# 在不確定世界中保持經濟穩定

# Maintaining Economic Stability in an Uncertain World

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

Economics Daily Fiftieth Anniversary Forum
Taipei, 20 April 2017

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.

# Outline

- Introduction
- Global Economic Trends and Uncertainties
- Maintaining Economic Stability
- Concluding Remarks

# Introduction

- In this world of rapid changes and almost instantaneous capital flows, potential crises, financial and otherwise, are legion. It should be the objective of any government to try to maintain full and stable employment, stable prices and stable exchange rates in the face of these rapid changes and uncertainties.
- It is much more important for a government to maintain the stability of employment than the stability of the rate of growth of real GDP (境內生產總值).
- Maintaining the stability of the rate of growth of real GDP is in turn more important than maintaining the stability of the rate of growth of real GNP (國民生產總值) .

# Introduction

- What is the difference between GNP (國民生產總值) and GDP (境內生產總值)? GNP measures the value of all goods and services created by the nationals of a country, whether domestically or abroad. GDP measures the value of all goods and services created within the geographical boundaries of a country regardless of the nationality of the creator.
- Take Apple for example: All the profits made by Apple worldwide is part of U.S. GNP, but only the actual value-added within the U.S. itself is U.S. GDP. The U.S. GNP created by Apple is much greater than the U.S. GDP created. In particular, the royalties and license fees paid to Apple are part of the GDP of the Republic of Ireland because these patents have been assigned to an Apple subsidiary in Ireland.
- GDP creates domestic employment. GNP creates domestic employment only insofar as it is also GDP.

# Global Economic Trends and Uncertainties

- The Shifting of the Center of Gravity of the World Economy
- The Slowdown in Growth of World GDP and International Trade
- The Partial De-Coupling Hypothesis
- De-Globalization
- The Rising Importance of Intangible Capital
- The Price of Oil
- The Limits of Monetary Policy
- The Normalization of U.S. Interest Rates
- The Trumpenomics
- The Geo-Political Uncertainties

# Global Economic Trends and Uncertainties: The Shifting Center of Gravity of the World

- The most important development in the global economy during the past four decades is the reform and opening of the Chinese economy and its participation in the world.
- As a result, the center of gravity of the global economy, in terms of both GDP and international trade, has been gradually shifting from North America and Western Europe to East Asia, and within East Asia from Japan to China.
- The shift is still on-going. With both China and India being the fastest-growing economies in the world, the share of the U.S. and Europe in world GDP will decline even more over time.

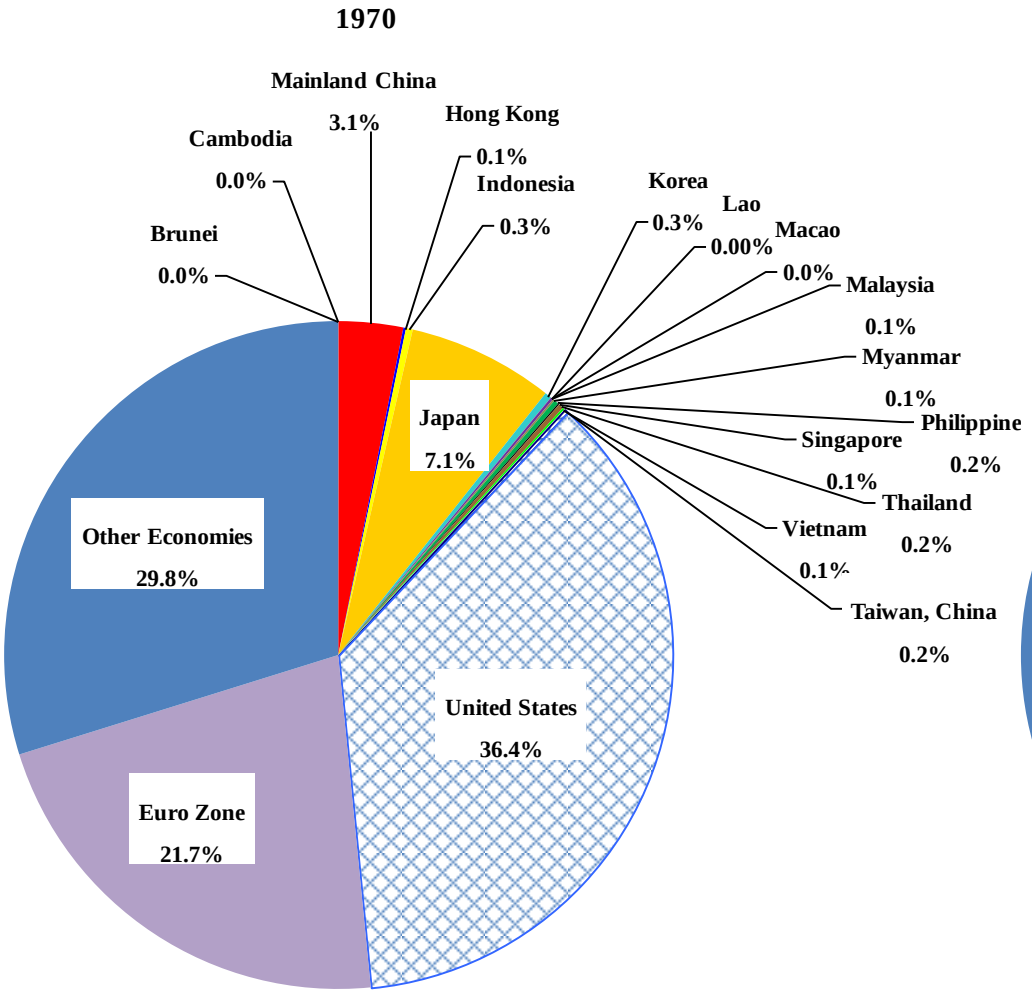
# Global Economic Trends and Uncertainties: The Shifting Center of Gravity of the World

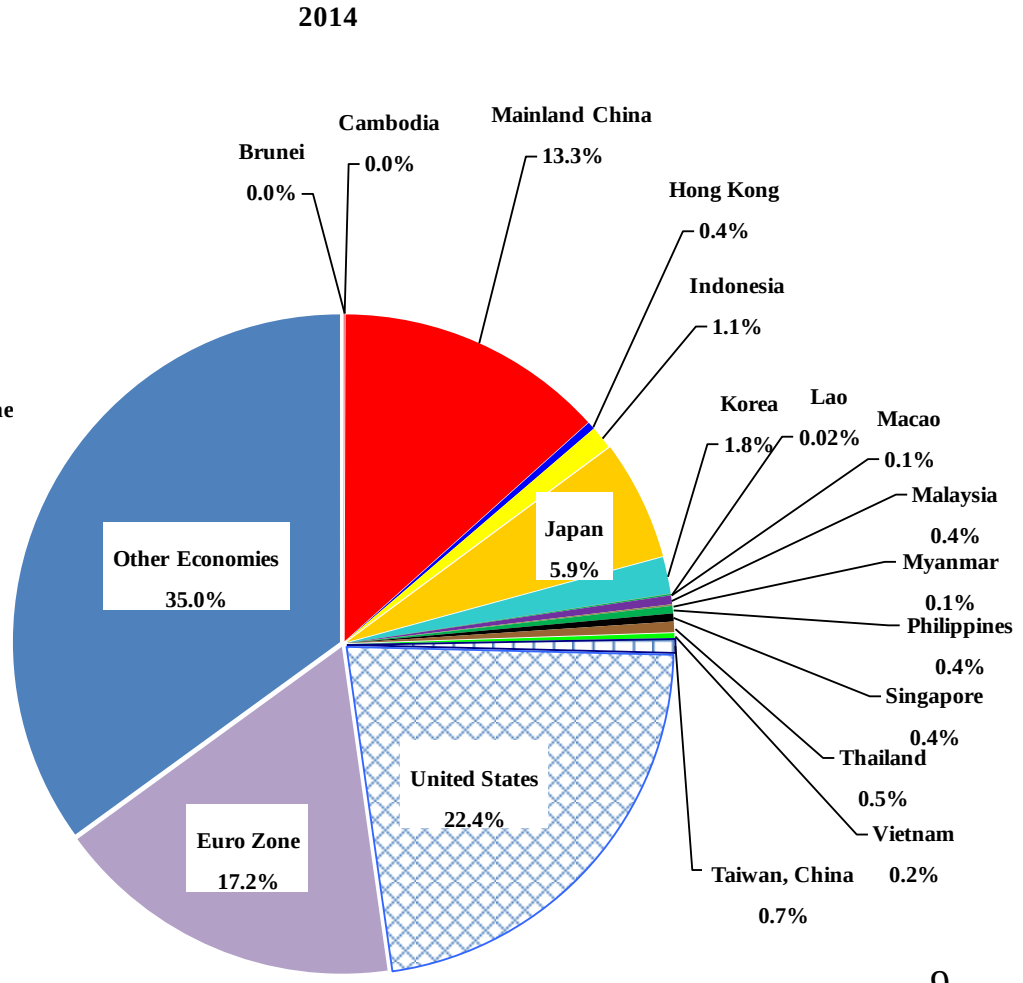
- In 1970, the United States and Western Europe together accounted for almost 60% of World GDP. By comparison, East Asia (defined as the 10 Association of Southeast Asian Nations (ASEAN)--Brunei, Cambodia, Indonesia, Laos, Malaysia, Myanmar, Philippines, Singapore, Thailand, and Vietnam--+ 3 (China including Hong Kong Macau and Taiwan, Japan and the Republic of Korea)) accounted for approximately 10% of World GDP.
- Hong Kong, Republic of Korea, Singapore and Taiwan are also known collectively as the East Asian "Newly Industrialised Economies (NIEs)".

