (1,000 2018 US$)

Actual and Projected Chinese and U.S. Real GDP per Capita and Their Rates of Growth (thousand, 2018 US$)

Legend:
- Rates of Growth of U.S. Real GDP per capita (right scale)
- Rates of Growth of Chinese Real GDP per Capita (right scale)
- U.S. Real GDP per Capita, in 2018 prices
- Chinese Real GDP per capita, in 2018 prices

22

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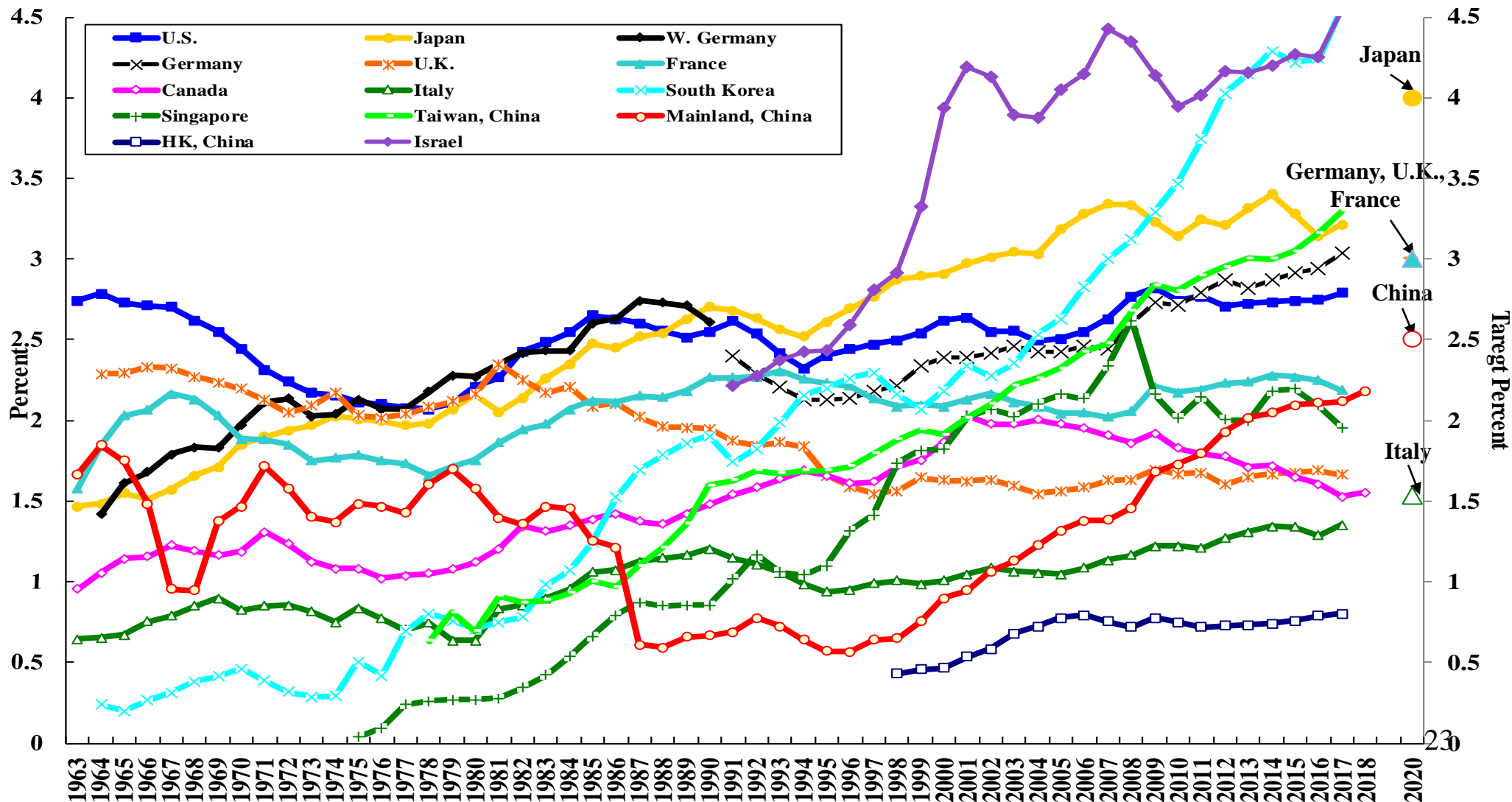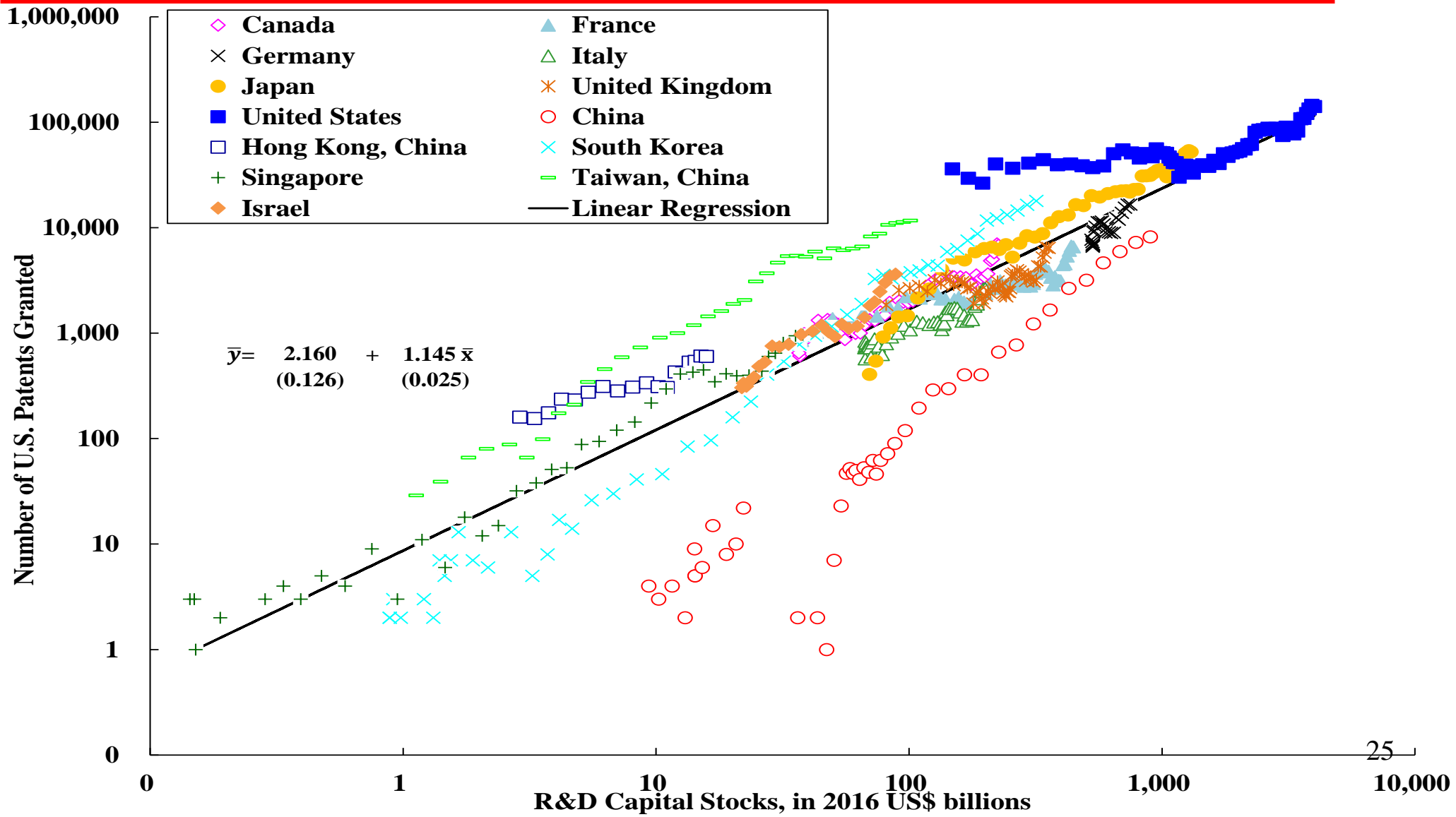
Patents Granted in the United States: G-7 Countries, 4 East Asian NIEs, China & Israel

