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Πανεπιστήμιο Αθηνών  
Τμήμα Οικονομικών Επιστημών

ΠΜΣ «Εφαρμοσμένης Οικονομικής και Χρηματοοικονομικής

**Μάθημα: Αναπτυξιακά Θέματα Αιχμής: Παγκόσμια,  
Ευρωπαϊκή και Ελληνική Οικονομία**

E-class μαθήματος: ECON321

Ακαδημαϊκό έτος: 2014-2015  
Χειμερινό εξάμηνο

# ***Θεματική Ενότητα***

## **Mega Trends and the Changing Nature of the Crisis**

- The Changing Nature of the Crisis: Are we leading towards Stagnation or Great Moderation II?
- The Mega Trends and the World Economy in the Next 100 Years.

**The Changing Nature of the Crisis: Are we  
leading towards Stagnation or Great  
Moderation II?**



## Key messages

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**Global growth is modest, with widening differences across countries**

**Financial risks are rising and volatility is set to increase**

**Potential growth has slowed, interacting with weak demand**

**Weakness in the euro area is a major concern**

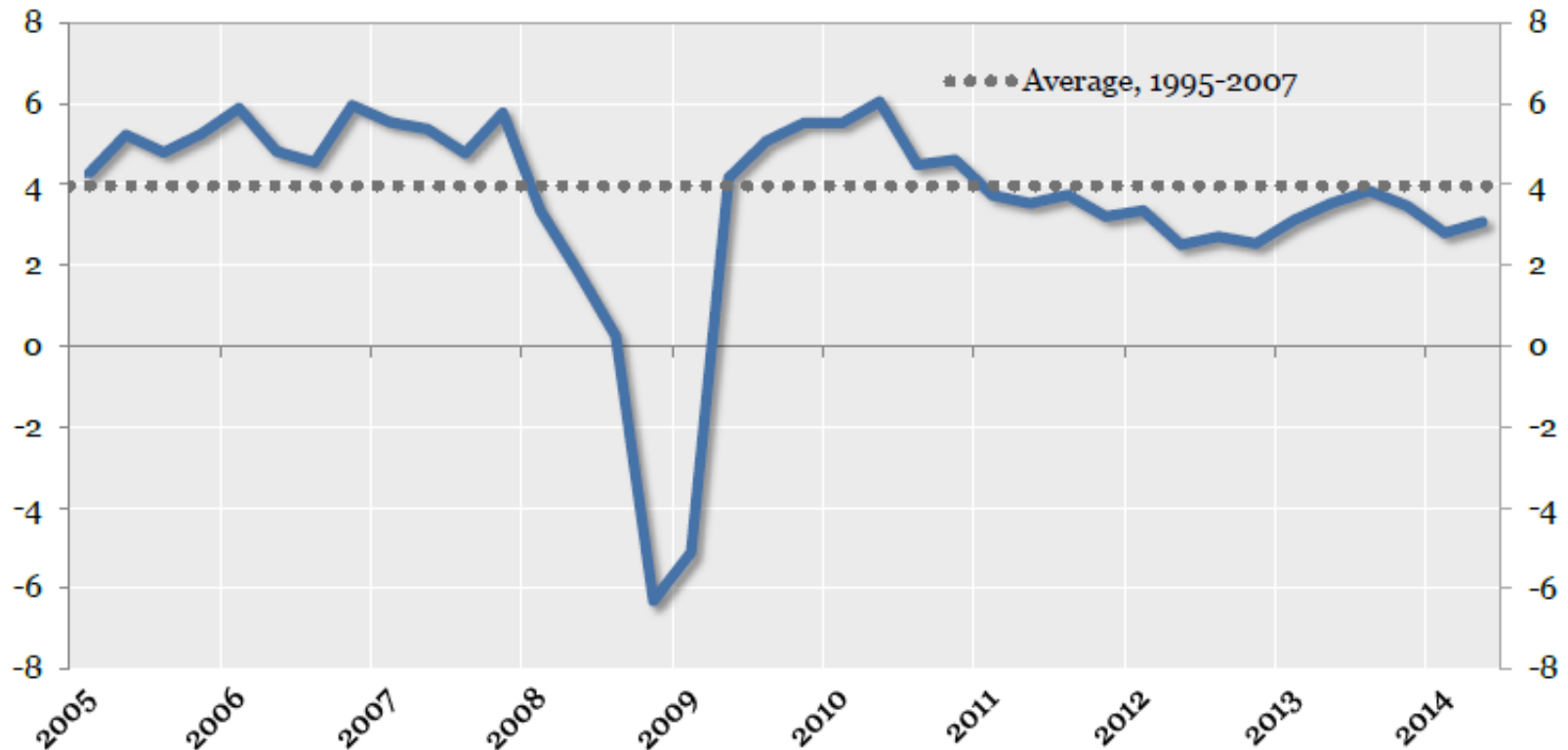
**Monetary, fiscal and structural policies must all be employed to address risks and support growth**



# The global economy is stuck in low gear

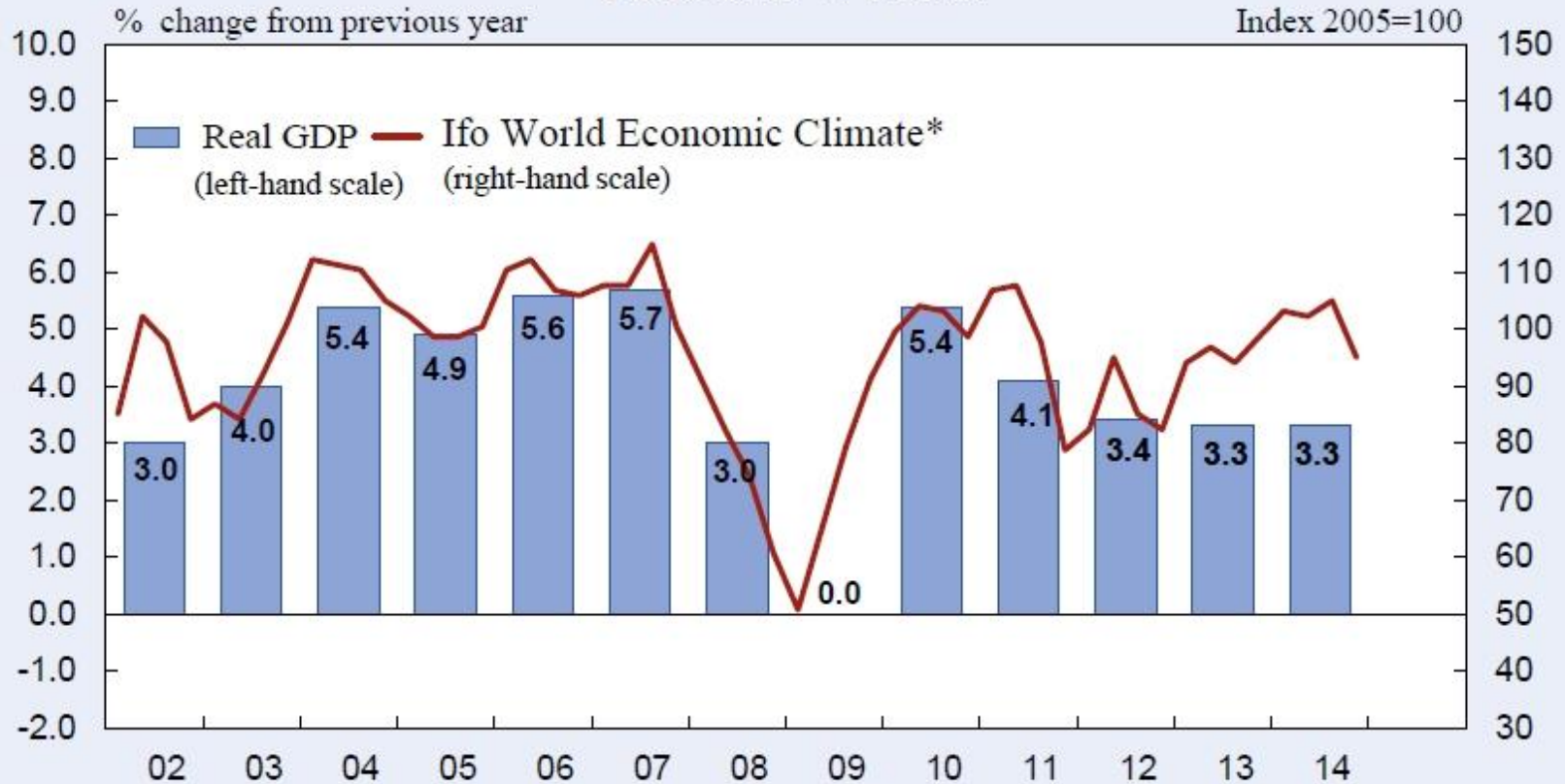
## World GDP growth<sup>1</sup>

*Per cent, seasonally adjusted annualised rate*



1. GDP calculated at PPP exchange rates.  
**Source:** OECD National Accounts database.

# ECONOMIC GROWTH AND IFO ECONOMIC CLIMATE FOR THE WORLD

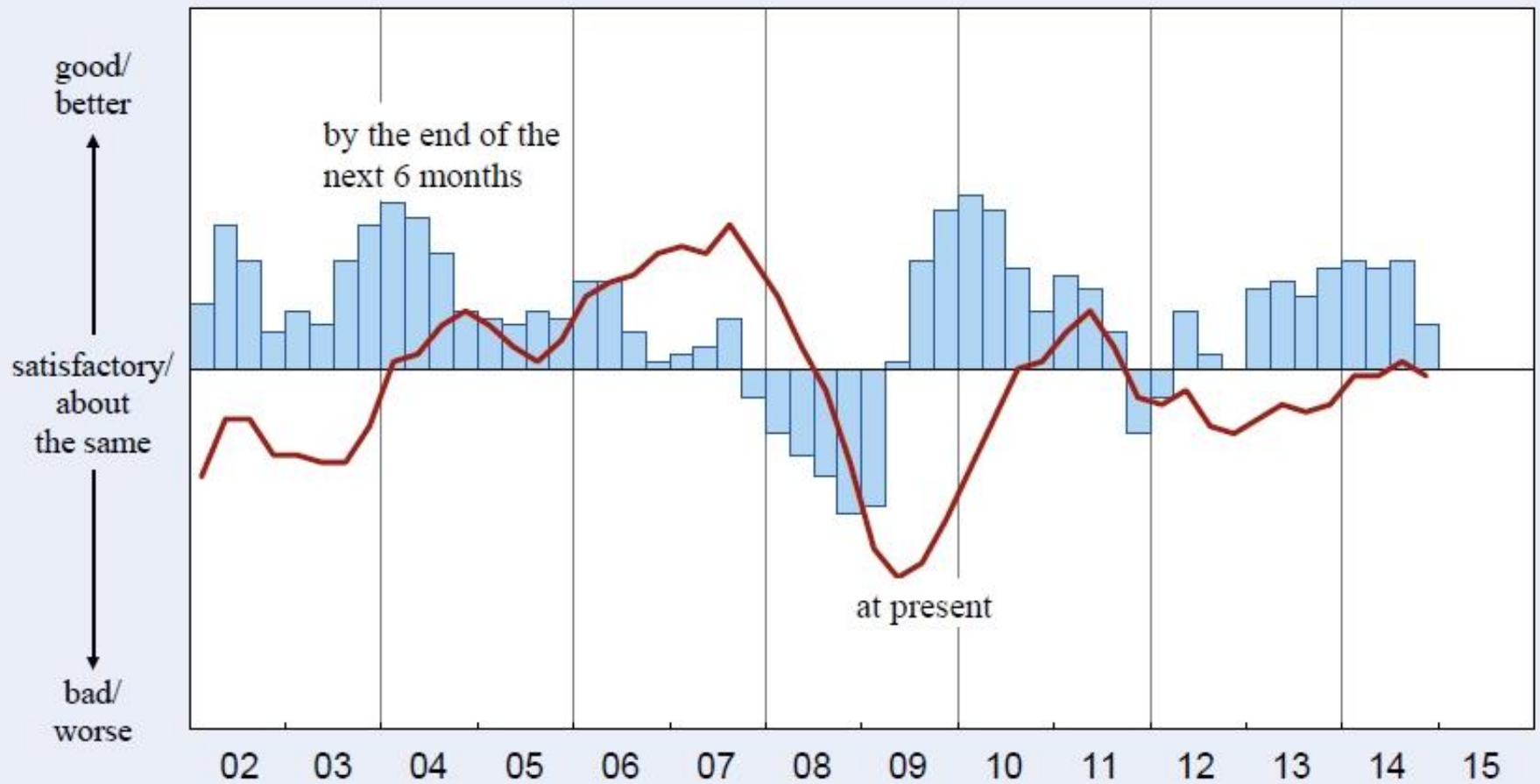


\*) Arithmetic mean of judgement of the present and expected economic situation.

Sources: IMF, World Economic Outlook Oktober 2014; Ifo World Economic Survey (WES) IV/2014.

The Ifo Index for the world economy fell to 95.0 points from 105.0 points in the previous quarter, reaching its lowest level since the third quarter of 2013. The indicator is now slightly below its long-term average of 95.5 points. Assessments of the current economic situation deteriorated only marginally.

# WORLD ECONOMY



Source: Ifo World Economic Survey (WES) IV/2014.

Economic expectations, however, were strongly downwardly revised.

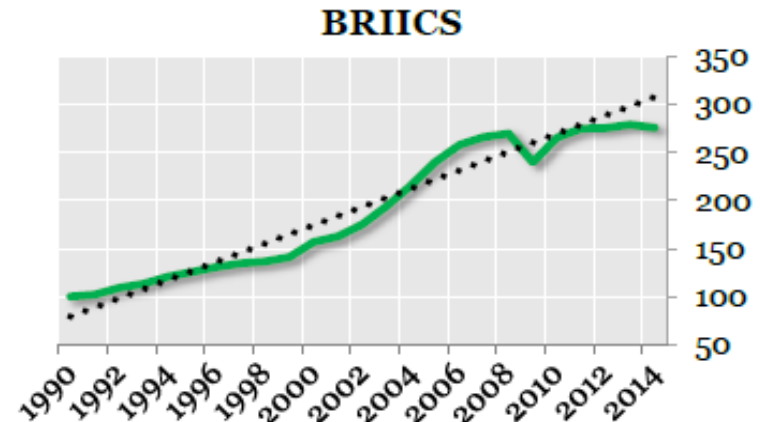
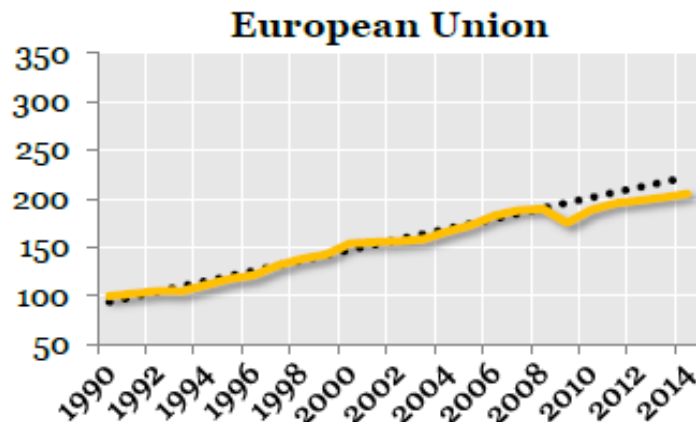
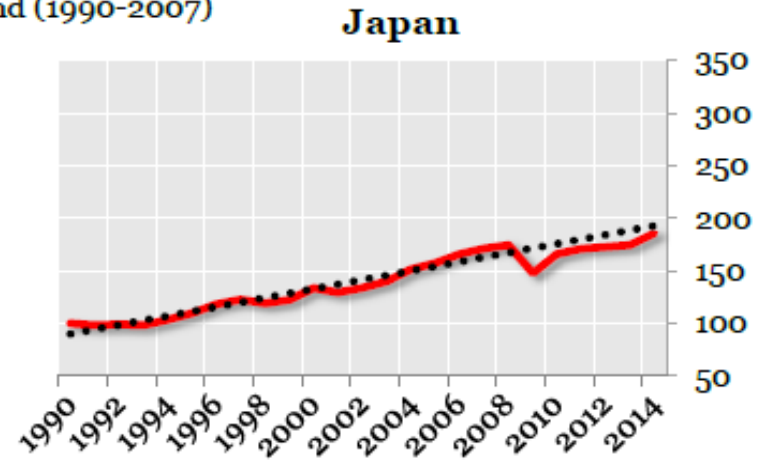
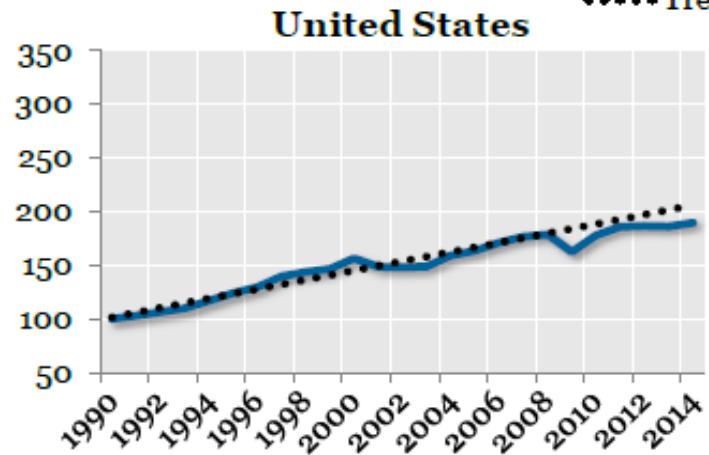


# Trade growth has been weak

## Trade intensity<sup>1</sup>

Index, 1990=100

•••••Trend (1990-2007)



1. Index of sum of exports and imports as a ratio of GDP.

Source: Preliminary November 2014 Economic Outlook database.