# Global Economic Trends and Uncertainties: The Shifting Center of Gravity of the World

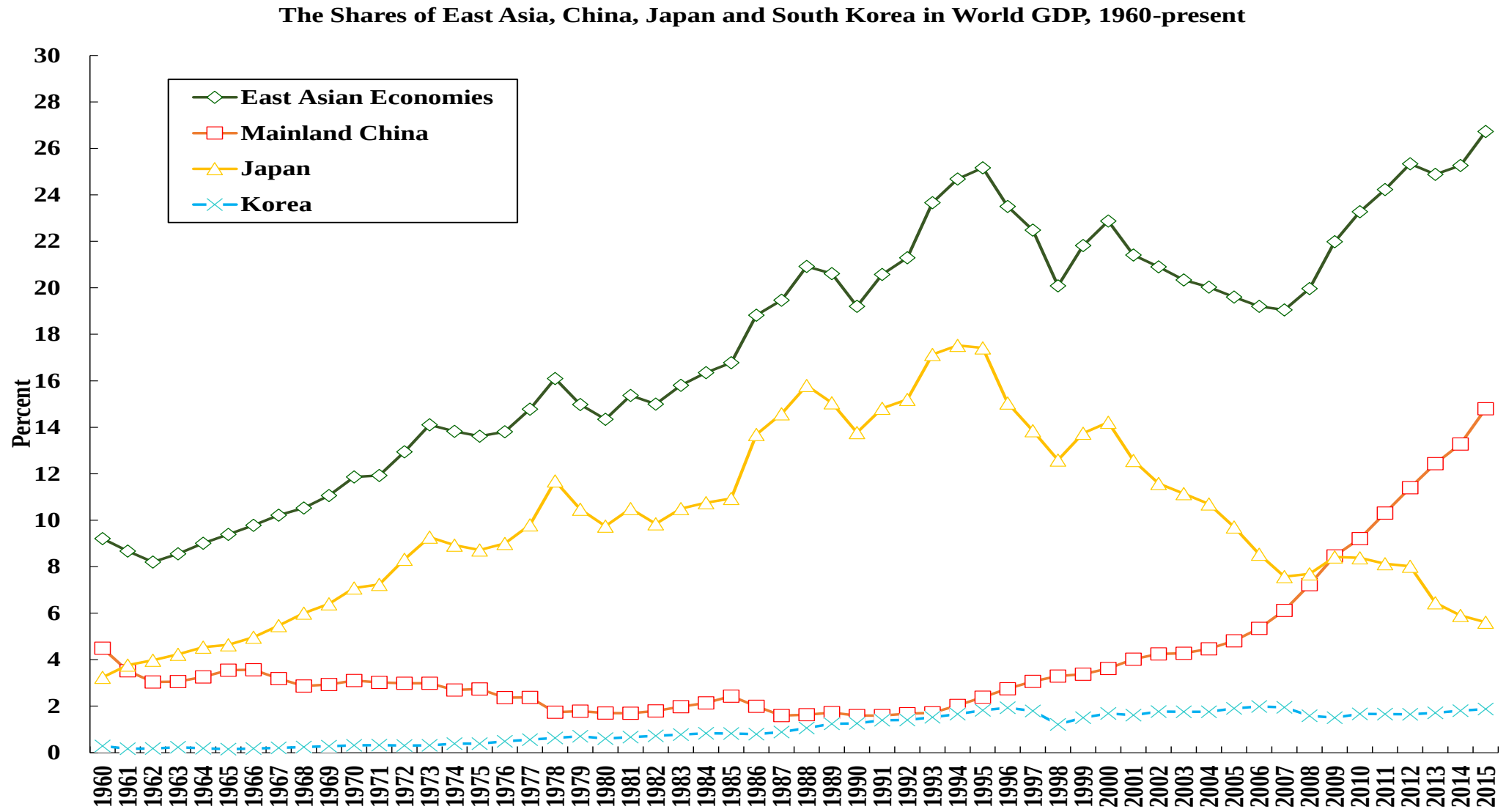
- By 2014, the share of United States and Western Europe in World GDP has declined to approximately 40% whereas the share of East Asia has risen to around 25%.
- The Japanese share of World GDP declined from a peak of almost 18% in the mid-1990s to 6.5% in 2014 while the Mainland Chinese share of World GDP rose from 3.1% in 1970 and less than 4% in 2000 to over 13% in 2014.