Patents Granted in the United States: G-7 Countries, 4 East Asian NIEs, China & Israel
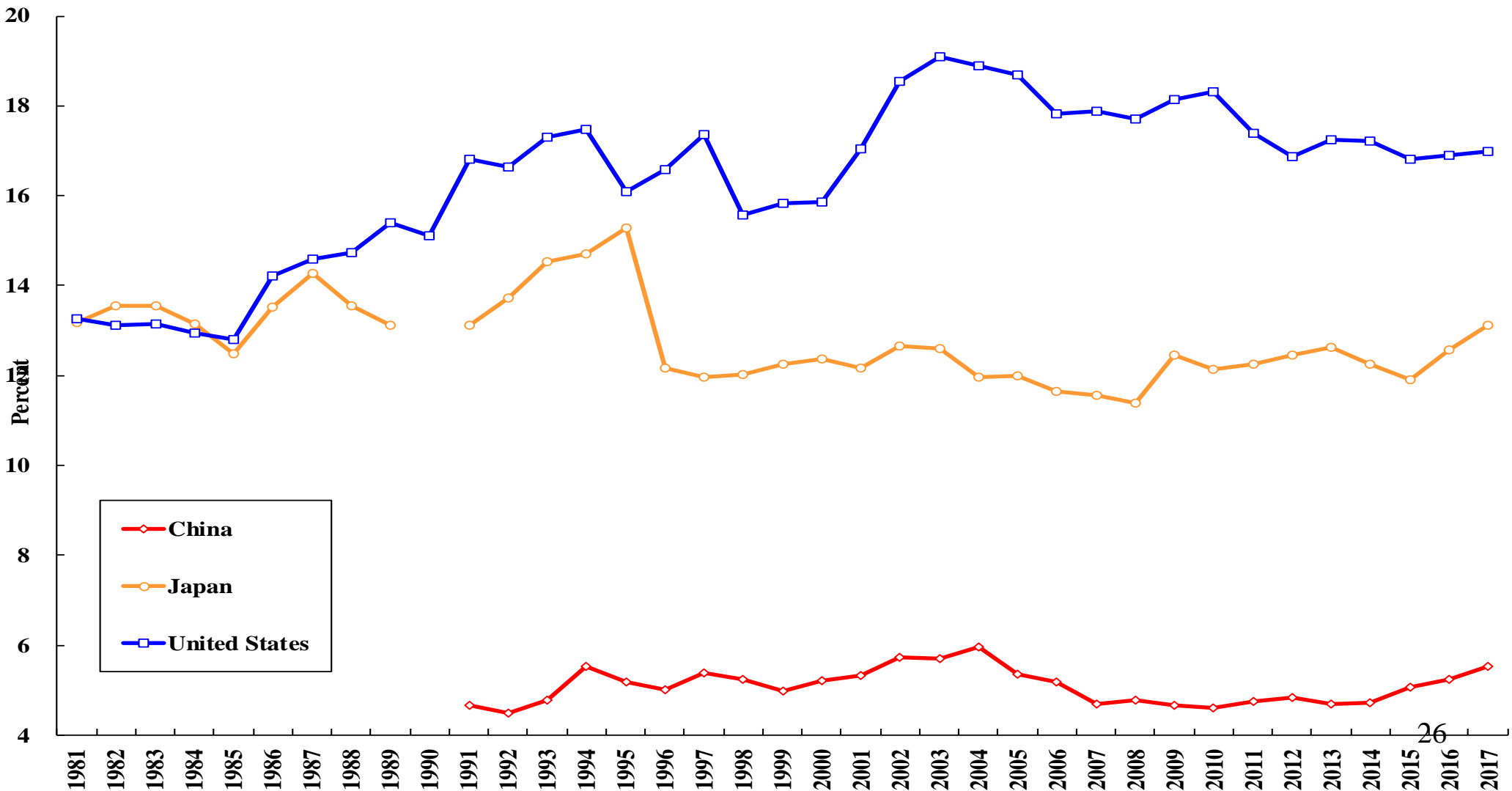
24