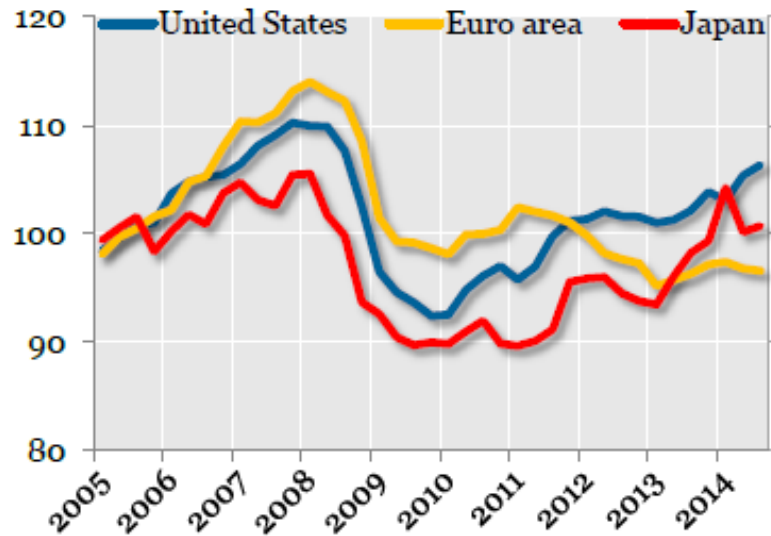




# Demand patterns are diverging

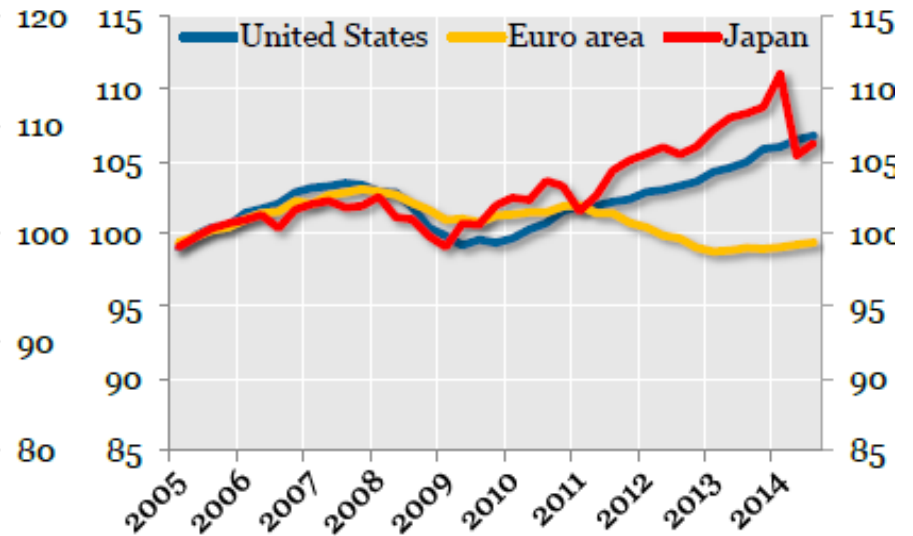
## Non-residential investment per capita

*Index, 2005 = 100*



## Private consumption per capita

*Index, 2005 = 100*



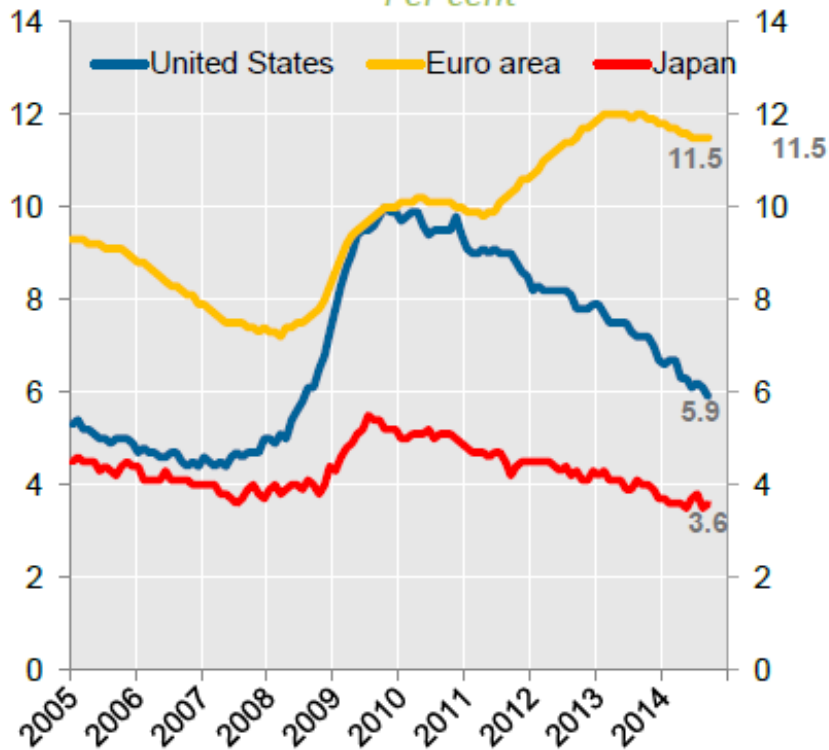
Source: OECD national accounts database; Preliminary November 2014 Economic Outlook database; and OECD calculations.



# Labour market: divergent performance, but overall slack remains

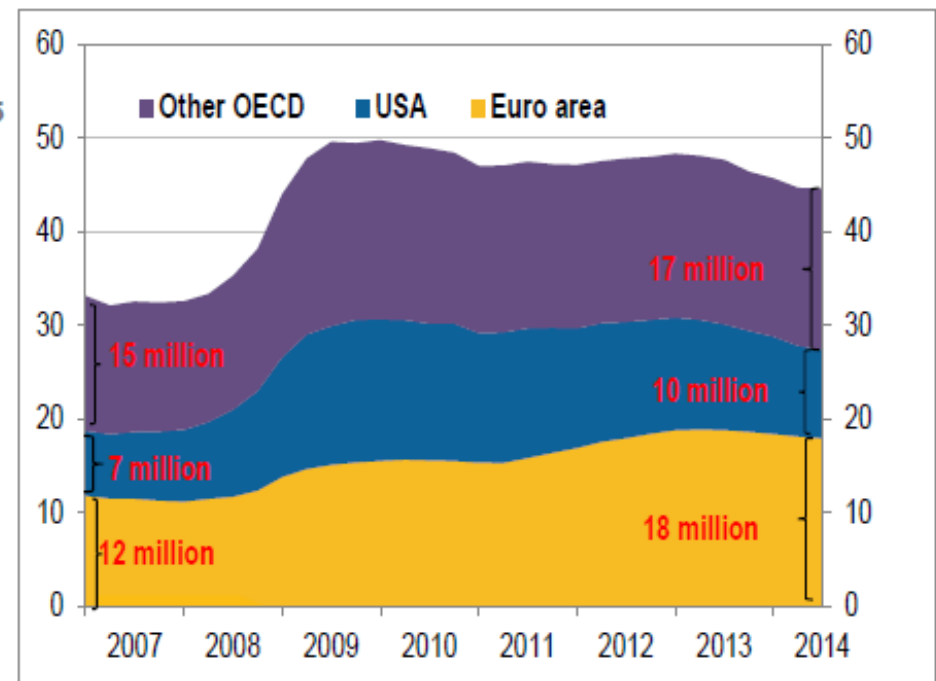
## Unemployment rate

*Per cent*



## Number of unemployed persons

*Millions*



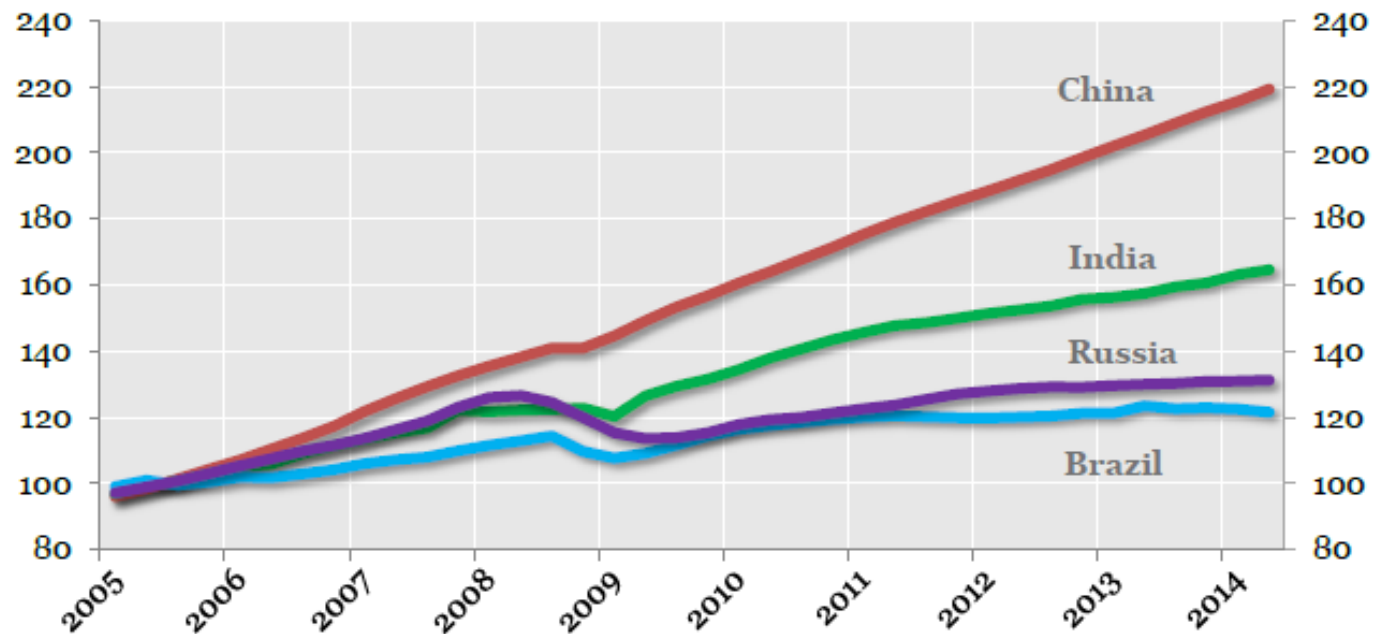
Source: Preliminary November 2014 Economic Outlook database.



## Trends are also diverging among emerging economies

### GDP per capita

*Volume, 2005=100*



**Source:** OECD National Accounts database; Preliminary November 2014 Economic Outlook database; IMF WEO database; Central Statistical Organisation, India; and OECD calculations.

# World GDP is in a Soft Patch, but Global Growth Trend is on the Rise

## World GDP growth

	1981-90	1991-00	2001-10	2011-13
WEO Oct 2014	3.4	3.3	4.0	3.6
WEO Apr 2014	3.4	3.2	3.7	3.4

Source: O'Neill and Terzi (2014).

- Many observers seem to be unaware of the fact that the world economy grew faster in the decade 2001-10 despite the fact that there were two major global economic crises, the bursting of the dot-com bubble in 2000-01 and the global credit crisis in 2008-09.
- According to the figure, which incorporates the recent new PPP estimates from the International Comparison Programme (ICP), world GDP growth in 2001-10 rose by around 4.0 percent, up from 3.7 percent based on the old weights, which was already stronger than generally appreciated.
- This GDP growth rate was already higher than the 3.4 and 3.2 percent growth of the previous two decades, and of course, the higher growth rate reflects the stronger weights of the rising emerging economies such as China and India, and their own stronger growth rates.
- What is probably even less known is that despite the various challenges around the developed and developing world so far this decade, in the years 2011-13, world GDP growth was around 3.6pct, which although down from the last decade's heady growth, is also higher than the two previous decades.

# The New Global Imbalance: Too Much Financial Risk-Taking, Not Enough Economic-Risk Taking

1. Policymakers are facing a new global imbalance: not enough economic risk-taking in support of growth, but increasing excesses in financial risk-taking posing stability challenges.
2. Banks are safer but may not be strong enough to vigorously support the recovery. And risks are shifting to the shadow banking system in the form of rising market and liquidity risks. If left unaddressed, these risks could compromise global financial stability.
3. In order to address this new global imbalance, we must promote economic risk-taking by improving the transmission of monetary policy to the real economy. And we must address financial excesses through better micro- and macroprudential policies.

Source: Viñals J. (2014), IMFdirect.

# Making the Right Choices Yesterday, Today, and Tomorrow

*“The path we choose at a critical fork in the road has crucial consequences”  
(Lagarde C., 2014).*

There are **three key collective choices** to be made:

- First, the choice between **acceleration and stagnation**. How do we achieve the growth and jobs needed to advance prosperity and ensure social harmony?
- Second, the choice between **stability and fragility**. How do we make this interconnected world a more inclusive, safer place for all of us to thrive?
- Third, the choice between **solidarity and seclusion**. How do we strengthen cooperation and multilateralism, instead of isolationism and insularity?

# Making the Right Choices

## Yesterday, Today, and Tomorrow

### 1. Acceleration or stagnation

- There is unprecedented demographic change, as the workforce in many of the world's most dynamic economies—both advanced and emerging—enters their twilight years. In less than a decade, the over-65s will outnumber the under-5s—for the first time ever.
- There has been a staggering rise in inequality—7 out of 10 people in the world today live in countries where inequality has increased over the last three decades. And yet, we know that excessive inequality saps growth, inhibits inclusion, and undermines trust and social capital.
- We live in a period of dramatic innovation, with all its potential. But the digital revolution is not job-intensive, and it could contribute to further inequalities.
- Furthermore, think also of the ecological carnage that comes with a rapidly warming planet. We all know the stark facts—the 12 warmest years on record have occurred in the last 17 years. The incidence of weather-related disasters has increased threefold since the 1960s. By 2030, almost half of the world's population will live in regions of high water stress or shortage.

# Making the Right Choices Yesterday, Today, and Tomorrow

**But the threats to growth do not just come from the future, they assail us from the past**

- It is taking a very long time for the global economy to climb out of the hole dug by the Great Recession. We expect growth of only 3.3 percent this year, and still under 4 percent next year.
- We are stuck in a painful jobs crisis. 200 million people around the world are looking for work today—if the unemployed formed their own country, it would be the fifth largest in the world. In some regions—southern Europe and North Africa—youth unemployment is now a chronic social problem, leading to widespread disenchantment and disengagement.



# Making the Right Choices

## Yesterday, Today, and Tomorrow

**We risk getting stuck in a “new mediocre” of poor growth and paltry job creation. To overcome it, we need “new momentum” on the policy front.**

- On the demand side, monetary policy should certainly continue to support the recovery- careful attention to potential spillovers and spillbacks. Fiscal policy must be customized to country circumstances. Fiscal policy must be as growth- and jobs-friendly as possible.

- On the supply side: Opening up cozy monopolies in service industries. Boosting infrastructure investment. Improving educational opportunities, financial inclusion, and the business environment—especially in emerging markets and low-income countries. Using fiscal instruments—like carbon pricing—both to help make energy use more efficient and to encourage people to make green choices.

- There is need to make the job market more inclusive. This means active labor market policies and training programs to help young people, more family-friendly policies like affordable child-care and flexible working arrangements to entice more women into the workforce.

# Making the Right Choices Yesterday, Today, and Tomorrow

## 2. Stability or fragility

- While the real economy might suffer from too little investment, the financial sector might be flying too close to the sun. There is too little economic risk taking, and too much financial risk taking.
- Monetary policy needs to stay accommodative, to get the growth we need. Yet one side effect is the danger, once again, of a rush toward reckless risk taking.
- While there are a number of warning signs, the risks are particularly acute in the nonbank sector. One example: mutual funds now account for 27 percent of global high-yield debt, twice as much as in 2007. At the same time, risks are more concentrated—the top ten global asset management firms now control a whopping \$19 trillion. This is larger than the world's largest economy—the United States.
- History teaches us a clear lesson—the bigger the boom, the bigger the bust. A sudden shift in sentiment could easily cascade across the entire globe.
- This feeds into the longer-term issue that affects financial stability— the increasing interconnectedness of the world economy. Financial flows can zap and zoom across the world at lightning speed.
- The degree of financial integration has jumped tenfold since the IMF was founded. In the two decades before the crisis, international bank lending—as a share of world GDP—rose by 250 percent.