# The Distribution of World GDP, 1970 and 2014, US$

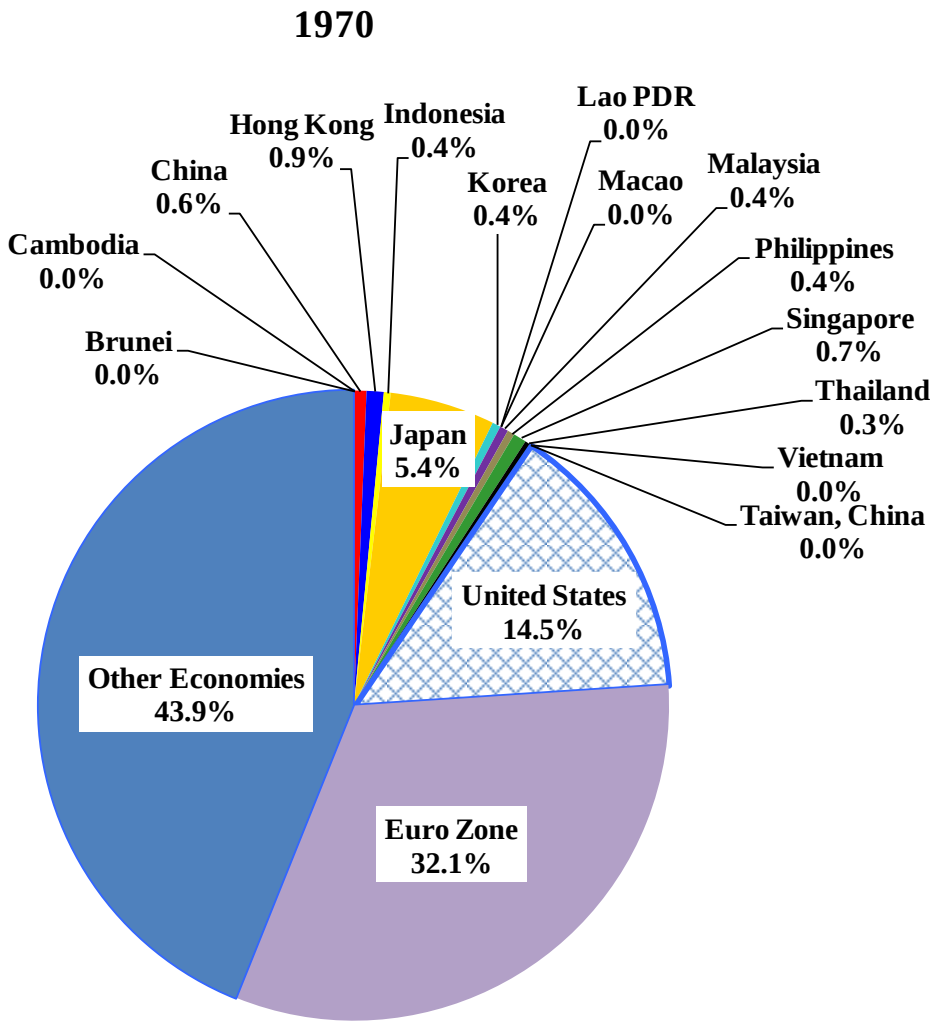


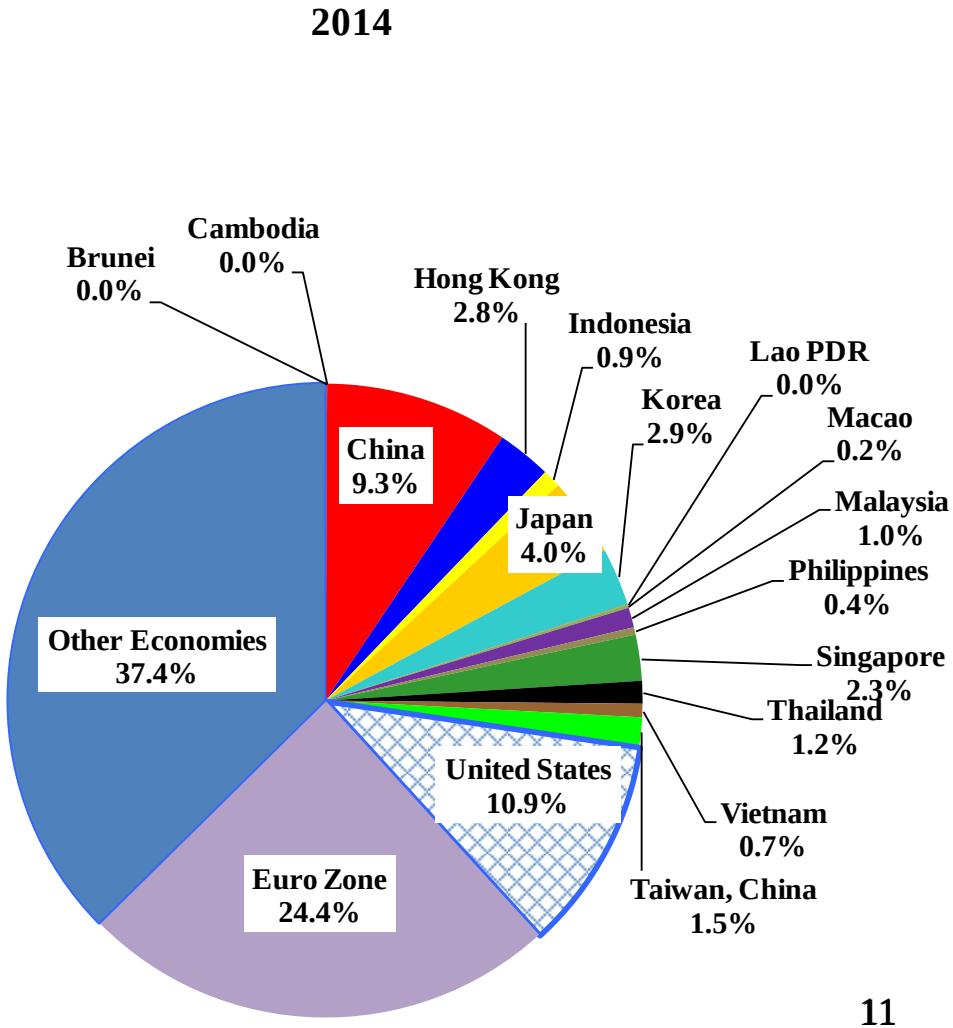



# The Shares of East Asia, China, Japan and South Korea in World GDP, 1960-present



# The Distribution of Total International Trade in Goods and Services, 1970 and 2014

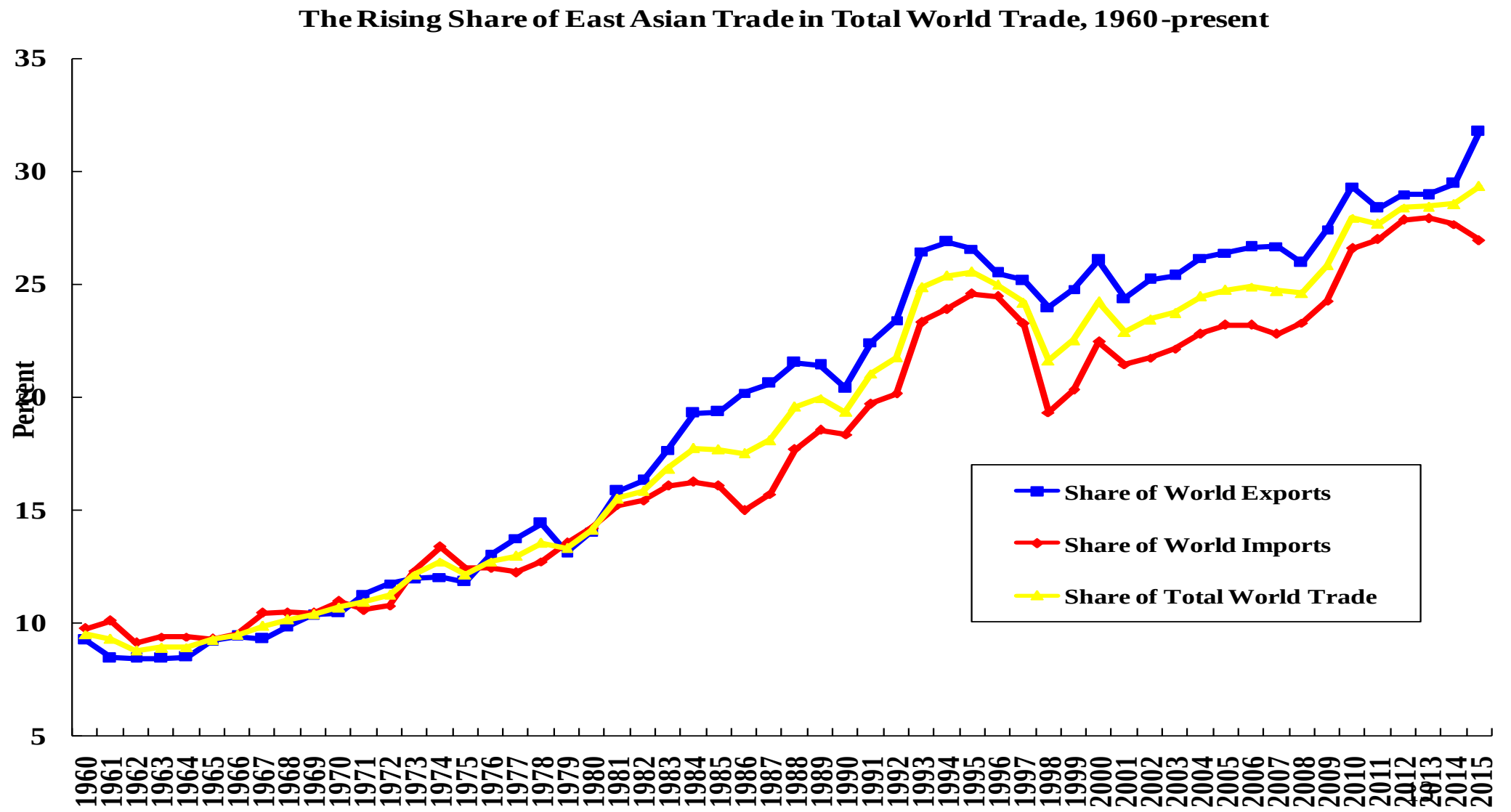


# Global Economic Trends and Uncertainties: The Shifting Center of Gravity of the World

- In 1970, the United States and Western Europe together accounted for almost 46.6% of world trade in goods and services. By comparison, East Asia accounted for 9.5% of world trade.
- By 2014, the share of United States and Western Europe in world trade has declined to 35.1% whereas the share of East Asia has risen to almost 27.3%.
- The Chinese share of world trade rose from 0.6% in 1970 to 9.3% in 2014 and to over 10% in 2015. The growth in Chinese international trade may be attributed in part to the reform of the Chinese exchange rate system in the early 1990s, which was accompanied by a significant devaluation of the Renminbi, and to Chinese accession to the World Trade Organisation in the 2001.
- In 2015, China has also become the largest trading partner country of the U.S., surpassing Canada.

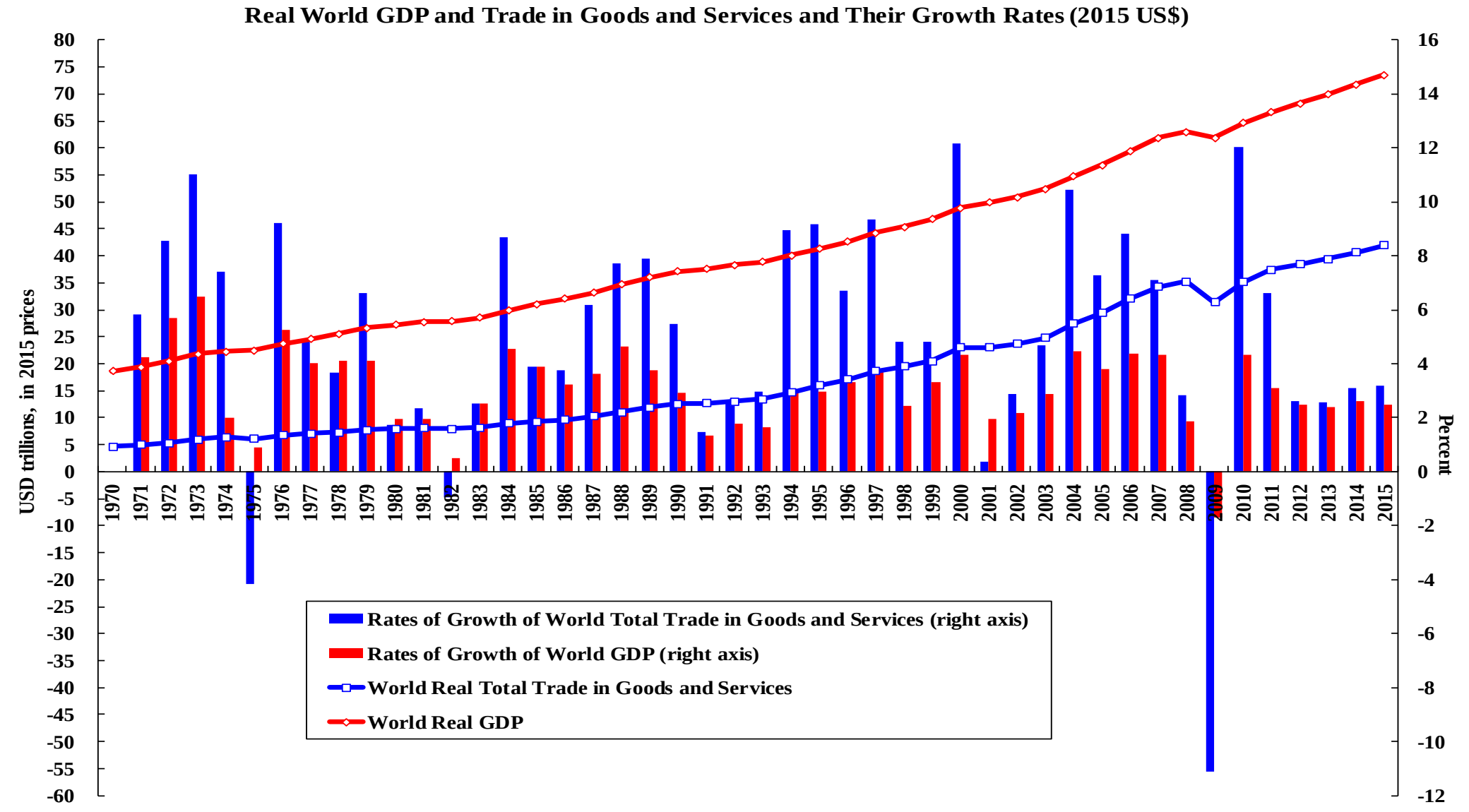
# The Rising Share of East Asian Trade in Total World Trade, 1960-present



# Global Economic Trends and Uncertainties: The Slowdown in the Growth of GDP & Trade

- The growth of world trade led and propelled the growth of world GDP since the 1970s. However, since the global financial crisis that began with the U.S. sub-prime loan crisis in 2007, the growth of world trade has slowed significantly to the same rate of growth of world GDP. (For the value of world trade in nominal terms, the recent fall in the world price of oil is an important factor.)
- At the same time, the growth of world GDP has also slowed down from its historical trend rate. Recently the International Monetary Fund projected that World GDP would grow at 3.5% in 2017 and 3.6% in 2018.