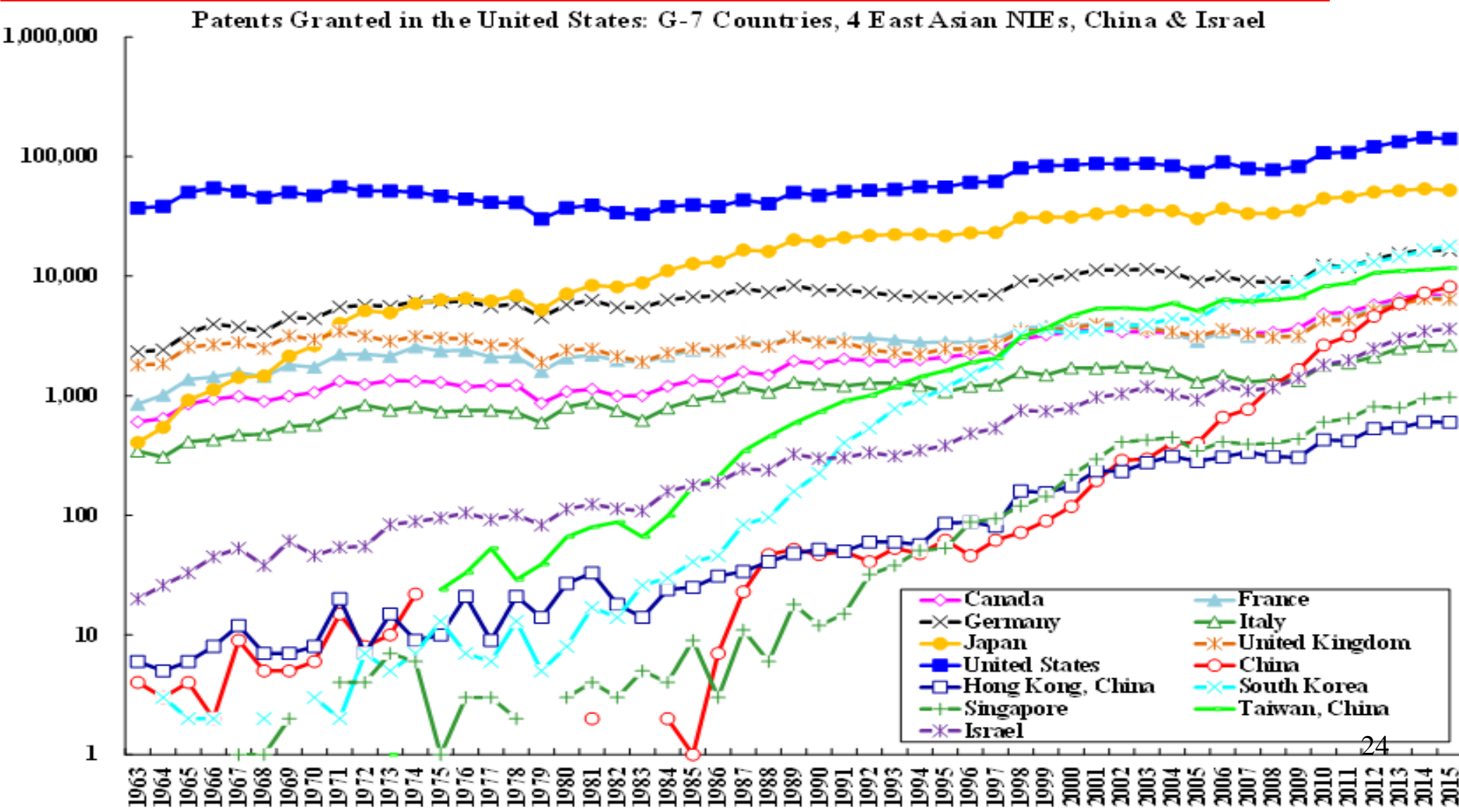
U.S. Patents Granted and R&D Capital Stocks: G-7 Countries, 4 EANIEs, China & Israel