# Making the Right Choices

## Yesterday, Today, and Tomorrow

- This interconnectedness offers great benefits—allowing more people to access global financial networks. But it also comes with a dark side: it makes financial crises more likely to occur, and more virulent when they do occur. 2008 was a stark reminder of this.
- Ultimately, we need to be able to garner the good and banish the bad. We need to be proactive, not passive. As Tagore once said, “You can’t cross the sea merely by standing and staring at the water”.
- That means we need the right tools and policies. If financial markets are more challenging, then policies must be more powerful, and regulators and supervisors must be better equipped. The bottom line? We must complete the financial sector reform agenda, and we must continue to update it as financial minds are creative and fertile in seeking out new loopholes.
- We have made good progress, especially on banking regulation. Yet we still need to overcome the too-important-to-fail problem. We need better rules for nonbanks, better monitoring of shadow banks, and better safety and transparency over derivatives. We need to strengthen macroprudential safeguards.
- And let’s be candid: we need to see a change in culture and behavior. We need to move away from the myopic mentality that led to the crisis—the tendency to prize profit over prudence, selfinterest over service, excess over ethics.
- The IMF has a key role to play in coping with this new world of interconnections. A world of large capital flows means that we need a large global safety net. Regional arrangements—including the new BRICs contingency reserve arrangement—certainly have an important role to play. But the IMF, as the only truly global institution focused on financial stability, must have adequate instruments and resources.

# Making the Right Choices

## Yesterday, Today, and Tomorrow

### 3. Solidarity or seclusion

- The global economy is undergoing radical shifts. Fifty years ago, the emerging markets and developing economies accounted for about a quarter of world GDP. Today, it is half, and rising rapidly. During the global crisis, it was the emerging markets that contributed most to global growth.
- This diffusion of power is not restricted to nation states. Aided by technology, we also see the rapid rise of a more diverse network of global stakeholders: NGOs, cities, and even citizen activists. Powered by social media, they have proven their ability to force policy change.
- This new reality demands a new response—but not a new philosophy. It requires us to update, adapt, and deepen our modes of global cooperation. It requires using the wonders of technology for the betterment of humanity. It requires what I have called a “new multilateralism”.
- Specifically, means a re-commitment to the values of open trade and investment. It means resisting the lure of “beggar-thy-neighbor” economics. It means placing the global good above individual self-interest.

# Making the Right Choices Yesterday, Today, and Tomorrow

**There are three areas where progress is vital:**

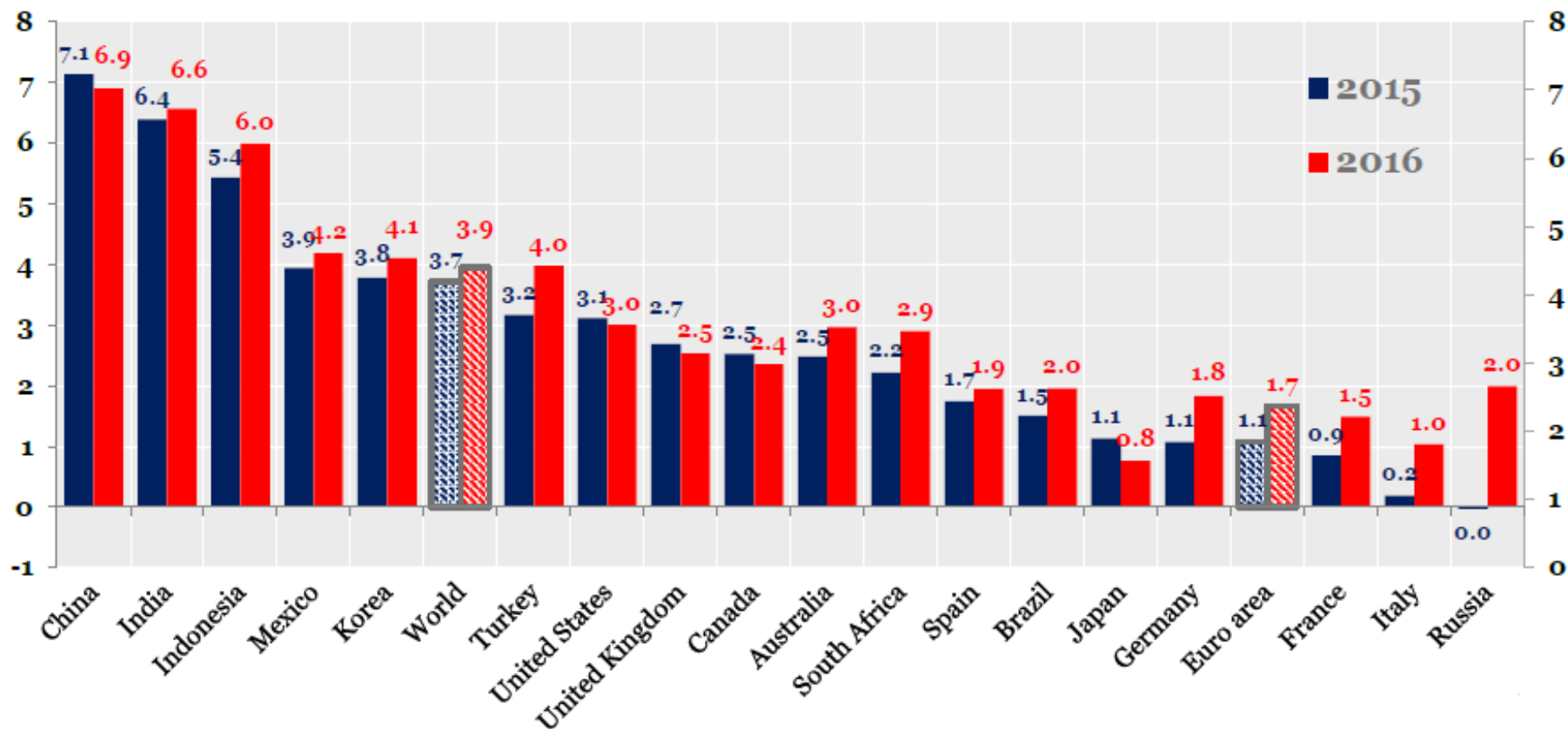
- First, in the financial sector: we need cooperation to come to an agreement on the cross-border resolution of megabanks.
- Second, we know that tax competition especially hurts low-income countries as they strive to mobilize badly-needed revenue. The international community needs to go further in making it more difficult to shift taxes from one country to another simply for profit.
- Third, on external imbalances: we know that behind every current account deficit lies a current account surplus.
- Countries on both sides must take responsibility for balance and stability. Renewed solidarity also calls for global action to turn the tide of climate change. 2015 is shaping up to be a make-or-break year. If we miss this chance, then we are failing the world's poorest people, the generations to come, and the planet.

# **Projections**



# Growth projections for 2015-16

## GDP growth Per cent



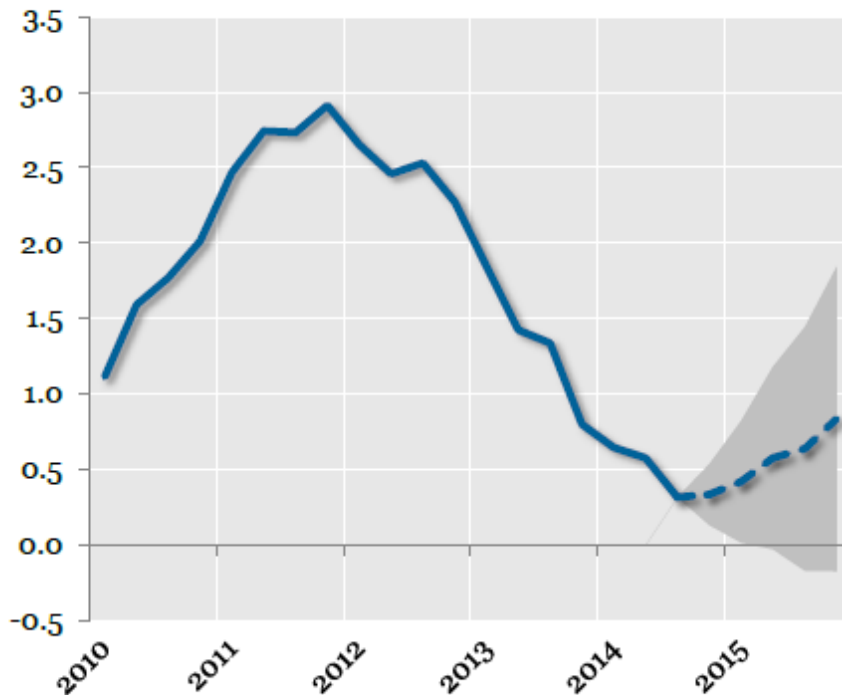
Source: Preliminary November 2014 OECD Economic Outlook database.



# The threat of euro area stagnation remains

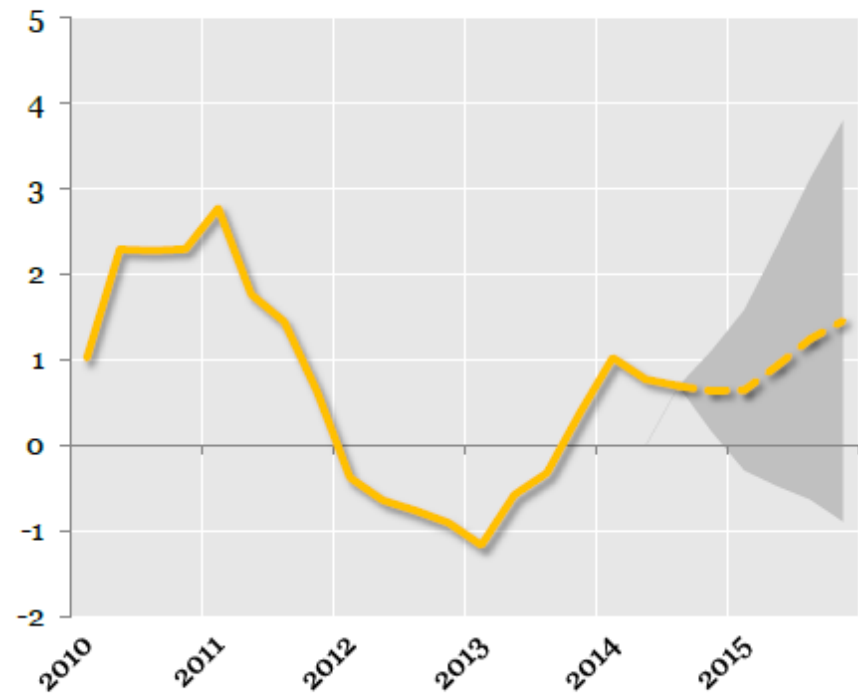
## Inflation

*HIPC, 12-month percentage change*



## GDP

*Year-on-year percentage change*



*Note:* Shaded bands show +/- one standard deviation based on past variation.

*Source:* Preliminary November 2014 Economic Outlook database.

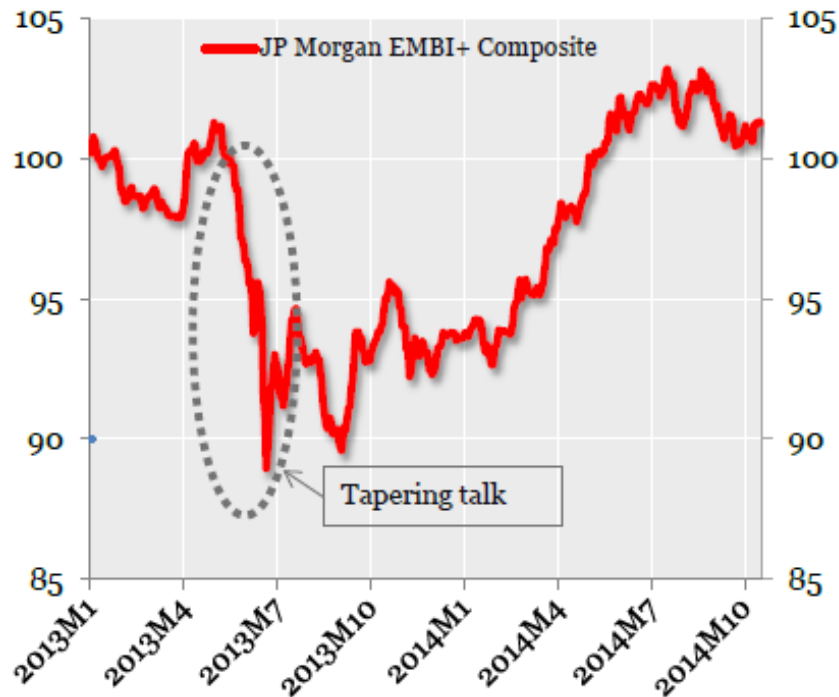




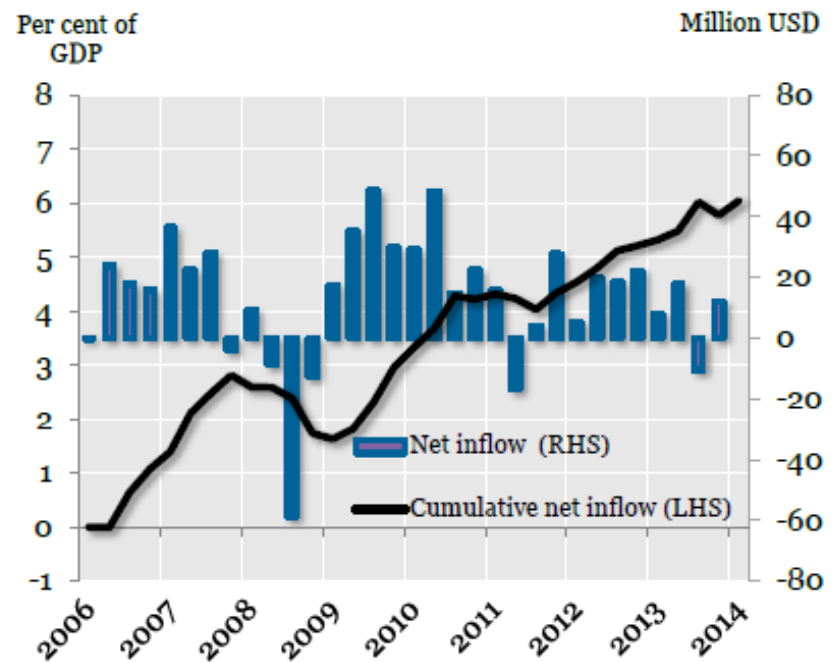
# Diverging monetary policies could lead to more volatility for emerging economies

## Emerging market bonds

Total return index, May 2012=100



## Portfolio exposure of BRIICS excluding China



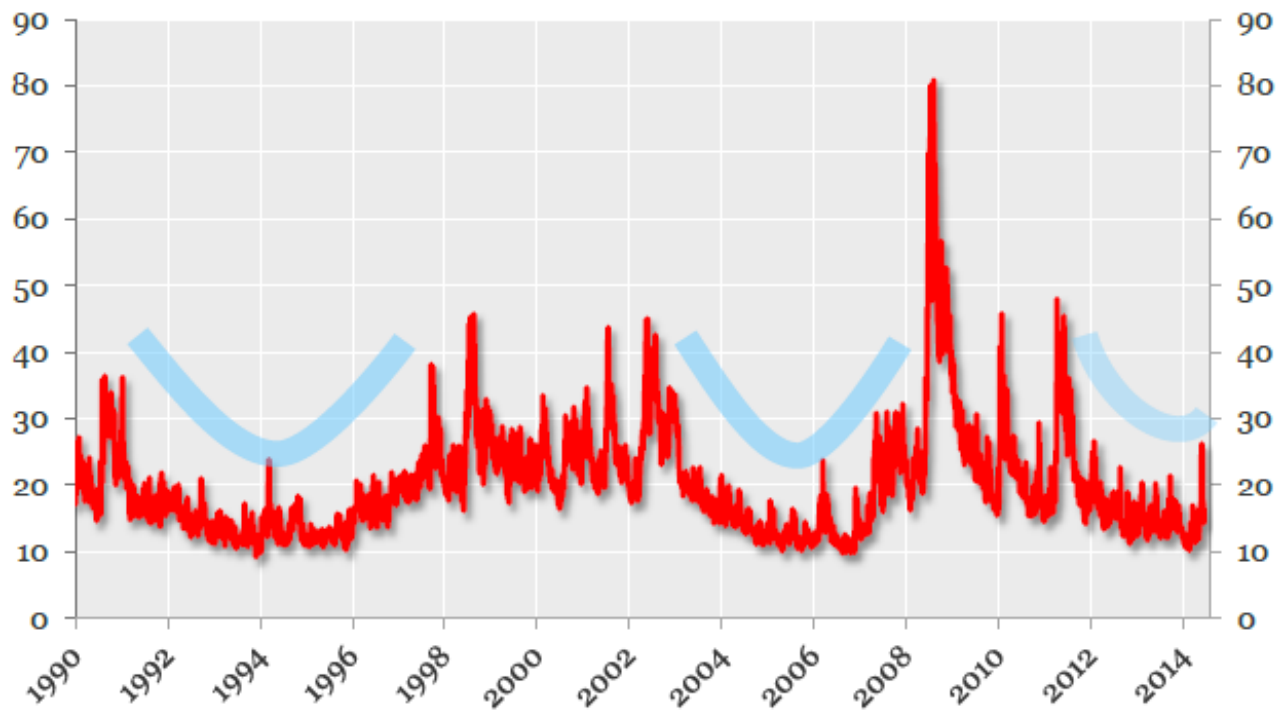
Source: JP Morgan; Federal Reserve, United States; Datastream; IMF Balance of Payments database; OECD National Accounts database; and OECD calculations.