# Real World GDP and Trade in Goods and Services and Their Growth Rates (2015 US$)

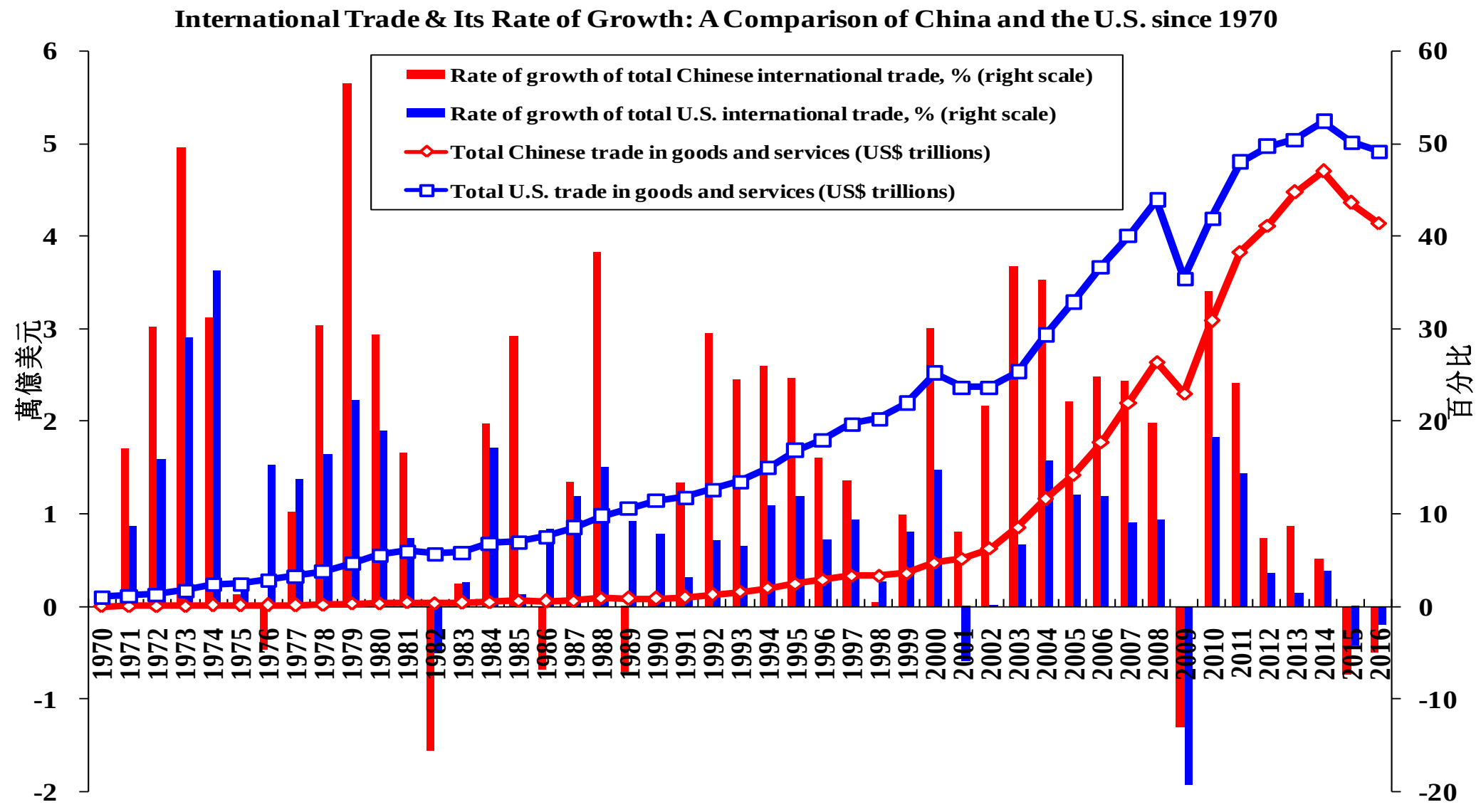


# Global Economic Trends and Uncertainties: The Slowdown in the Growth of GDP & Trade

- The IMF forecast for the U.S. for 2017 is 2.3%. Growth forecasts for Europe and Japan have remained at between 1% and 2%. The outlook for the developing economies is slightly better, with China projected to grow at 6.5% (6.6% by the IMF) and India to grow at 7% or higher.
- The ratio of world trade to world GDP has stalled since 2007 and has begun a gradual decline. The IMF forecast the growth of world trade in 2017 to be 4%, slightly higher than the projected rate of growth of world GDP in 2017. For both the U.S. and China, the two largest trading economies in the world, total value of trade has fallen in both 015 and 2016.

# Total World Trade in Goods and Services as a Percentage of World GDP since 1960

# Chinese and U.S. International Trade and Their Respective Rates of Growth since 1970



# Global Economic Trends and Uncertainties: The Partial De-Coupling Hypothesis

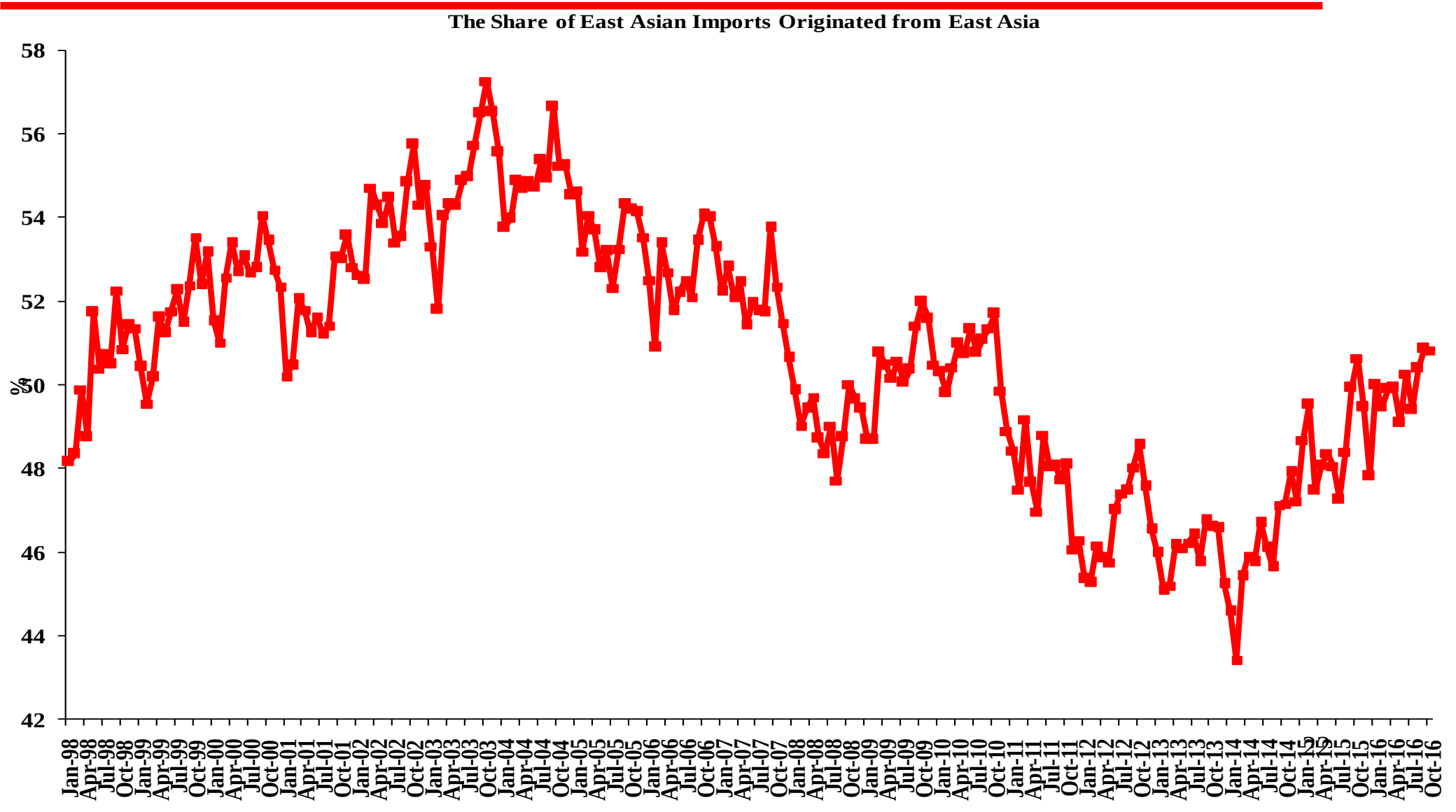
- Throughout the 2007-2009 global financial crisis, as well as the subsequent European sovereign debt crisis, the East Asian economies continued to do reasonably well. China, in particular, has been able to maintain its real rate of growth above 6.5% since 2007, lending credence to the "Partial De-Coupling Hypothesis", that is, the Chinese and East Asian economies can continue to grow, albeit at lower rates, even as the U.S. and European economies go into economic recession.
- This partial de-coupling can occur because of the gradual shift of the economic center of gravity of the world from the United States and Western Europe to Asia (including both East Asia and South Asia) over the past four decades.