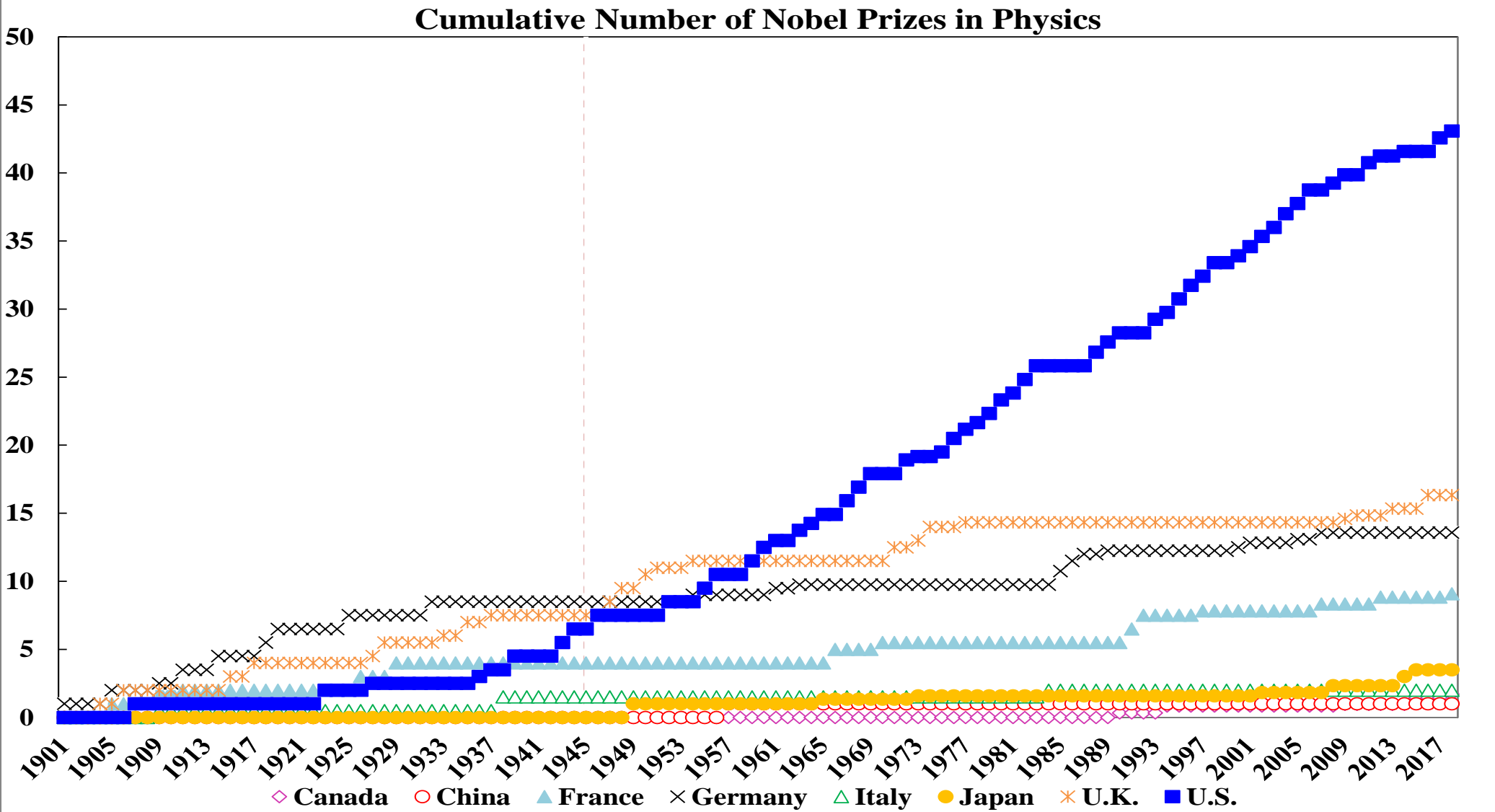
Basic Research Expenditure as a Share of Total R&D Expenditure: China, Japan and the U.S.