# Financial market volatility: upsurge likely

## VIX index

*Volatility index based on S&P500 stock index option prices*



**Note:** The blue curves suggest troughs of the VIX.

**Source:** Chicago Board Options Exchange (CBOE); Datastream.

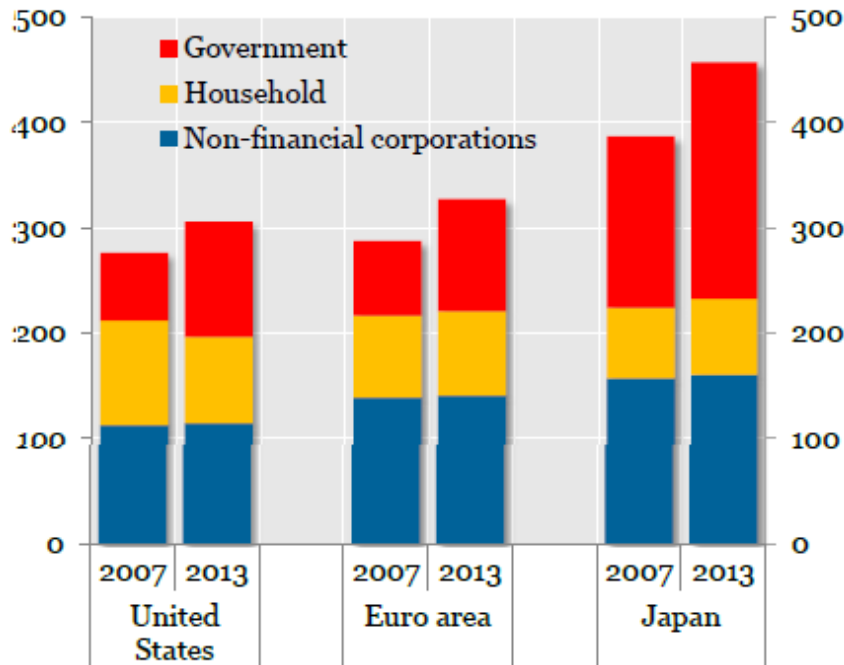




# Advanced economy debt levels are high and credit growth in China is rapid

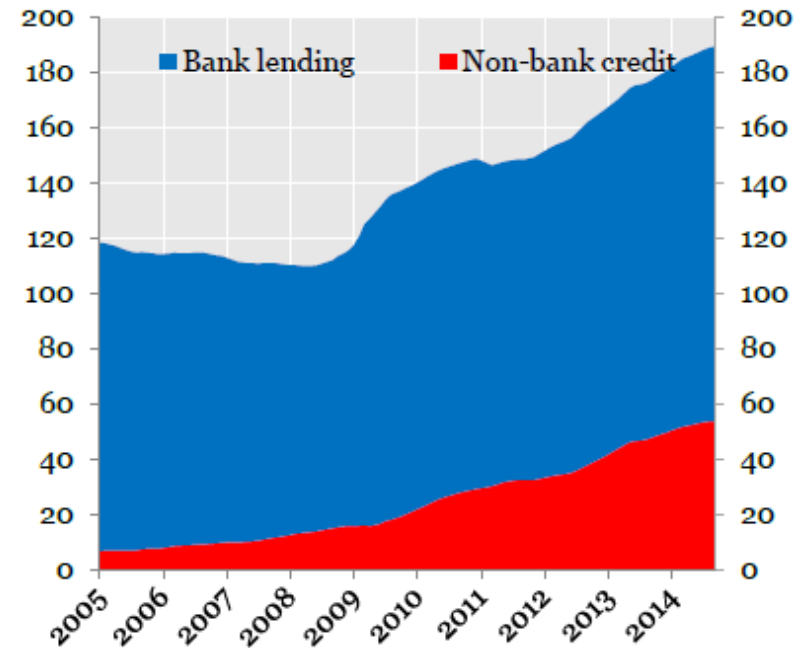
## Debt excluding the financial sector

*Per cent of GDP*



## China: credit to non-financial private sector

*Per cent of GDP*

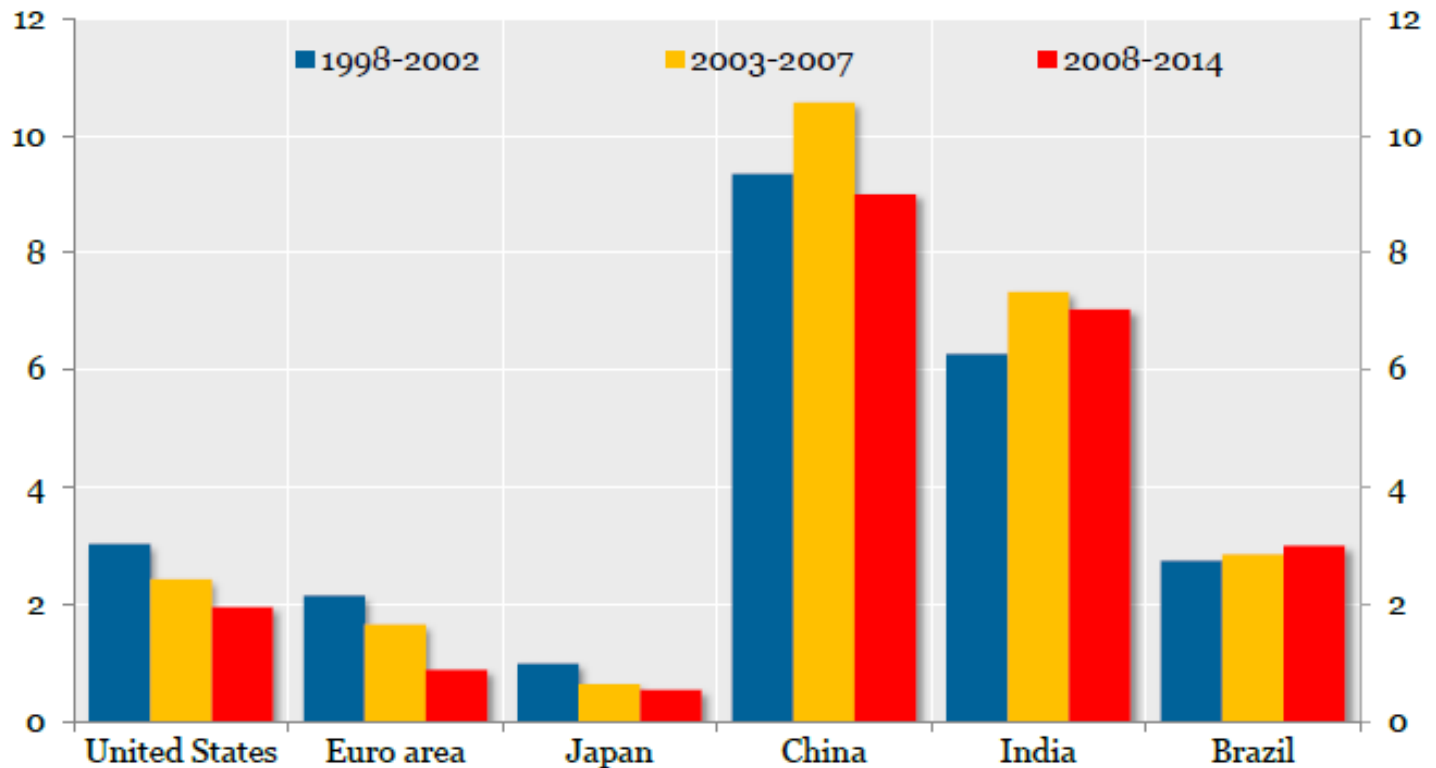


*Source:* Preliminary November 2014 Economic Outlook database; ECB; OECD Financial accounts; and BIS.



# Potential growth rates could fall further

Potential GDP growth  
*Annual average, per cent*



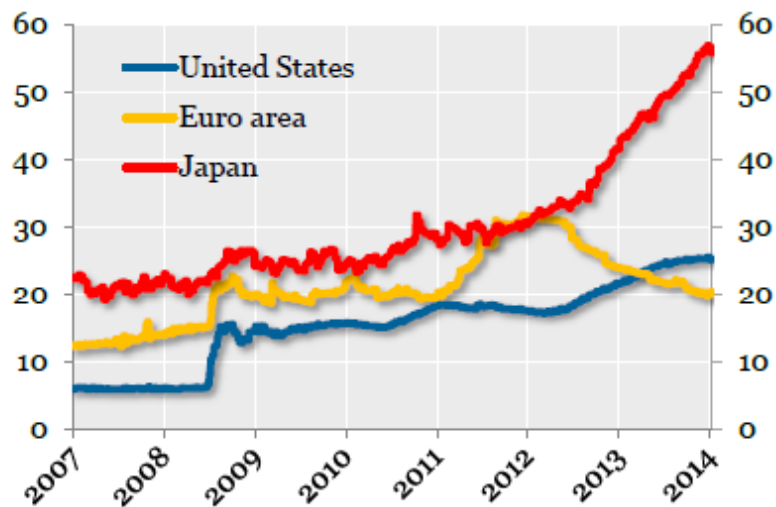
Source: Preliminary November 2014 OECD Economic Outlook database.

# Policies

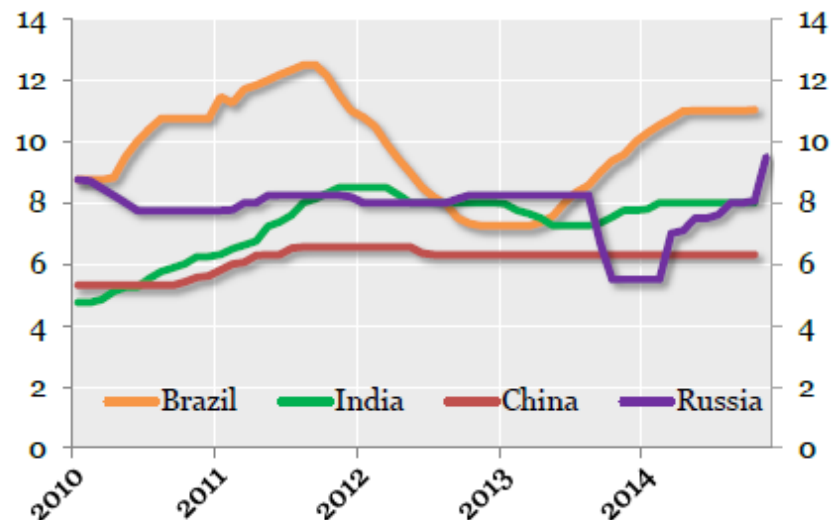


# Monetary policy: Continued need to support demand, but more variation in circumstances

**Central bank assets**  
*Per cent of GDP*



**Policy rates**  
*Per cent*



Source: Datastream; National Central Banks.

**US: Policy rates rise from mid-2015**

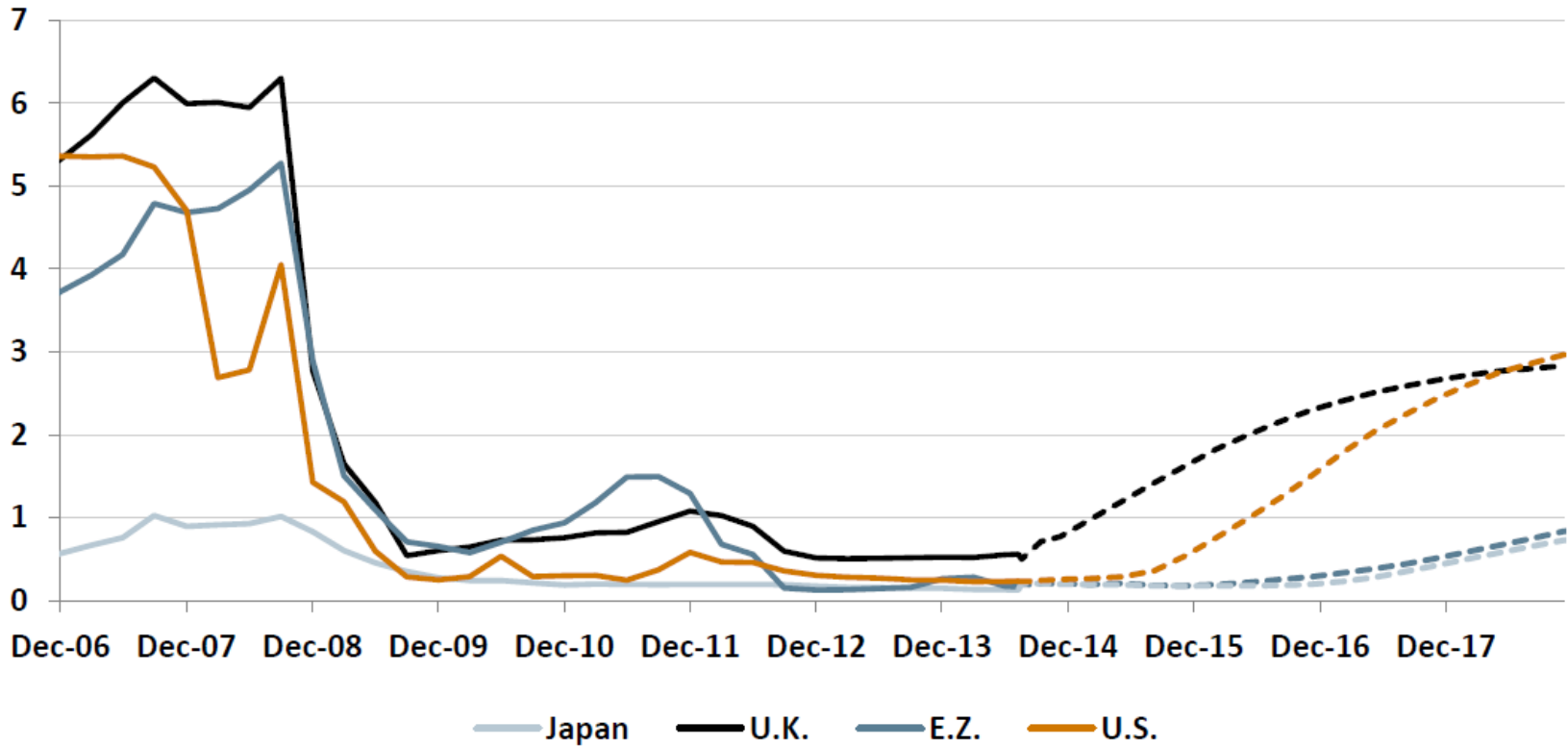
**Brazil and Russia: May need to raise rates further**

**China: Trade-off between sustaining demand and stability**

**Japan: QQE continue until inflation target sustainably achieved**

# DM Monetary Policies on Divergent Paths...

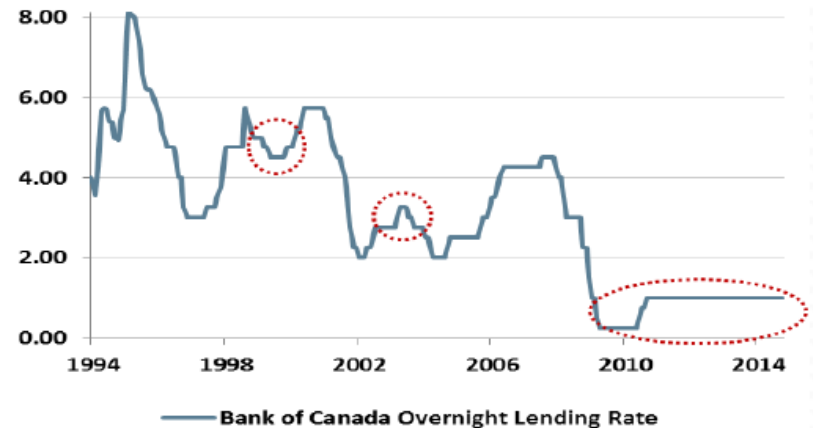
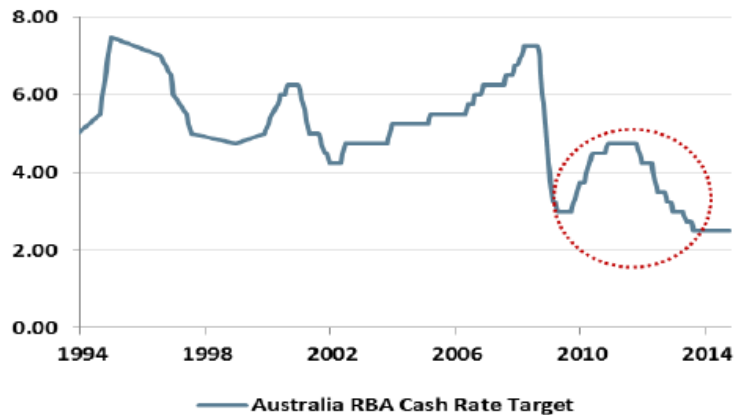
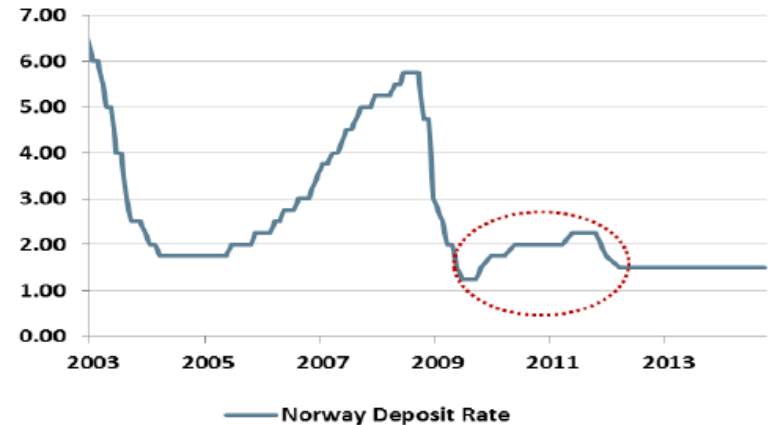
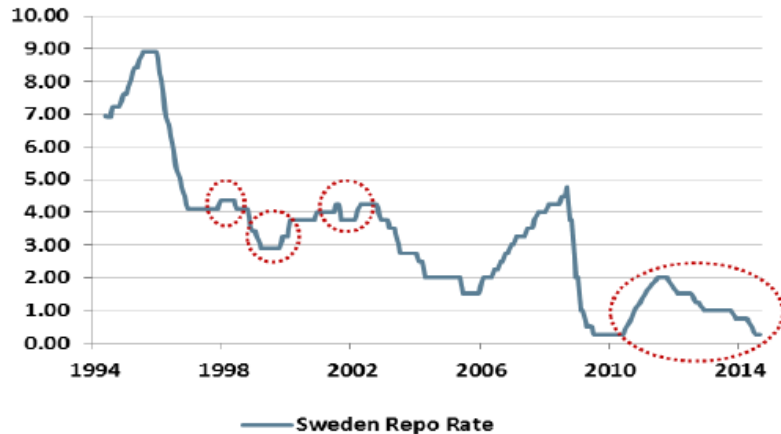
Policy-Rate Expectations Derived From Futures on Three-Month Libor Rate



BoE and Fed likely to be more patient before increasing rates.