# Global Economic Trends and Uncertainties: The Partial De-Coupling Hypothesis

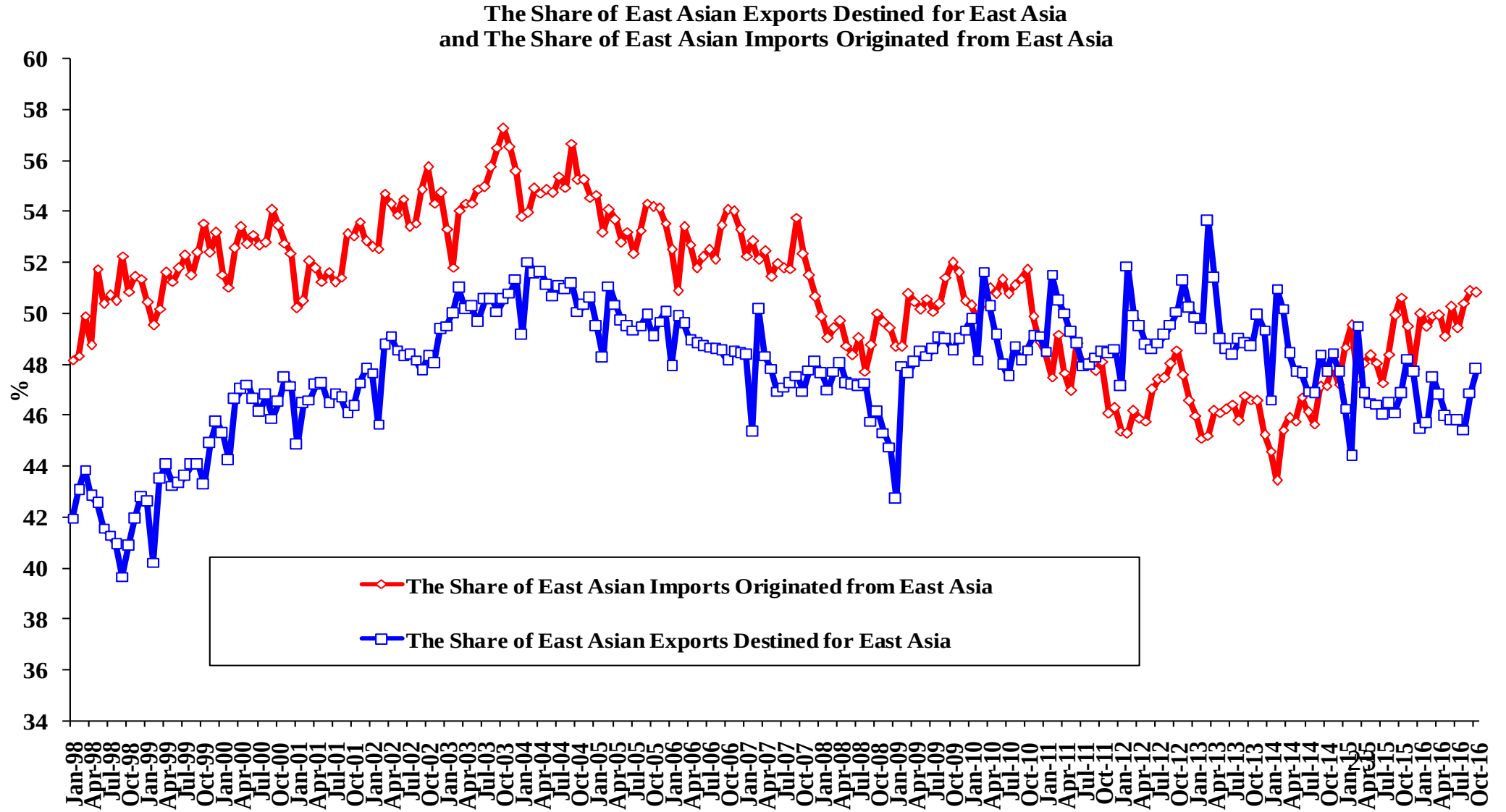
- A particularly interesting development is the rise in intra-East Asian international trade. The share of East Asian trade destined for East Asia has risen to almost 50%. This is a sea-change compared to 30 years ago when most of the East Asian exports was destined for either the United States or Western Europe.
- Similarly, the share of East Asian imports originated from East Asia has remained above 50%.

# The Share of East Asian Exports Destined for East Asia

# The Share of East Asian Imports Originated from East Asia



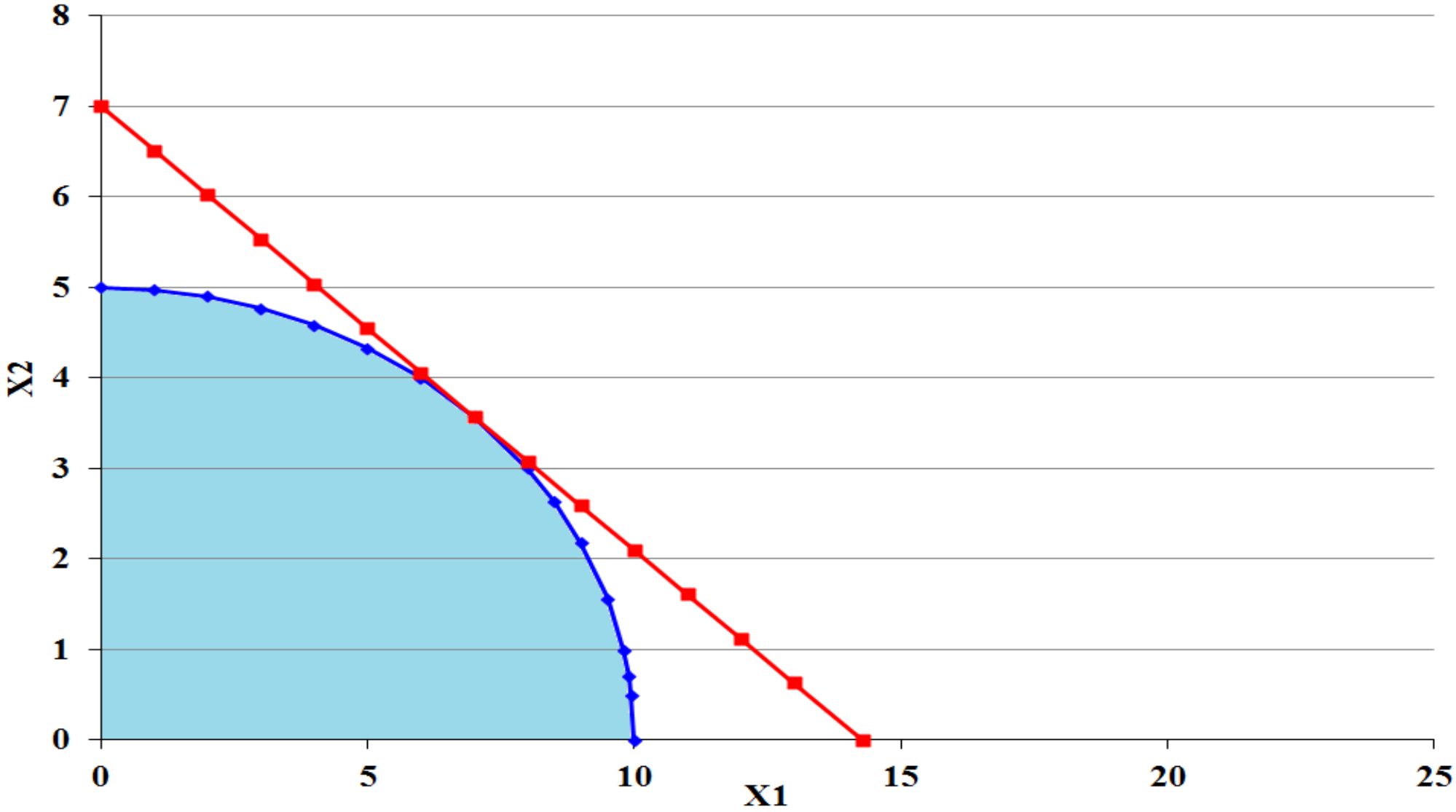
# The Share of East Asian Exports Destined for & the Share of East Asian Imports Originated from E. Asia



# Global Economic Trends and Uncertainties: De-Globalization

- Globalization brings benefits to all countries which participate in the world economy. Consider the following chart. The area shaded in blue is the set of production possibilities of the economy and hence is also the set of consumption possibilities under autarky (that is, no trade with the rest of the world). With trade, the set of consumption possibilities becomes the triangle bounded by the red line (the international price line) and the two axes.
- Clearly the new consumption possibilities set properly contains the old consumption possibilities set. Thus, the economy must be better off because not only does it have all the previously available consumption possibilities to choose from but it also has choices previously unavailable to it.

# The Sets of Consumption Possibilities under Autarky and with International Trade



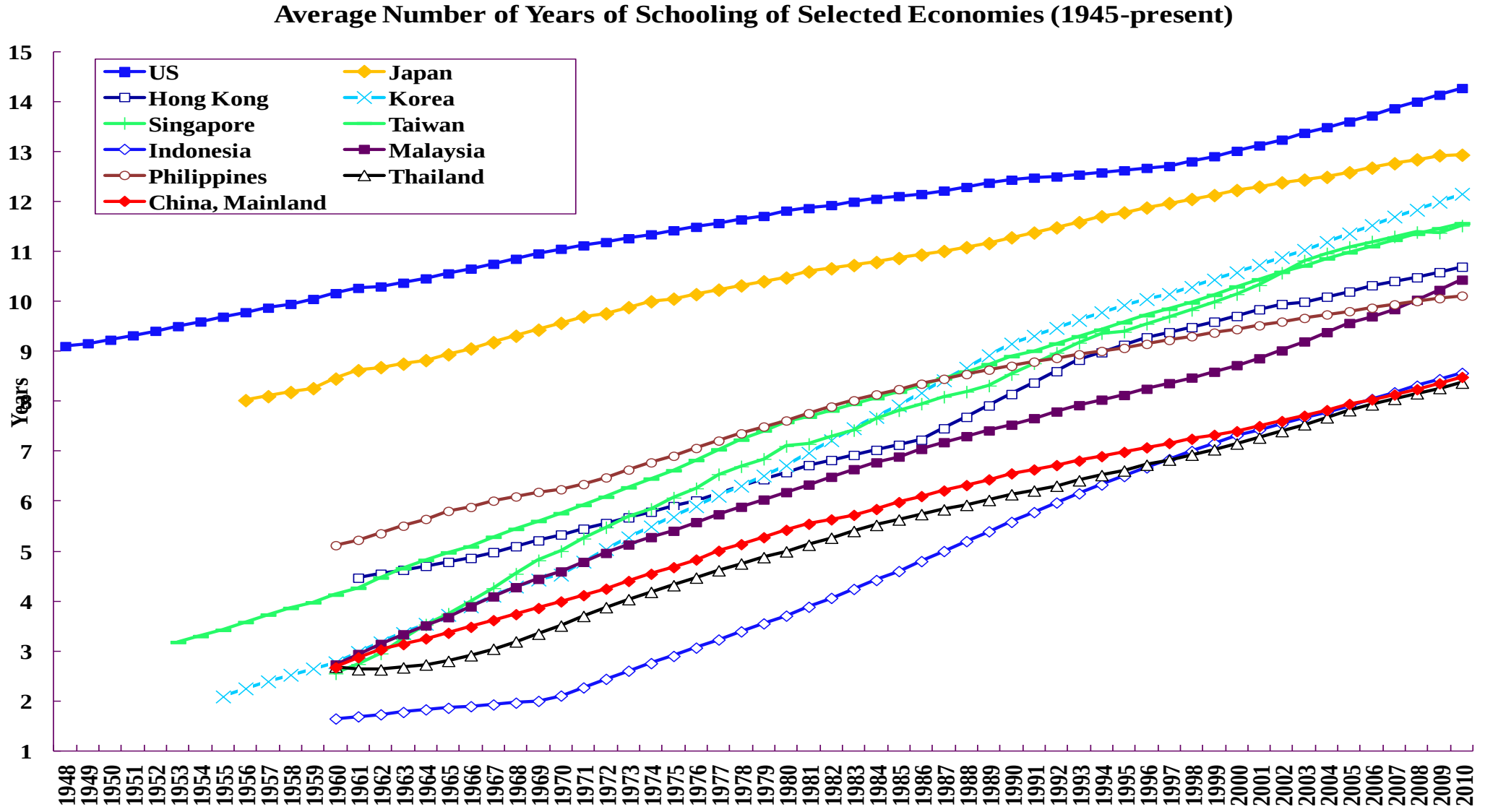
# Global Economic Trends and Uncertainties: De-Globalization

