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Productivity in Crisis: Short-Term Developments and Long-Term Prospects

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Bart van Ark

Bart van Ark, Executive Vice President and Chief Economist, is The Conference Board's primary spokesperson on the economy and leads a team of 20+ economists around the world (New York, Brussels and Beijing) who produce a portfolio of widely watched economic indicators and growth forecasts, as well as in-depth global economic research. He is an expert in international comparative studies of economic performance, productivity and innovation.

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Understanding Trends, Shocks and Shifts

Trends in supply and demand in Europe – pre-crisis 2008/09

- On the supply side (from growth analysis like EU KLEMS):
  - Strong employment growth in Europe since mid 1990s
  - Weak productivity growth due to lack of ICT applications especially in market services
  - Divergence on unit labor cost over most of first decade of 2000s
- On the demand side (from global vale chain analysis like WIOD)
  - Significant rise in Europe's income and net job creation from global value chain (GVC)
  - Increased share of income from GVC is generated by services rather than manufacturing
  - Increased share of GVC income goes to high and medium-skilled labor

The key questions

- How do we reconcile the old story of Europe's slow productivity performance, relative to the newly emerging evidence from the value chain analysis?
- Has Europe, despite its weak aggregate productivity performance, become more of a stronghold in the global value chain?
- What does the external performance imply for the future performance of the domestic sectors?
- Is the 2008/09 recession and subsequent financial and economic crisis changing the trend?
- How do patterns evolve between the different economies in Europe? Is Europe internally diverging or converging?

The key insights from latest growth research since the crisis

- Latest aggregate and sectoral growth analysis shows the productivity problem has spread across sectors in the economy
- Goods sector is recovering faster from the crisis than services
- Market services further increased contribution to global value chains, both in terms of job creation as well as productivity
- A multi-tiered Europe emerging?
  - Integrated value chain: a Germany-led supply chain group, including Austria and much of Central and Eastern Europe
  - Global niche players: an arc of small economies in northwestern Europe (Nordic/Baltic/Benelux/Ireland)
  - Deindustrialisation model: the United Kingdom
  - Inward looking: the Mediterranean group

Sources

- Bart van Ark (2012), ***Is the Global Economic Speed Limit Slowing Down?***, The Conference Board, StraightTalk, November
- The Conference Board (2013), ***Productivity Brief 2013*** (http://www.conference-board.org/pdf_free/economics/TED2.pdf)
- Bart van Ark, Vivian Chen, Bert Colijn, Kirsten Jaeger, Wim Overmeer, and Marcel Timmer (2013), ***Recent Changes in Europe's Competitive Landscape and Medium-Term Perspectives: How the Sources of Demand and Supply Are Shaping Up***, paper for DG ECFIN Fellowship Initiative, "The Future of EMU & Economic Growth Perspectives for Europe, The Conference Board and University of Groningen
- Timmer, Marcel P. Abdul Azeez Erumban, Bart Los, Robert Stehrer, Gaaitzen de Vries (2012), ***Slicing Up Global Value Chains***, WIOD Working Paper Nr. 12, September
- Bert Colijn and Bart van Ark (2013), ***Will the Decline in Unit Labor Cost in Europe's Troubled Economies Help Improve Competitiveness?***, The Conference Board Executive Action Series, Productivity and Competitiveness Series.

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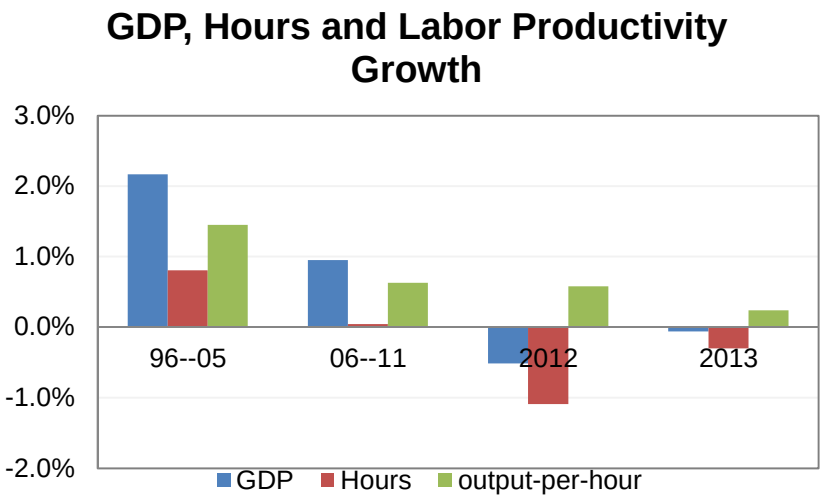
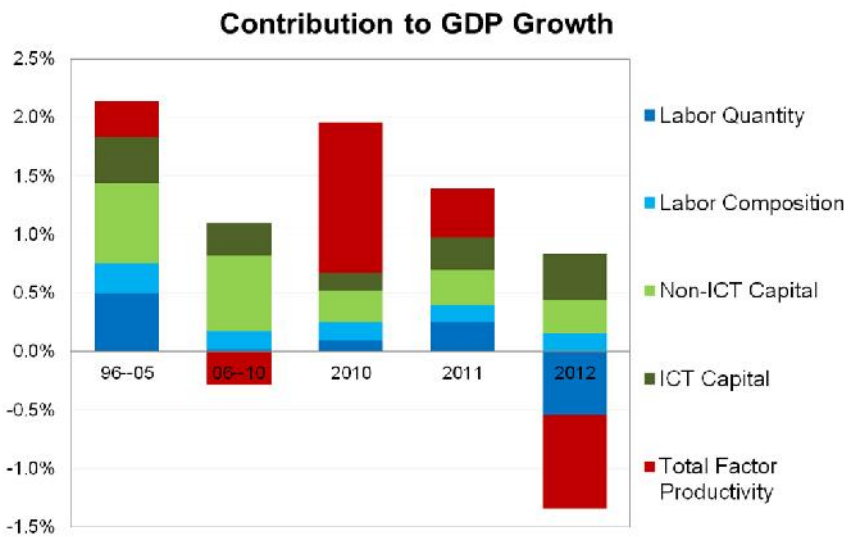
Major Trends on the Supply Side: The Sources of Growth