Source: Bloomberg

# ...But Liquidity Traps Are Not Easy to Escape



All G10 central banks that increased rates from the zero lower bound have had to stop or reverse course.

Source: Bloomberg, RGE





## ECB must act decisively to support growth and head off deflation

**Monetary policy stimulus – beyond measures already announced – is needed in combination with banking union and structural reforms**

### Existing ECB Measures

Very low policy rates (incl. negative deposit rates)

Long-Term Refinancing Operations (LTROs)

Targeted Longer-Term Refinancing Operations (TLTROs)

Outright purchases of asset-backed securities and covered bonds

Forward guidance

### ECB Policy Options

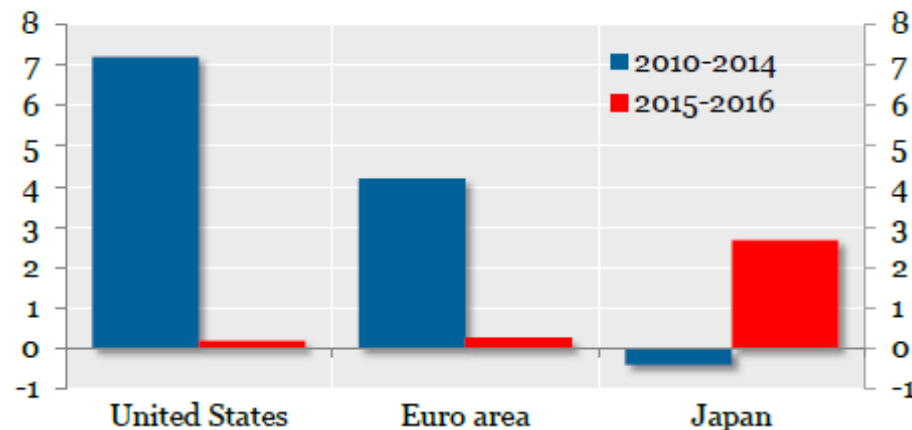
Open-ended or large-scale asset purchases:

- Increased outright purchases of asset-backed securities and covered bonds
- Outright purchase of sovereign bonds
- Outright purchase of investment-grade corporate bonds



# Fiscal policy: flexible and designed to better support growth

## Improvement in underlying primary balance *Per cent of potential output*



Source: Preliminary November 2014 Economic Outlook database.

Flexibility and discretion within the EU fiscal rules should be used to reduce the drag on demand

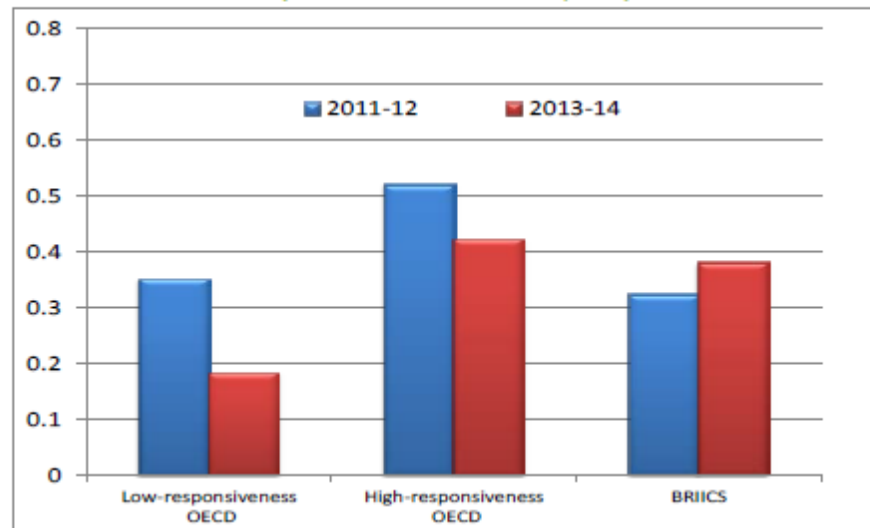
Japan must continue to address its fiscal challenges

Fiscal packages should be more supportive of growth



# Structural policies: more ambitious reforms needed to boost growth

## Responsiveness to *Going for Growth* reform priorities *Responsiveness rate (0-1)*



Source: *Going for Growth* (2015, forthcoming); and OECD calculations.

Some signs that reform momentum in advanced countries has slowed

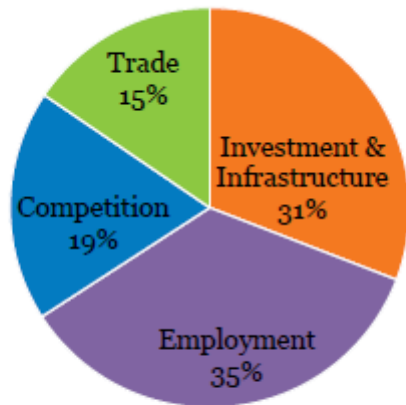
Better recent alignment with *Going for Growth* priorities in the BRIICS

Some laggards are launching reforms – implementation will be key.  
Other countries need to scale up their ambition.



# G-20 reform commitments will give a welcome impetus to growth

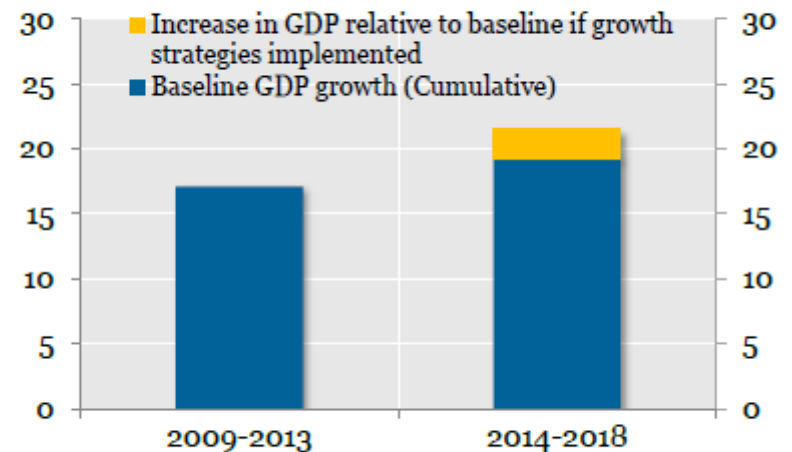
## Growth strategy commitments by area



Source: draft G-20 growth strategies, and OECD calculations.

## Incremental GDP gains by implementation of policy commitments

Per cent



**G-20 countries will present growth strategies at the Brisbane summit**

**OECD/IMF Estimates: Strategies would raise G-20 GDP by about 2% in 2018 if fully implemented**

## Concluding, Policy Priorities are as Follows

- **Advanced economies** should keep accommodative monetary policies, given still large output gaps and very low inflation. Reflecting the uneven recovery, challenges are becoming increasingly different across major central banks. While monetary policy normalization will be coming to the forefront in the United States and the United Kingdom, accommodative monetary policy in the euro area and Japan should continue to fight low inflation. To prevent premature monetary tightening, macro-prudential tools to mitigate financial stability risks—for example, in the housing market—should be the first line of defense. Fiscal consolidation should continue to balance fiscal sustainability and growth within credible medium-term plans.
- In **emerging economies**, the focus of macroeconomic policies should remain on rebuilding buffers and addressing vulnerabilities, in preparation for an environment characterized by tighter external financing conditions and higher volatility.
- A higher priority should be placed on growth enhancing **structural reforms** across G20 economies. Some countries with protracted current account surpluses should focus on boosting domestic demand or modifying its composition. Further labor and product market reforms are needed in much of the euro area. In a number of euro area countries severely affected by the crisis and emerging economies with protracted current account deficits, there is a need for reforms which increase competitiveness, together with wage moderation.
- Finally, in economies with clearly identified needs and economic slack, current conditions are favorable for increasing *infrastructure investment*. However, while this would support economic development, efficiency of the investment process is important to maximize the growth dividend.

# **The Mega Trends and the World Economy in the Next 100 Years**

# The world our grandchildren will inherit

*(Daron Acemoglu, 2013)*

- The track record of forecasts in social sciences does not inspire much confidence in our ability to predict events over the span of 100 years.
- But prediction about the future is often a vehicle for clarifying the challenges ahead, and because it partly extrapolates from past experience, it also gives us an opportunity to take stock of the trends that have shaped our age.

# **The 10 most important trends that have defined our economic, social, and political lives over the last 100 years (Acemoglu, 2013)**

1. The rights revolution
2. The sweep of technology
3. Unrelenting growth
4. Uneven growth
5. The transformation of work and wages
6. The health revolution
7. Technology without borders
8. Century of war, century of peace
9. Counter-Enlightenment in politics
10. The population explosion, resources and the environment

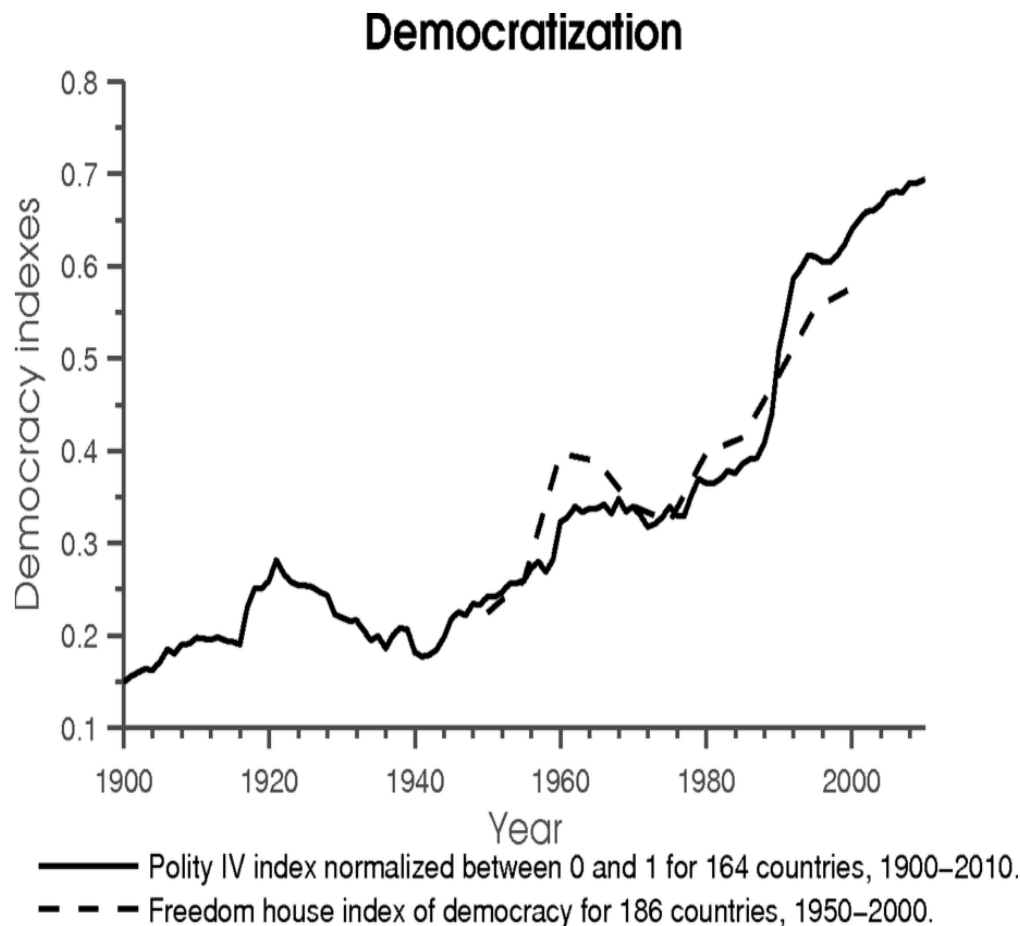


# 1) *The rights revolution*

- The last century has been the age of political rights.
- Never before in history have so many people taken part in choosing their leaders and having a say in how their societies are governed.
- To be sure, this unparalleled expansion of civil and political rights remains incomplete.
- Yet it is profoundly significant, not only due to its transformative impact on the lives of billions, but also because so many other phenomena in recent history are connected to it.
- The rights revolution is intertwined with diverse trends such as:
  - the development of technology;
  - sustained yet uneven economic growth;
  - a general decline in war within recent decades; and
  - a population explosion placing new pressures on our resources and environment.

# 1) *The rights revolution*

- To most citizens in many countries, democratic political participation has become second nature; the scope of this change is impressive when measured since either 1900 or 1950.



Still more recently, we have witnessed in the Arab Spring a vibrant demand for democracy even in places where social scientists and pundits alike had ruled it out. And for the most part, the masses have shown that they can have an intelligent say in politics.

Many public figures have expressed fears that relatively uneducated citizens cannot govern themselves, and that democracy is an unstable system; they advocate that government should be managed by responsible elites.

# 1) *The rights revolution*

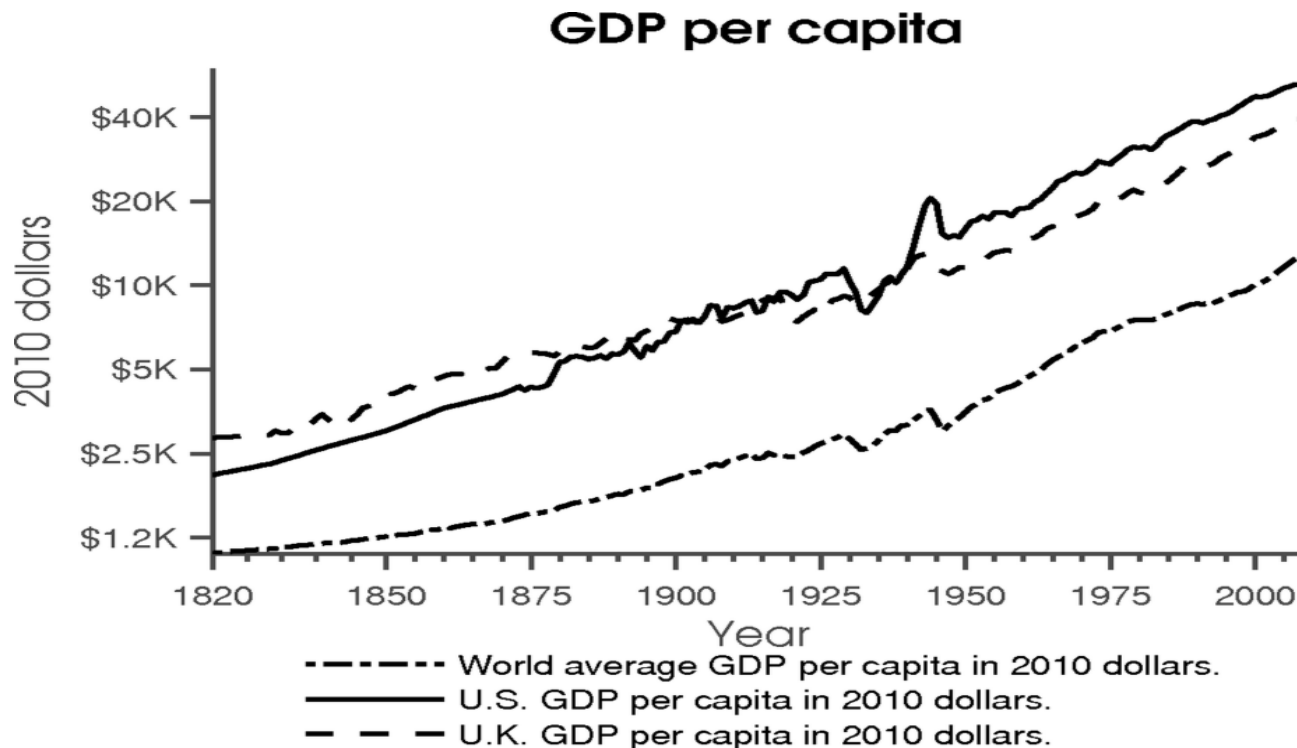
- Notwithstanding such objections, political rights for the less educated and less privileged have taken hold, often bringing policies that have redistributed resources or have made public services more widely available, even if this has sometimes been resisted by the elites.
- The spectacular advancement of rights has not been confined to political rights for the majority.
- The rights revolution remains incomplete:
  - The majority of the population today still lives under authoritarian governments, which often pursue policies serving the interests of a narrow elite rather than the people at large.
- This unparalleled expansion of civil and political rights, though incomplete, is momentous both because of its impact on the lives of billions, and because the other major trends have been shaped by its very occurrence.