- However, even though the economy is better off as a whole, winners and losers will be created in the economy as a result of trade. The losers will not be automatically compensated by the winners through the markets. Government intervention is necessary to make sure that there are no net losers.
- Moreover, the "Factor-Price Equalization Theorem" of the late Prof. Paul A. Samuelson (Nobel Laureate in Economic Sciences) suggests that the wage rate of unskilled labor will fall to the lowest level in a globalized world (in the absence of transport costs). This has occurred in many economies, including the U.S., Taiwan and Hong Kong.
- The economy of Taiwan has been a significant beneficiary of globalization both directly and indirectly. It is in the interests of Taiwan to resist and fight the de-globalization movement.

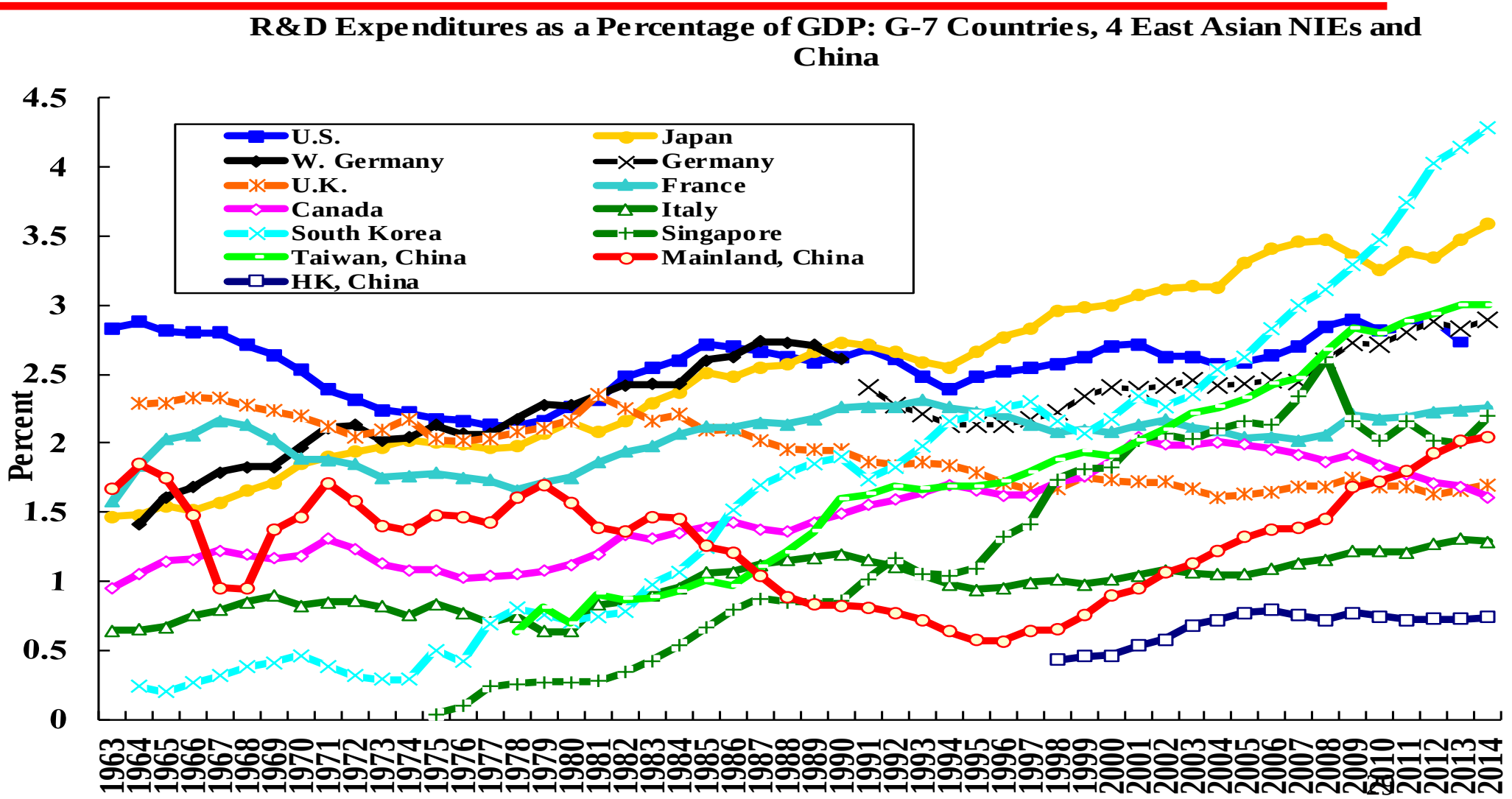
# Global Economic Trends and Uncertainties: The Rising Importance of Intangible Capital

- Innovation is the most important driving force of economic growth today, especially for mature economies with their already-high capital-labor ratios and little growth in labor.
- Sustained investment in intangible capital such as human capital and research and development (R&D) is essential for the occurrence of technical progress or growth in total factor productivity in an economy.
- One indicator of the level of human capital in an economy is the average number of years of schooling per person in the working-age population. In the following chart, the average number of years of schooling is compared across selected economies.
- By this measure, the United States and Japan are clearly the global leaders. South Korea and Taiwan have also been catching up fast. Most of the other East Asian economies also have quite rapidly increasing levels of human capital but it will take a while before they can catch up with the levels of human capital in the developed economies.
- R&D expenditure as a percent of GDP also shows similar trends.

# Average Number of Years of Schooling of Selected Economies (1948-present)



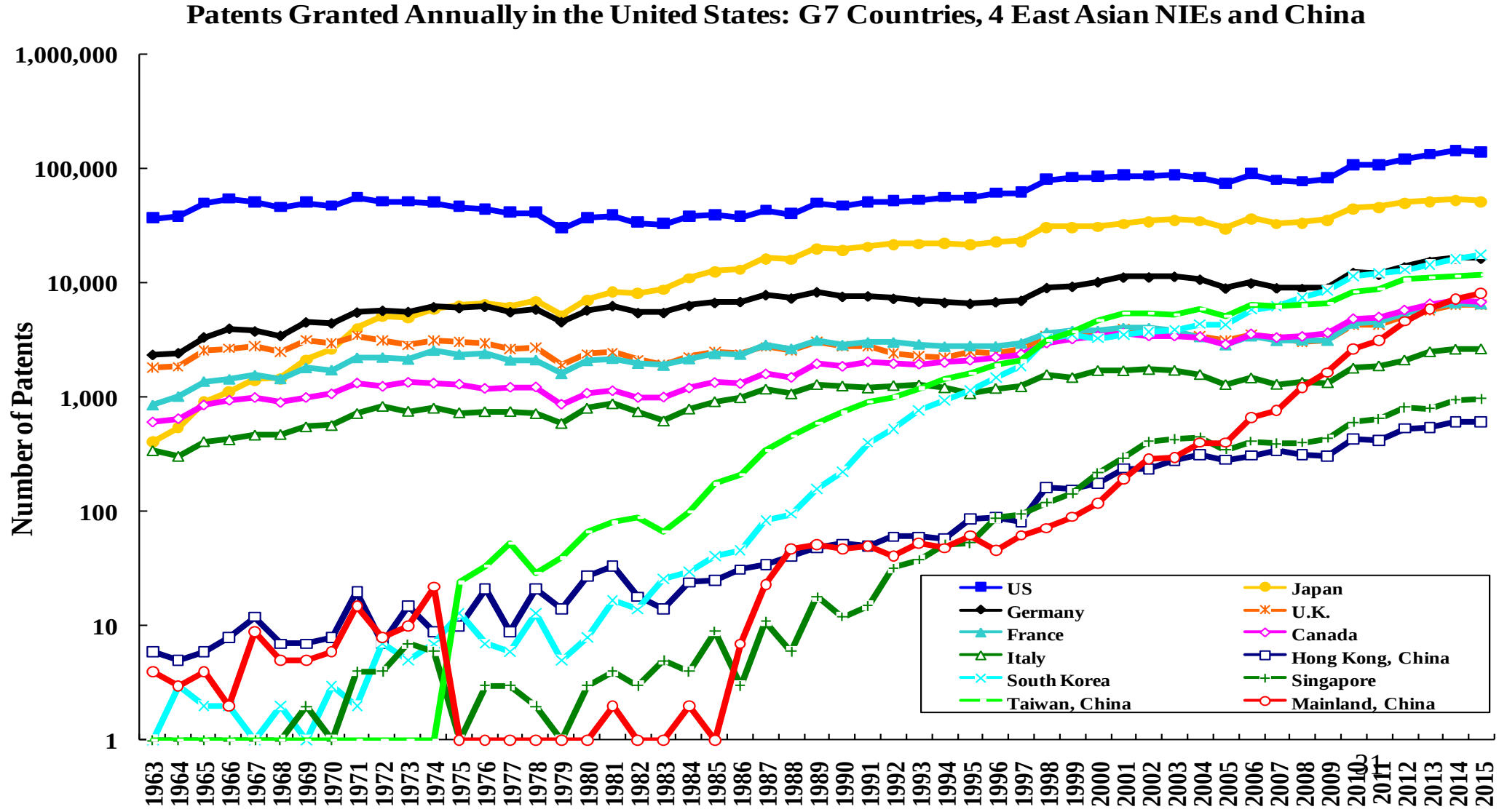
# R&D Expenditures as a Percent of GDP: G-7 Countries, 4 East Asian NIES & China