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

Technological Competition: Cumulative Number of Nobel Laureates in Physics

Cumulative Number of Nobel Prizes in Physics

◇ Canada   ○ China   ▲ France   ✕ Germany   △ Italy   ● Japan   ✳ U.K.   ■ U.S.

Economic Complementarities between China and the U.S.

	China			U.S.		
	2015	2016	2017	2015	2016	2017
Population, thousands persons	1,374,620	1,382,710	1,390,080	321,323	323,668	325,983
Arable land, thousand hectare	134,999	134,921	134,863	152,263	152,263	
Tangible capital stock, 2016 prices, US$ billions	21,268	23,405	25,351	26,953	27,657	28,061
Real R&D capital stock, 2016 prices, US$ billions	898	1,015	1,139	4,005	4,106	4,205
Working-age population (ages 15-64), persons	996,030,376	995,072,896	993,792,919	212,357,568	213,254,816	213,911,387

Sources:

Population, yearend for China, from National Bureau of Staistics of China (NBSC) and midyear for the U.S., the U.S. Bureau of Economic Analysis (BEA).

Arable land, for China, from the National Bureau of Statistics of China, and for the U.S. from the Food and Agriculture Organisation of the United Nations

Tangible capaital stock, estimated by Lawrence J. Lau from national income accounts data.

Real R&D capital stock, estimated by Lawrence J. Lau and Yanyan Xiong (2018).

Working-age population, from the World Bank, World Develeopment Indicators (WDI) Database.

28

Economic Complementarities between China and the U.S.

	China			U.S.		
	2015	2016	2017	2015	2016	2017
Arable land per capita, hectare	0.098	0.098	0.097	0.474	0.470	
Real capital stock per capita, in 2016 prices, US$	15,472	16,927	18,237	83,880	85,448	86,080
Real R&D capital stock per capita, in 2016 prices, US$	654	734	819	12,463	12,685	12,900

Working age population per

Concluding Remarks

◆ The competition between China and the U.S., whether friendly or unfriendly, can be assumed to be an ongoing and long-term one. It is the "new normal". The trade dispute is only a symptom of the potential possible conflicts between the two countries.

◆ 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 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.

Concluding Remarks

◆ The Chinese economy grew 6.3% in 2019H1, it should be able to achieve a real rate of growth of at least 6% for 2019 as a whole.

◆ Regardless of the ultimate outcome of the 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 couple of decades.

◆ The U.S. economy is projected to grow at 3% per annum during the same period.

◆ The Chinese economy is likely to surpass the U.S. economy in terms of aggregate real GDP at market prices in the early 2030s.

◆ 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

◆ In the long run, if China and the U.S. cooperate and work together, many global problems such as prevention of climate change, denuclearisation, and the economic development of Africa, can be solved.

◆ China and the U.S. can both collaborate and compete in finding cures for diseases such as cancer and Alzheimer's disease, and every country in the world will benefit from it.

◆ The U.S. can invite China to participate in the exploration of Mars and share in the cost, which has been estimated to be hundreds of billions of U.S. dollars.

◆ If the two countries compete in a friendly way, much innovation is possible, as in the competition to build the fastest super-computer. The two countries should aim to become **competitive partners**!