## ***2) The sweep of technology***

- The Industrial Revolution brought forth a wave of new machines and improvements of technology in textiles, steam power, transport, metallurgy, and communications.
- But the pace at which new gadgets, techniques, and products have been introduced during the last century has easily surpassed that of the Industrial Revolution.
- We now have access to technologies that would have been difficult for our great-grandparents to imagine.
- These include an array of advances in:
  - information technology - computer-assisted machinery and robots, the Internet, many new communication technologies – as well as breakthrough drugs and medical technologies, improved indoor plumbing, refrigerators and other household durables, better and less expensive lighting, radio, television, inexpensive air and ground travel, and a huge increase in entertainment and culinary options.
- The impact of these technologies goes well beyond the reorganization of production; it permeates every aspect of our social lives.

### 3) *Unrelenting growth*

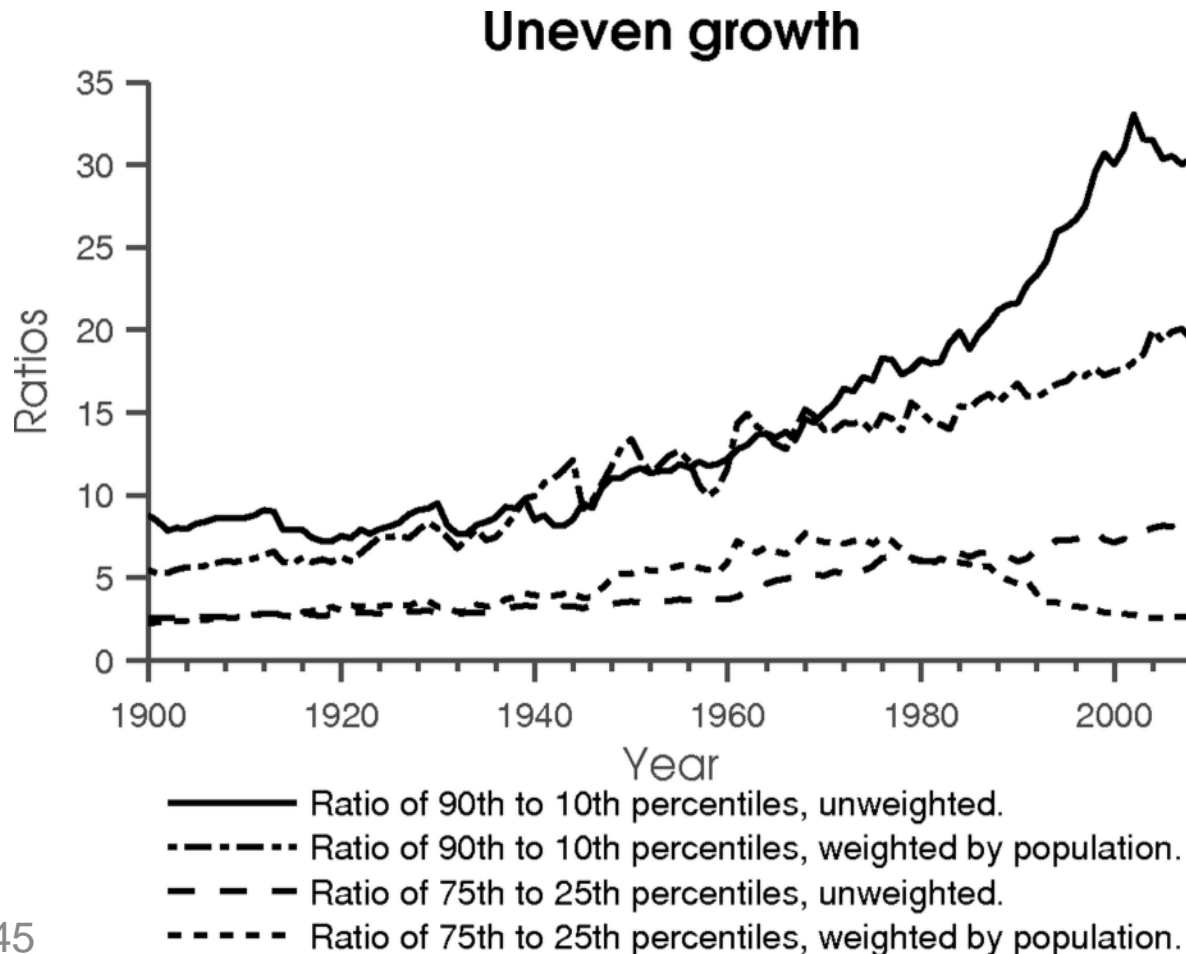
- While the 19th century witnessed significant economic growth, its pace and pervasiveness does not compare to the last 100 years.
- The average citizen of the world has a much higher income than was the case 100 years ago; we are about eight times richer than our great-grandparents who lived at the time.



Moreover, some of the most advanced economies during this period, such as the U.S. and the U.K., have grown in a relatively sustained and steady manner, the Great Depression notwithstanding.

## 4) Uneven growth

- Economic growth has not been even among countries.
- Though the world has become more integrated, the gap between rich and poor nations has widened by most measures.



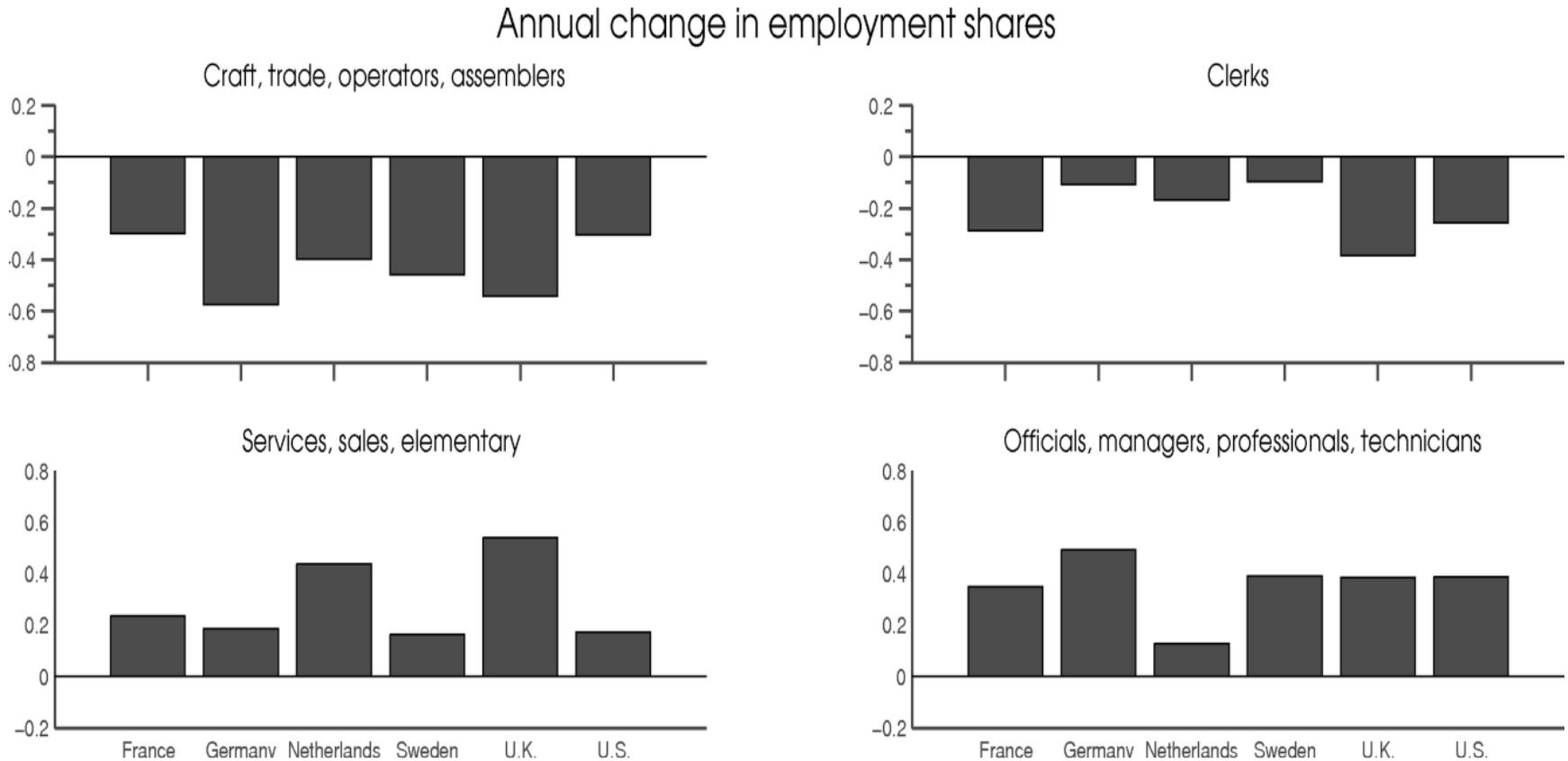
Consider the ratio between the 90th and 10th percentiles, and between the 75th and 25th percentiles, of the country-level income per capita distribution. The gap between the very rich (90th percentile) and very poor (10th percentile) countries, as well as that between moderately rich and moderately poor (75th and 25th percentiles), has opened up steadily over this time period.

## ***5) The transformation of work and wages***

- Technological changes have also transformed the nature of work.
- The disappearance of many of the middle-skill, manual and routine jobs has been an equally far-reaching aspect of the transformation of work in advanced economies.
- A complementary process, again unleashed by technological advances and contributing to the same outcomes, has been the globalization of technology and production:
  - many tasks previously performed domestically by low- and middle-skill workers are now performed in places such as China where labor is cheaper.
- A major impact of these trends has been distributional:
  - as the demand for low- and middle-skill work has declined, the distribution of earnings in the US has become more unequal, and as the middle-skill jobs have disappeared, it has become polarized.

# 5) The transformation of work and wages

The following figure gives a glimpse of these trends by showing the decline in production, assembly, and operation and clerical occupations, and the increase in a range of service and managerial occupations in the US, the UK, Germany, France, the Netherlands, and Sweden over the last 20 years.

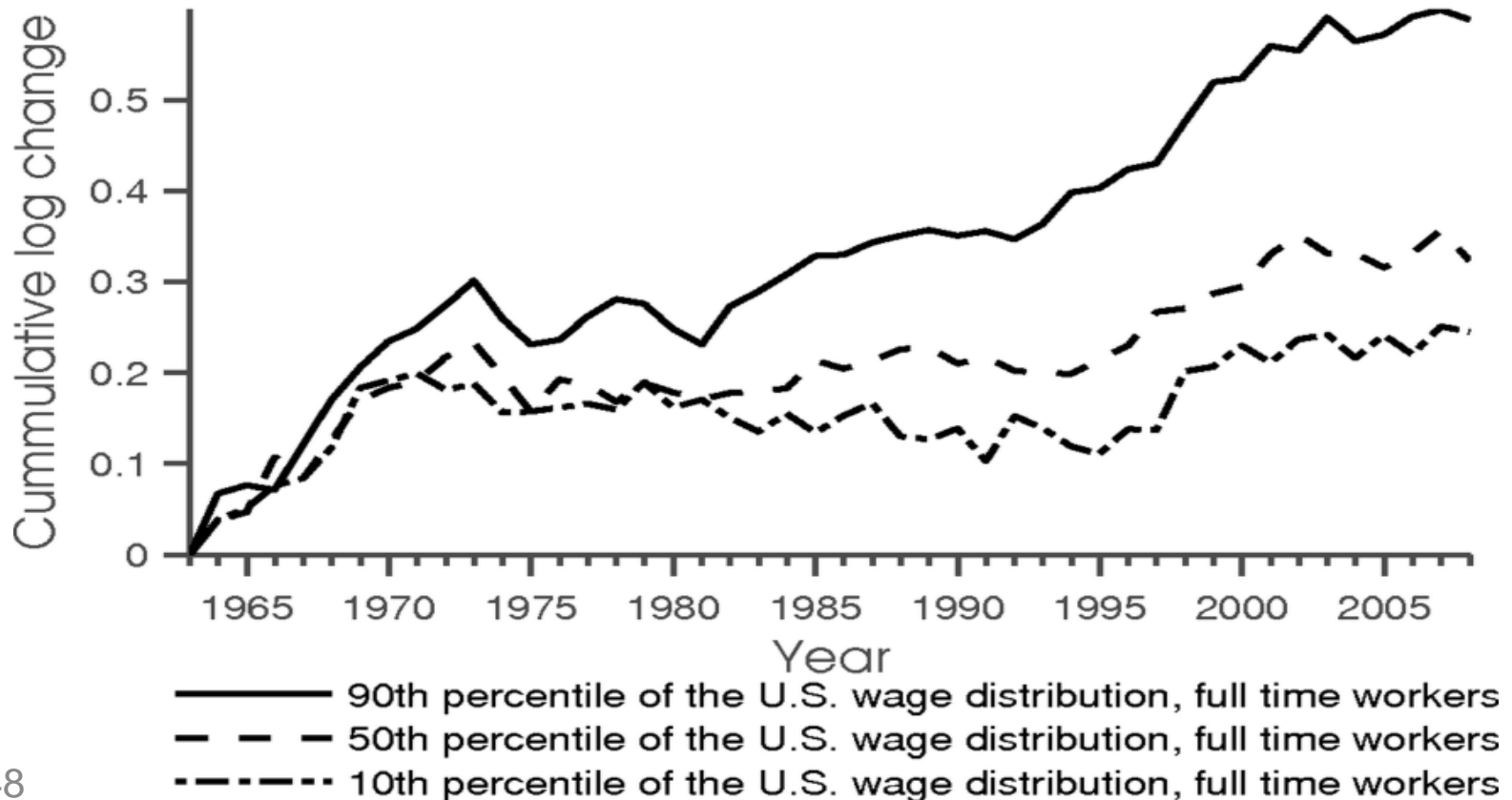




## 5) *The transformation of work and wages*

A widening gap between the 90th and 10th percentiles and, even more strikingly, between the 90th and the 50th percentiles of the US earnings distribution.

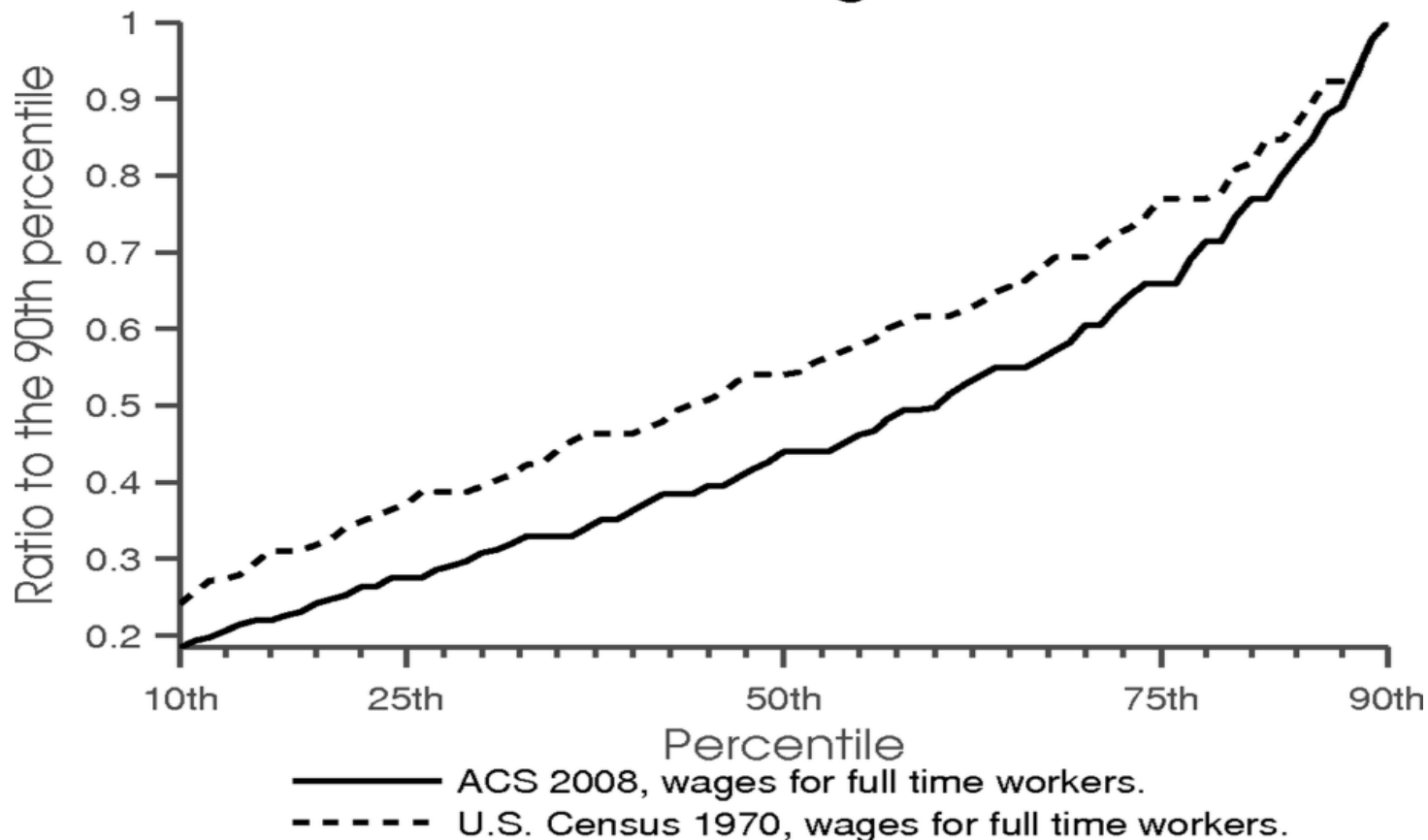
### Evolution of 10th, 50th and 90th percentiles of the U.S. wage distribution



## 5) *The transformation of work and wages*

The following out of the income distribution by depicting how different percentiles of wages have changed relative to the 90th percentile between 1970 and 2008. We have witnessed not only a disparity in growth among nations, but, in recent decades, an increasing disparity within nations.