# Global Economic Trends and Uncertainties: The Rising Importance of Intangible Capital

- One indicator of the potential for technical progress (national innovative capacity) is the number of patents created each year. In the following chart, the number of patents granted in the United States each year to the nationals of different countries, including the U.S. itself, over time is presented.
- The U.S. is the undisputed champion over the past forty years, with 140,969 patents granted in 2015, followed by Japan, with 52,409. (Since these are patents granted in the U.S., the U.S. may have a home advantage; however, for all the other countries and regions, the comparison across them should be fair.)
- The number of patents granted to Mainland Chinese applicants each year has increased from the single-digit levels prior to the mid-1980s to 8,166 in 2015.
- The economies of South Korea and Taiwan, granted 17,924 and 11,690 U.S. patents respectively in 2015, are still far ahead of Mainland China.

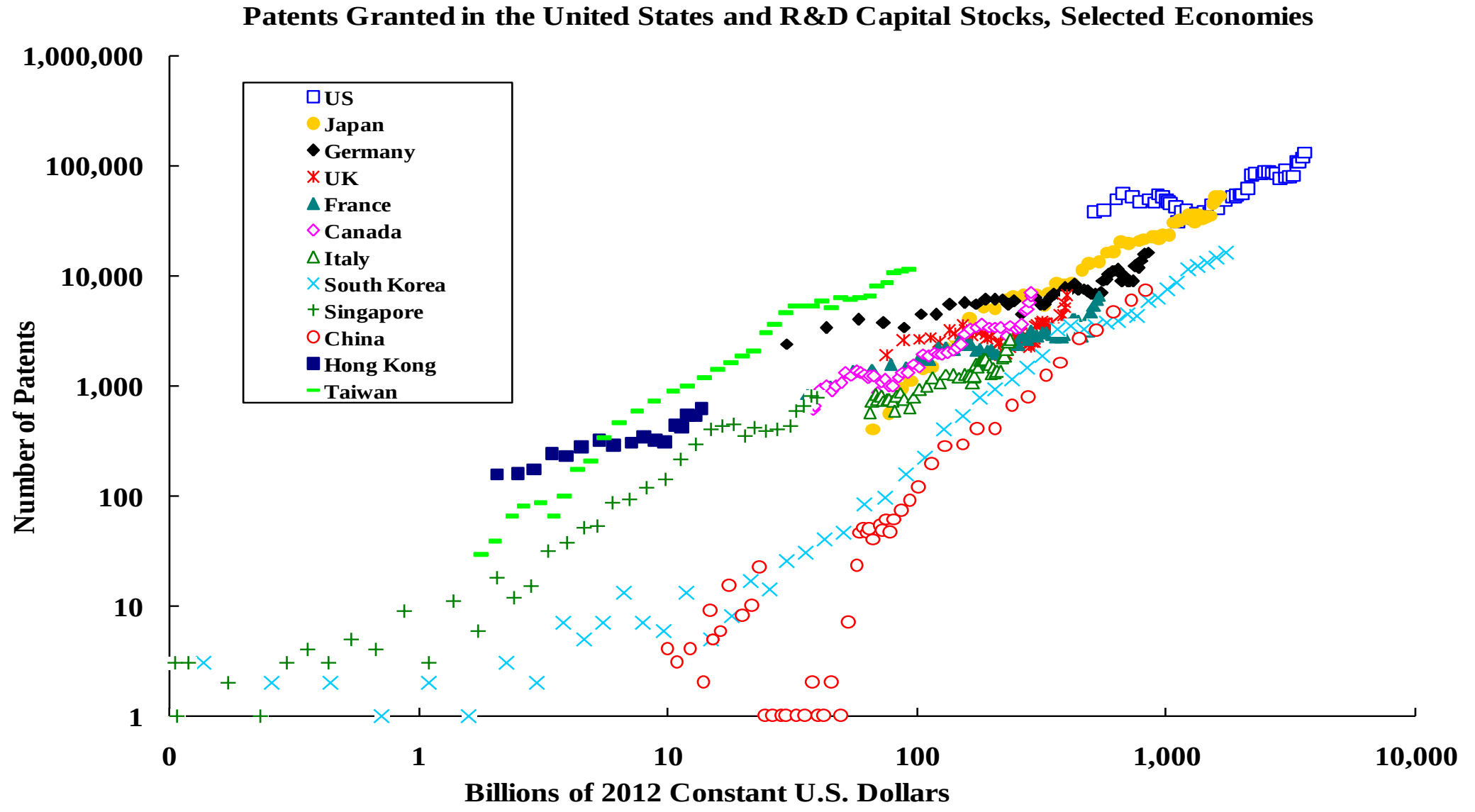
# Patents Granted in the United States: G-7 Countries, 4 East Asian NIEs & China



# Global Economic Trends and Uncertainties: The Rising Importance of Intangible Capital

- The R&D capital stock, defined as the cumulative past real expenditure on R&D less depreciation of 10% per year, is an useful indicator of innovative capacity. It should quite properly be treated as capital since R&D efforts generally take years to yield any results.
- It can be shown to have a direct causal relationship to the number of patents granted (see the following chart, in which the annual number of U.S. patents granted is plotted against the R&D capital stock of that year for each country).
- The chart shows clearly that the higher the stock of R&D capital of an economy, the higher is the number of patents granted to it by the U.S.

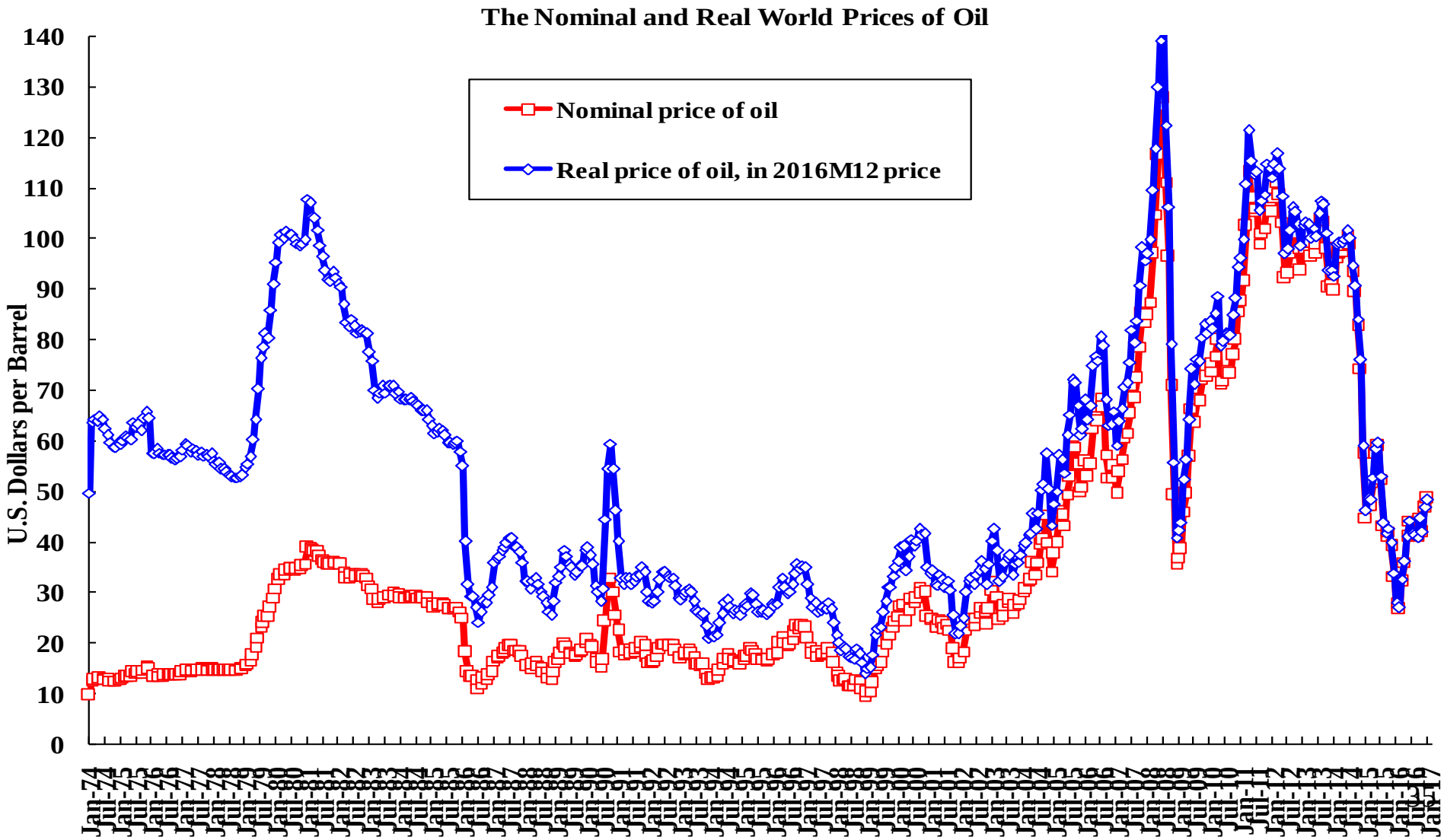
# Patents Granted in the United States and R&D Capital Stocks, Selected Economies



# Global Economic Trends and Uncertainties: The World Price of Oil

- The world price of oil has been falling since 2014. In real terms it is now back where it was before its spectacular rise in 2004.
- Overall, the fall in the world price of oil has to be regarded as a net positive factor for the world economy.
- The world price of oil is not really determined by supply and demand. It has never been determined by supply and demand. The market for oil is an oligopolistic market. The largest producer, Saudi Arabia, used to produce at the rate of 8.5 million barrels a day but it has the capacity of producing 12.5 barrels a day if it so wishes.
- However, given the advances in shale oil technology ("fracking") and the abundant potential supply in the U.S., which can be tapped in a matter of months, it is unlikely that the world price of oil will rise above US$60 a barrel for a long time.

# The Nominal and Real World Prices of Oil (2016 prices)



# Global Economic Trends and Uncertainties: The Limits of Monetary Policy

- The experiences of the quantitative easing policies undertaken by the U.S. Federal Reserve Board, the Bank of Japan, the European Central Bank (ECB) and other central banks since late 2008 confirm what should have been well known all along—that monetary policy alone cannot turn a depressed economy around. Low interest rates cannot overcome the effects of negative expectations about the future. If expectations about the future of the economy are poor, firms will not make new investments and households will reduce their consumption no matter how low the interest rate becomes, even if it turns negative. Moreover, such expectations can be self-fulfilling.
- The U.S., Japan and many of the European countries have been stuck in a classic "liquidity trap". As the saying goes: "One can pull on a string, but not push on a string". Monetary policy or quantitative easing is powerless when faced with a low level of confidence about the future of the economy.

# Global Economic Trends and Uncertainties: The Limits of Monetary Policy

- In addition, zero or negative interest rates create asset price bubbles, which will eventually burst, with damaging consequences. They also have serious negative effects on the income and wealth distribution and impose hardships on the net savers of the economy--the middle- and lower- income households, and especially the retired elderly.
- The truth is that easy monetary policy has not worked to revive the economies, and should have never been expected to work by itself alone.
- What is needed in every economy is some real economic stimulus in the form of real aggregate demand expansion that is sufficient to change expectations about the future.
- However, ideological considerations may prevent some of these economies from undertaking more aggressive actions.

# Global Economic Trends and Uncertainties: The Limits of Monetary Policy

- As there is excess capacity almost everywhere, the social cost of an economic stimulus is small, especially compared to the lost output and unemployment.
- The world can really use a “simultaneous coordinated real economic stimulus” by all the major economies such as the U.S., China, Japan and the Euro Zone.

# Global Economic Trends and Uncertainties: The Normalization of U.S. Interest Rates

- The U.S. Federal Reserve Board has begun to raise the rate of interest on federal funds and is poised to continuing raising it gradually over 2017 and 2018.
- The normalization of U.S. interest rates is a good thing but can cause short-run disruptions as asset prices fall and capital around the world rushes to the U.S., driving the U.S. Dollar exchange rate to new highs. There will be a period of adjustment.

# Global Economic Trends and Uncertainties: Trumpenomics

- If we go by the rhetoric of President Donald Trump and his administration, there may well be a global trade war with the three principal “villains”--China, Germany and Japan.
- The border-adjustment tax being contemplated by the U.S. will also cause great disruptions in world trade and global supply chains.
- Even a more limited trade war between China and the U.S. will have significant consequences not only for China and the U.S. but also for Taiwan.

# Global Economic Trends and Uncertainties: The Geo-Political Uncertainties

- There are major geo-political uncertainties. What are the real effects of Brexit on the U.K., on the European Union and on the world?
- Will the European Union and the Euro survive—there is the French election on 7 May, the German election in September.
- There is the still brewing North Korean crisis.
- Other potential hot spots include the Middle East, the South China Sea, the East China Sea and possibly the Taiwan Straits.

# Maintaining Economic Stability

- **There is no silver bullet!**
- Maintaining and Changing Expectations
- Reducing Uncertainty
- Promoting Employment
- Diversification
- Adopting a Counter-Cyclical Public Infrastructural Investment Policy
- Ensuring Monetary Stability
- Increasing Investment in Intangible Capital
- Creating and Maintaining Market Power
- Augmenting Resilience

# Maintaining Economic Stability: Maintaining and Changing Expectations

- Expectations can often be self-fulfilling. If enterprises and households expect the economy to do well, and act accordingly, the economy will actually do well. And vice versa.
- They can be changed by doing something dramatic and unexpected. A recent example is the stock market rally after the election victory of U.S. President Donald Trump. It was driven by expectations of what he would do as President.
- Another example is the 4-trillion Yuan economic stimulus package of Mainland China, launched barely six weeks after the collapse of Lehman Brothers and the beginning of the Global Financial Crisis in 2008. It took at least another year before the economic stimulus began to flow but it had the effect of maintaining the positive expectation of the Mainland Chinese enterprises and households.
- Changing expectations means the enhancement of the confidence of enterprises and households and the generation of hope about the future.

# Maintaining Economic Stability: Reducing Uncertainty

- If the government can manage expectations successfully, so that public expectations converge, uncertainty will be reduced. Uncertainty deters investment and consumption.
- In a world full of uncertainties, it is best to be “conservative”, that is, not to try anything that has not been tried before. Trying something that has not been proven is especially risky in uncertain times. (Look at Brexit and the rise of Donald Trump.)
- There is significant uncertainty in cross-strait relations. Greater certainty and stability will be very helpful to the economy.

# Maintaining Economic Stability: Promoting Employment

- Achieving full or nearly full employment is more important than achieving a high rate of growth of measured GDP.
- Under globalization, any job that can be moved away to a lower-cost location will be moved away. The government should actively promote the creation of "jobs that cannot be moved away". For example, jobs in the service industries such as education, tourism, transportation and other public services.

# Maintaining Economic Stability: Diversification

- Taiwan's exports to GDP ratio is very high, as befitting a small but open economy. Taiwan must manage its relations with its major trading partner countries and regions. (Contrast Taiwan and Cuba.)
- Diversification of trade by geography; diversification of domestic investment by industry; diversification of foreign direct investment (FDI) by geography. However, the benefit of outbound FDI to the economy of Taiwan as opposed to particular Taiwan enterprises in some cases may not be very high because much of the value-added and employment are generated abroad unless the outbound FDI actually generates demands for exports (for example, components and parts and semi-manufactured products) from Taiwan.

# Maintaining Economic Stability: A Counter-Cyclical Public Investment Policy

- Adopting a counter-cyclical public infrastructural investment policy can make up for the temporary deficiency of aggregate demand.
- The government should maintain a list of permit- and shovel-ready public infrastructural investment projects that can be launched in an instant if and when needed.
- These projects should insofar as possible be financed by long-term project-specific bonds and loans and not through the general government budget.
- The social cost of constructing public infrastructural projects when the economy is in recession is low because of the excess, under-utilized capacity and the unemployment (the unemployed workers have to be supported anyway).

# Maintaining Economic Stability: Ensuring Monetary Stability

- The government and the central bank must ensure monetary, banking, financial and exchange rate stability. Only speculators prefer volatility. The real economy prefers stability.
- Reducing excessive leverage reduces the possibility of asset price bubbles.
- Volatile cross-border short-term capital flows can disrupt the exchange rate and the domestic financial markets and must be carefully monitored and if necessary controlled.

# Maintaining Economic Stability: Increasing Investment in Intangible Capital

- Human capital—Taiwan already has the highest tertiary education enrollment rate in the world.
- However, its human capital is not internationalized enough. Taiwan academics, scientists, and engineers should be encouraged to spend more time abroad.
- Investment in R&D is critical to Taiwan maintaining its technological leadership and market power in certain sectors.

# Maintaining Economic Stability: Creating and Maintaining Market Power

- Creating and maintaining market power can help to weather instability and uncertainty.
- This is easier said than done. A monopoly or near-monopoly can be maintained only through continuous innovation, supported by both investment in R&D and market development, and above taking risks. Eastman Kodak actually owned most of the patents on digital photography. Xerox through its Palo Alto Research Center invented most of the software and hardware used in computers and tablets today.
- Successful examples of monopolies and quasi-monopolies include Apple, Nike, and Taiwan's own TSMC. Unsuccessful ones include Blackberry and Nokia, which once dominated their respective markets but can barely survive today.
- Being able to develop a niche product or control the supply of a critical component is the key to sustained success, but continuous innovation is necessary to safeguard the position.

# Maintaining Economic Stability: Augmenting Resilience

- Tax cuts and reductions in social security contributions in a time of recession can help. Some of these measures may already occur automatically through the progressive income tax, unemployment and other welfare benefits.
- The effectiveness of the social safety net must be improved.
- The government can consider the provision of public service employment and/or basic income for displaced workers.
- Retraining of workers displaced by imports (or their support until retirement age) is absolutely essential.

# Concluding Remarks

- Economic and financial crises come and go.
- It is important to maintain economic stability and in particular employment. Economic instability can in turn cause political and social instability.
- The government should try to maintain positive expectations through its words and deeds. Insofar as possible, it should reduce uncertainty.
- It cannot rely solely on monetary policy. An appropriate counter-cyclical policy focused on public infrastructural investment projects can reduce unemployment and increase GDP.
- Diversification is the key to the reduction of risk and the appropriate response to uncertainty.