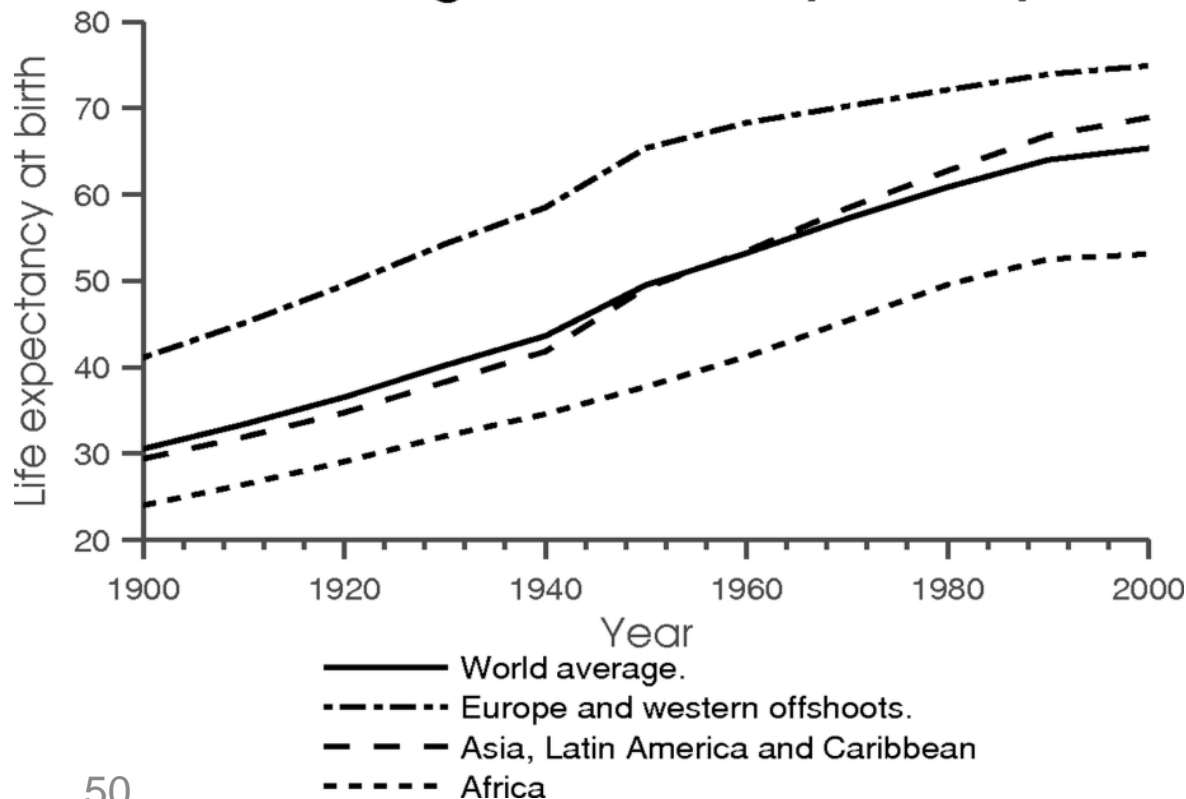
### Distribution of wages in the U.S.



## 6) *The health revolution*

- Though the wealth of nations has become more unequal, the picture is very different for the health of nations.
- There has been a striking improvement in health over the last 100 years, in the world as a whole, and in all geographic regions.

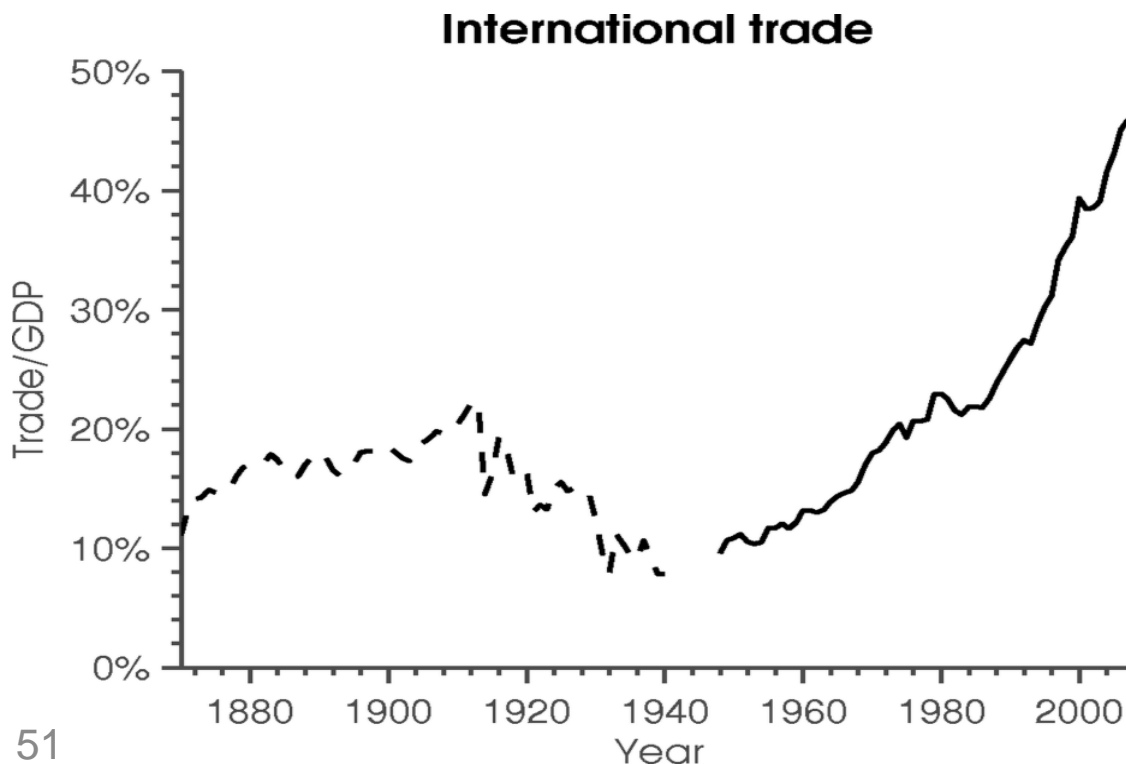
**Convergence in life expectancy**



The figure illustrates this by plotting the evolution of life expectancy at birth both globally, and separately for Europe and some of its offshoots (Australia, Canada, New Zealand and the US); Asia and Latin America; and sub-Saharan Africa. It also shows a striking narrowing in the differences between life expectancy in the rich world and in Asia and Latin America.

## 7) *Technology without borders*

- New communication technologies and changes in trade policies have also created a more integrated world.
- Granted, international trade as a fraction of national income was also high in the early 20th century, but both the scale of international trade and the globalization of technology and production distinguish the recent developments in this area.



Advances in communication technologies and possibilities for outsourcing and offshoring tasks now enable firms to more comprehensively arbitrage low wages around the world.

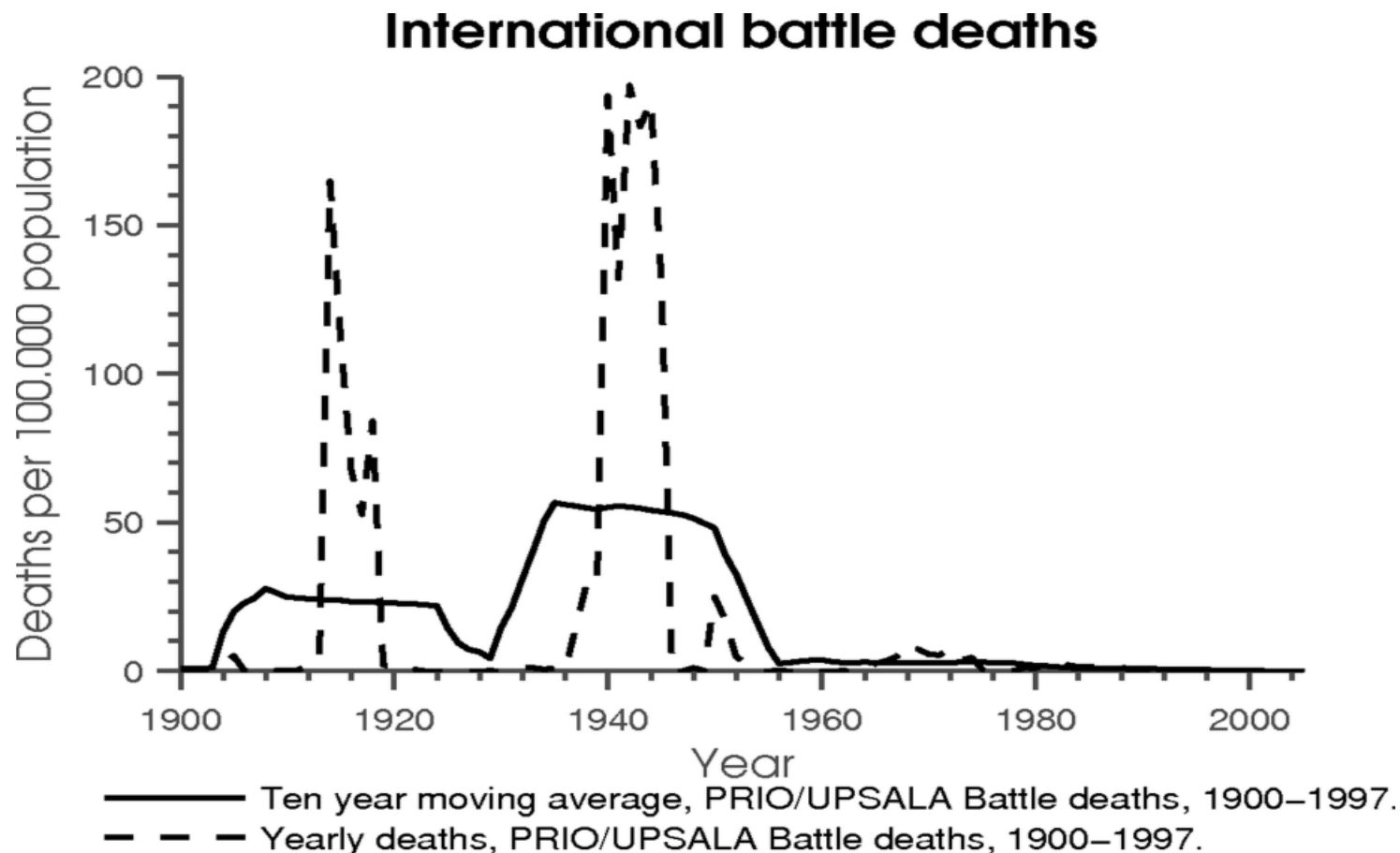
This, also has important implications for the institutional and technological trajectories of these emerging economic powers.

## ***8) Century of war, century of peace***

- The 20th century started off badly and got worse in one very important regard:
  - major wars and the waste of millions of innocent lives.
- The two most deadly conflicts of human history were waged within the first half of the 20th century.
- Perhaps surprisingly, the subsequent 60 years, though not free of deadly civil and international wars, have been the most peaceful throughout our recorded history.

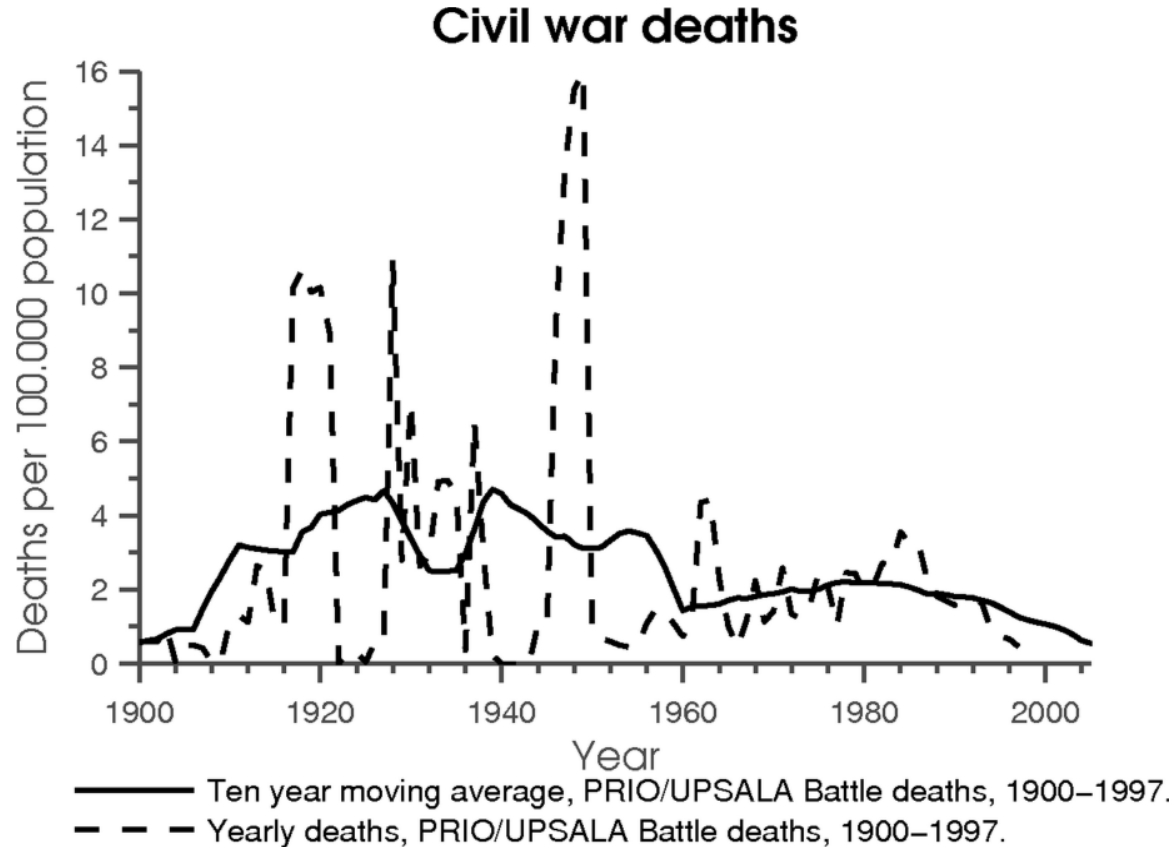
## 8) *Century of war, century of peace*

The total number of deaths from international wars per 100,000 and the 21 year moving average of these numbers, which makes the trends — the highs due to the two world wars and the lows over the last 60 years — easier to see.



## 8) *Century of war, century of peace*

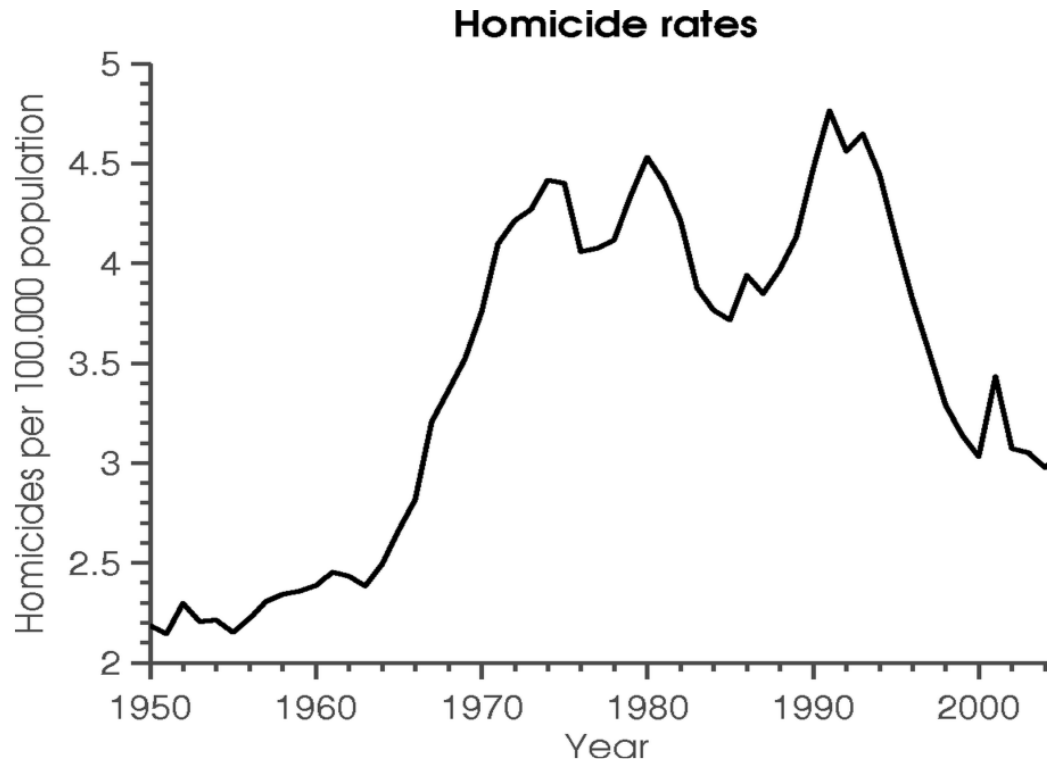
The raw numbers and the moving average for deaths from civil wars.



Though there is a spike following the end of colonial rule in much of the world, the trend in the last half century has been towards fewer and less deadly civil wars, despite the deadly conflicts in Rwanda and the Balkans.

## 8) *Century of war, century of peace*

Violence within countries, as measured in terms of homicides, follows a different trajectory, in the developed world.



In the 1960s there was a sharp increase in homicides in the US, Canada, Australia, New Zealand, and almost every European nation. But this was followed by an equally sharp downward trend from 1990 onwards.

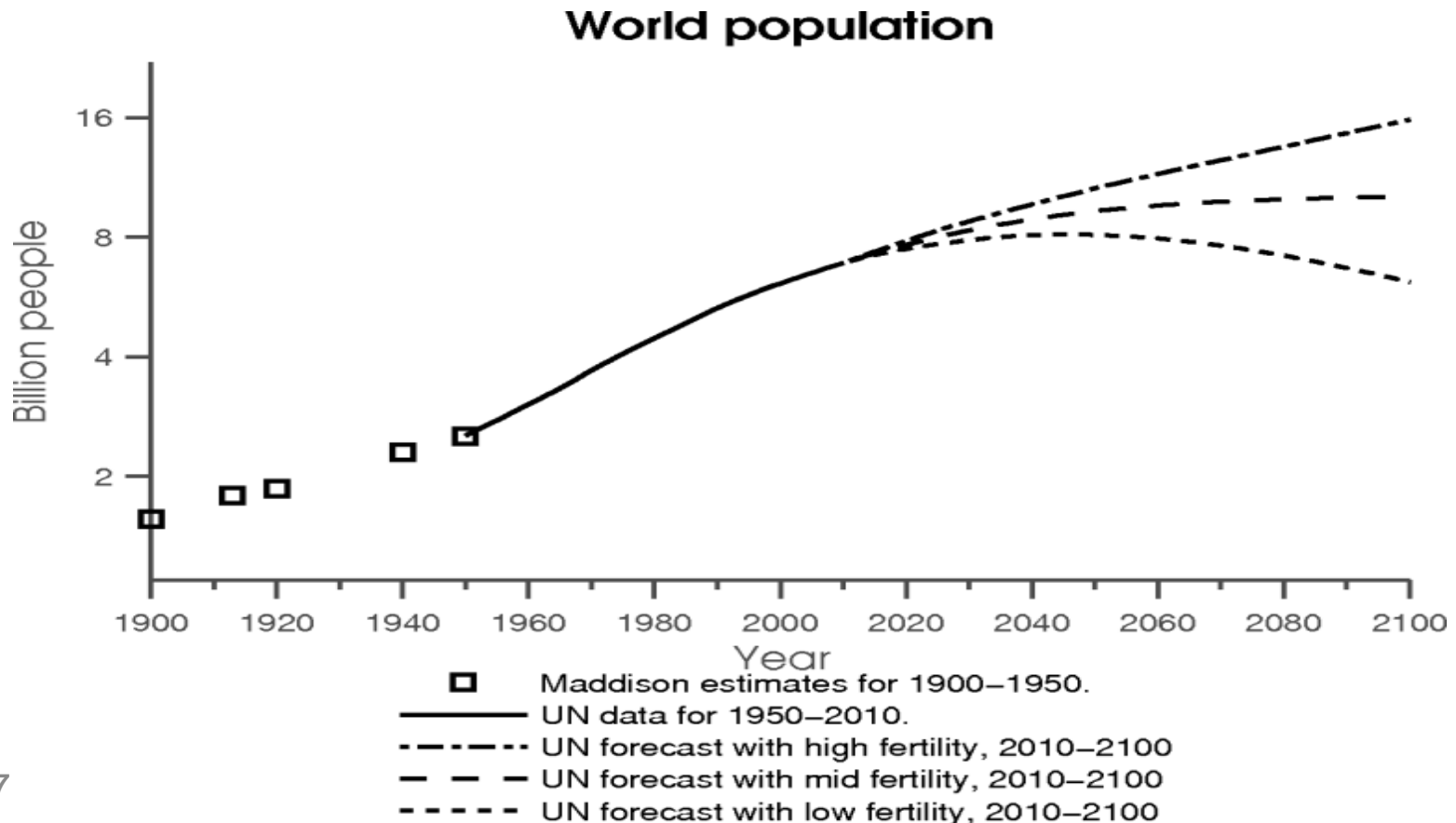


## 9) *Counter-Enlightenment in politics*

- The first half of the 20th century was dominated by the rise of two anti-democratic political movements, fascism and communism, which unleashed unprecedented violence on the citizens of the countries they engulfed.
- It took World War II to vanquish fascism's most notorious form, Nazism, but fascistic regimes in Greece, Portugal, Spain, and Latin America lingered until the 1970s. Most communist states disintegrated after the rights-based popular uprisings of 1989, although some remain.
- The last four decades, however, witnessed another counter-Enlightenment movement: the increasing prevalence of religion in politics.
  - This trend cuts across religions and regions: Fundamentalist Christians have become a renewed force to be reckoned with in U.S. politics during the last half century and ultra-Orthodox Judaism now plays a more important role in Israeli and Middle Eastern politics. But this development is most dramatically illustrated by the resurgence of political Islam in the Middle East, North Africa, and South Asia.
  - Following the more secular regimes that had sprung up in those regions during the first 60 years or so of the 20th century, political parties oriented around religion have acquired more power in many countries during recent decades throughout the Muslim world.

# 10) *The population explosion, resources and the environment*

The world's population has increased from 1.5 billion in 1900 to 6.9 billion in 2010. Most of this increase has been in the less prosperous parts of the world. The growing population and rising income per capita have placed increasing demands on our environment.



# 10) *The population explosion, resources and the environment*

Many scholars have publicly worried that we will outgrow our planet's ability to support us.



The pessimistic and optimistic views on this were characterized by the famous wager between environmentalist Paul Ehrlich — who had predicted a demographic catastrophe and widespread resources scarcities — and economist Julian Simon, about the prices of a bundle of scarce commodities.

# The Inevitable Trends: Returns and Uncertainty

- The speed of economic and social development is a key feature of the 20<sup>th</sup> and especially the early 21<sup>st</sup> century. The associated changes affect all participants in the world economy, whether national economies, businesses or individuals.
- Certain changes are almost impossible to avoid. Some of the factors that determine future change are already visible and depend on the analytical time horizon.
- The changing environment thus increases uncertainty.

# The Inevitable Trends: Returns and Uncertainty

- Some of the inevitable trends observed are the following:
  - I. The Multipolarized and Globalized World
  - II. Full Competition and Market Liberalization
  - III. The Individual Empowerment
  - IV. The Aging Problem and Migration
  - V. The Climate Change
  - VI. The Disrupting Technologies
  - VII. Low Rates of Return and High Uncertainty

# I. The Multipolarized and Globalized World

- The new course of the globalized economy is highlighted by the end of the unipolar world and the arrival of a multipolar world (Easton 2011).
- Simultaneously, an unprecedented change in the composition of world GDP is being observed, leading to changes in the global power centers of the multipolar world:
  - a) Japan has lost ground almost as fast as it previously gained it; b) China has increased its share of global GDP; c) Western countries' share of global GDP has reduced significantly during 1960 to 2012 (more so than the cumulative reduction noted in the previous four decades) , and d) the shares of global GDP of the U.S. and the European Union have also reduced .
- The alteration of the forces that shape global GDP has been accompanied by changing trends in global trade.

# I. The Multipolarized and Globalized World

- At this point, it is obvious that the concepts of the global market and multipolar world are characterized by open, integrated, and borderless international economies.
  - Therefore, they are characterized by large increases in global transactions in the international trade of goods and services, currency swaps, capital movements, and even the dissemination and development of technology.
- Simultaneously, people are no longer just citizens of their country, but consider themselves citizens of the world.
- However, a global market with these features tends to prevent the development of oligopolies and monopolies while favoring the development of perfect competition conditions. In combination with a changing world—which is ruled by uncertainty—such a global market leads to limited returns.

## II. Full Competition and Market Liberalization

- A key feature of globalization is that it increases competition.
- The driver of global economic growth is the global spread of capitalism and especially of free markets.
  - Even nominally communist countries, such as China and Vietnam, have moved away from state control of the economy to allow capitalist business.
- The opening of markets to competition is also known as liberalization.
  - Typical examples of recently liberalized markets are services such as transport, energy, postal services and telecommunications.
- If an industry is open to new entrants, the existence of profits will attract new firms. In such industries, a firm can make only normal profit. Any entrepreneurial return above normal profit is excess profit, whose long-term persistence depends on barriers to the entry of new firms (Mukherjee 2000). Free entry means no scope exists for making excess profits in perfect competition. Thus, when competition is high, profits are merely normal.



# III. The Individual Empowerment

- Individuals play an important role in a changing environment such as that formed by the present multipolarized and globalized world.
- This is especially so in the current period in which the global economic crisis:
  - has made social needs more pressing and most of the global challenges faced today have assumed increasingly social dimensions.
- For this reason, individuals need the ability to improve their strength, skills and abilities to respond to the changing conditions of globalization, make decisions and meet their present and future goals.
- When individuals sufficiently understand the surrounding reality, they can achieve what we call “individual empowerment”. Empowerment of individuals leads to empowerment of society.

## IV. The Aging Problem and Migration

- Population aging is a global demographic development, since it occurs in all regions and in countries at various levels of development.
- In fact, this phenomenon is progressing fastest in developing countries, including those with large populations of young people.
- Due to declining mortality, increased child survival and increased longevity, the global population over 60 years of age is expected to more than double, from 841 million in 2013 to 2 billion by 2050.
- Meanwhile, the world population is expected to increase to around 8.1 billion by 2025, from 7.2 billion in mid-2013, and by 2050 it is expected to reach 9.6 billion (United Nations 2013).
- Immigration is another important demographic issue that affects the world economy.
  - The total number of international migrants has increased from an estimated 150 million in 2000 (IOM 2010) to 214 million in 2010 (UN 2010).

# V. The Climate Change

- Climate change is one of the most important issues that the world must address in the near and distant future, being one of the major sources of economic uncertainty as it significantly affects economic output, and simultaneously poses risks for humans and ecosystems (IPCC 2014).
- Climate change is not merely a problem of the future; it is occurring now, and there is 95% certainty that human activities are responsible (IPCC 2014).
- Climate change is predicted to continue in the near future due to the high atmospheric concentration of greenhouse gases (GHGs), mainly carbon dioxide, methane and nitric acid (Solcomhouse 2007, EPA 2014).
- The impacts of climate change are expected to differ among areas, but no areas will be left untouched.
- The three largest effects anticipated as a result of climate change are:
  - a) geographical changes and changes in crop yield,
  - b) reduction in water reserves for crop irrigation, and
  - c) disappearance of land due to rising sea levels and increased soil salinity.

# VI. The Disrupting Technologies

- The evolution of technology, particularly during the last century, has the power to alter the consumption model, create new needs, produce new goods and services, disrupt the status quo, and change the way individuals live, think and work.
- To be classified as “disrupting” a technology should represent a rapid change in either potential or price/return compared with competing products and substitutes, or should be related to developments that drive accelerated rates of change or discontinuous capability improvements (McKinsey 2013).
- Simultaneously, to be considered economically disruptive, a technology should strongly impact a substantial number of enterprises and organizations, thus affecting numerous productive operations and creating a large economic impact.
- Some disrupting technologies with significant potential to drive economic impact and disruption by 2025 are (McKinsey 2013):
  - internet, mobile internet, cloud technology, automation of knowledge work, advanced robotics, autonomous and near-autonomous vehicles, next-generation genomics, energy storage, 3D printing, advanced materials, advanced oil and gas exploration and recovery, and renewable energy.

# VI. The Disrupting Technologies – The Big Data

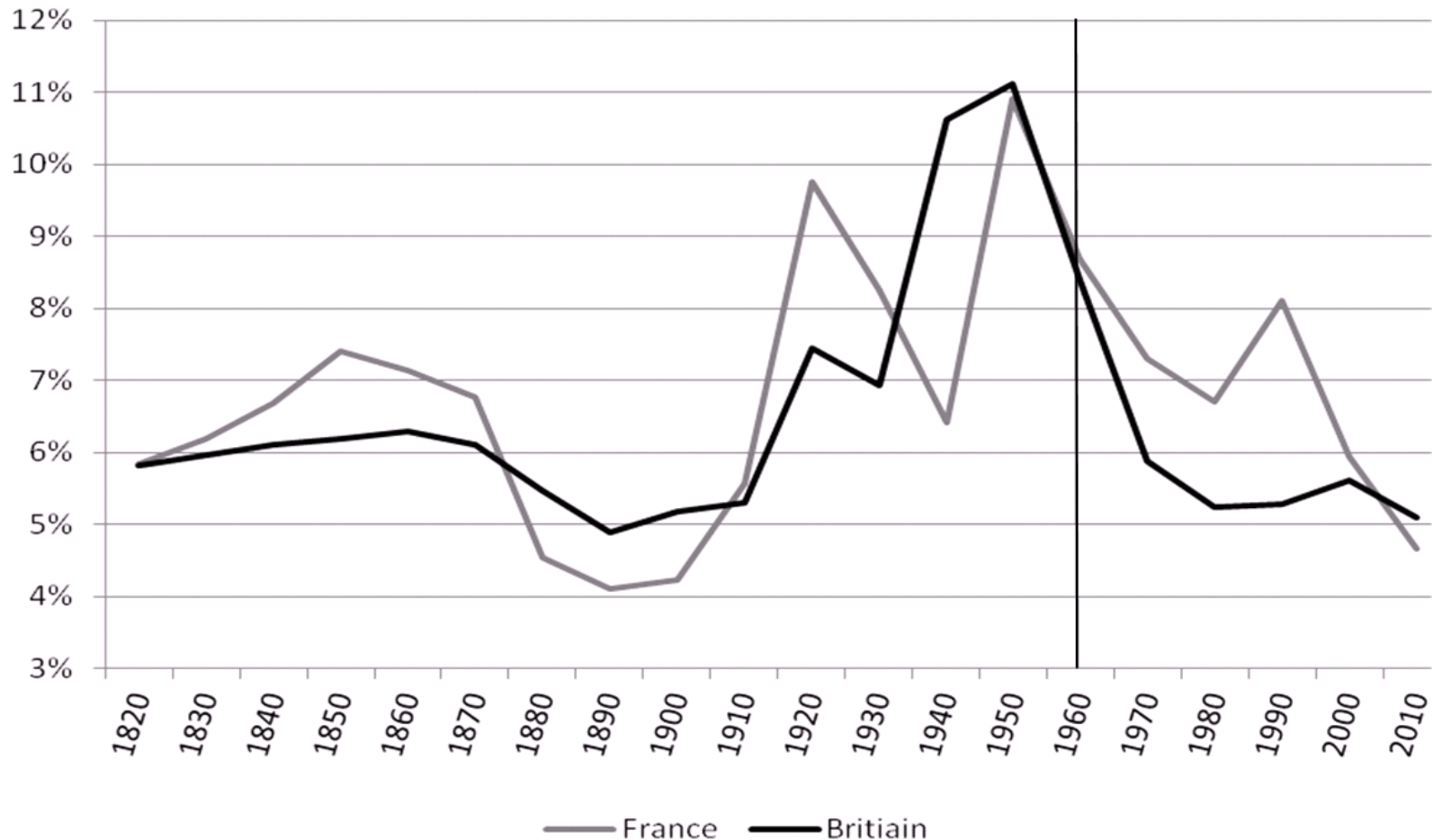
- Simultaneously, we have entered an era in which the evolution of technology has led to the use and analysis of Big Data.
- Big data are high volume, high-speed or high-variety data that require efficient and innovative processing.
- This is thus a development that may significantly affect the future and presents unique challenges to international development.
- Additionally, it concerns the entire world and almost all sciences, including meteorology, genetics, economics, business informatics, complex physics simulations, and biological and environmental research.
- Big data analysis can be an important source of problem solving for enterprises as well as an important step towards production process optimization.

## VII. Low Rates of Return and High Uncertainty

- From the 1950s onwards (approximately), the broad adoption of monetary policy has significantly increased the global money supply.
- The growth in money circulation has decreased interest rates, in turn decreasing investment incentives.
- Of course, low rates of return in turn lead to low returns globally, and also feed so-called financial “bubbles”.
- Very low interest rates cause significant distortions and, in many cases, irreparable malfunctions.
- Moreover, they create dilemmas for investors regarding whether to accept low returns to protect capital, or assume more risk in pursuit of higher returns.

# VII. Low Rates of Return and High Uncertainty

Pure returns on capital in the U.K. and France



Source: Piketty (2013).