The Conference Board Total Economy Database™

- TCB flagship data and analysis on productivity performance
- Covers > 100 countries, with annual data on output, employment, hours, labor productivity
- Includes measures of capital inputs (machinery, ICT, labor skills, etc.) and total factor productivity
- Comes with a publicly accessible database (http://www.conference-board.org/data/economydatabase/)
- Country-specific stories on sources of growth and productivity, and what it means for investment and competitiveness
- *The Conference Board Productivity Brief 2013* (http://www.conference-board.org/pdf_free/economics/TED2.pdf) describes latest results *(*longer report in *Performance 2011).*

Euro Area: Contraction reigns as productivity growth slows

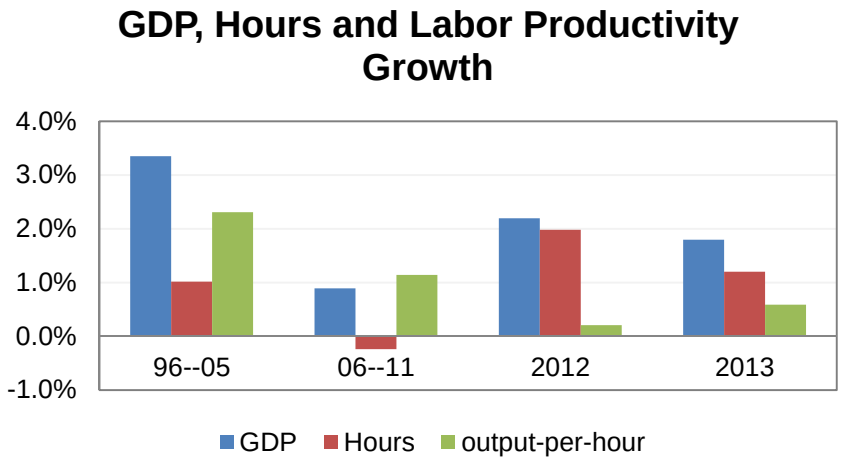


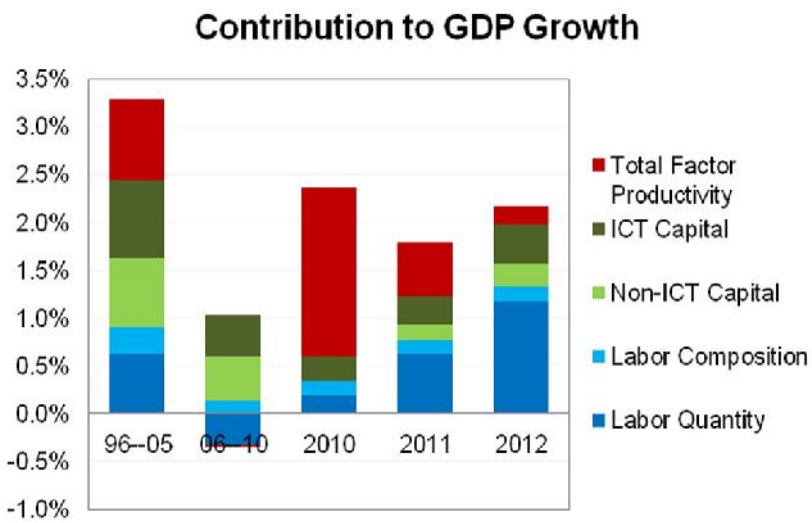


*Source: The Conference Board **Total Economy Database**™, January 2013*

- Productivity growth in the Euro Area has continued to weaken since the mid 1990s. The TFP trend has been close to zero for most years, pointing to a weakening capacity for innovation and a failure to strengthen competitiveness across the European Union
- Against the backdrop of sovereign debt and the banking crisis, Euro Area was in recession in 2012. The already weak output growth of 2011 at 1.4 percent dipped into negative territory in 2012 (-0.5%)
- Total working hours declined by 1.1 percent in 2012. Productivity growth weakened from 1.2 percent in 2011 to 0.6 percent in 2012
- Output will continue to contract in 2013 though as a slower rate (-0.1%). Together with a 0.3 percent decline in total working hours, labor productivity growth will continue to slow to 0.2 percent in 2013.
- No short-term recovery in output growth can be foreseen.

United States: productivity started to erode?

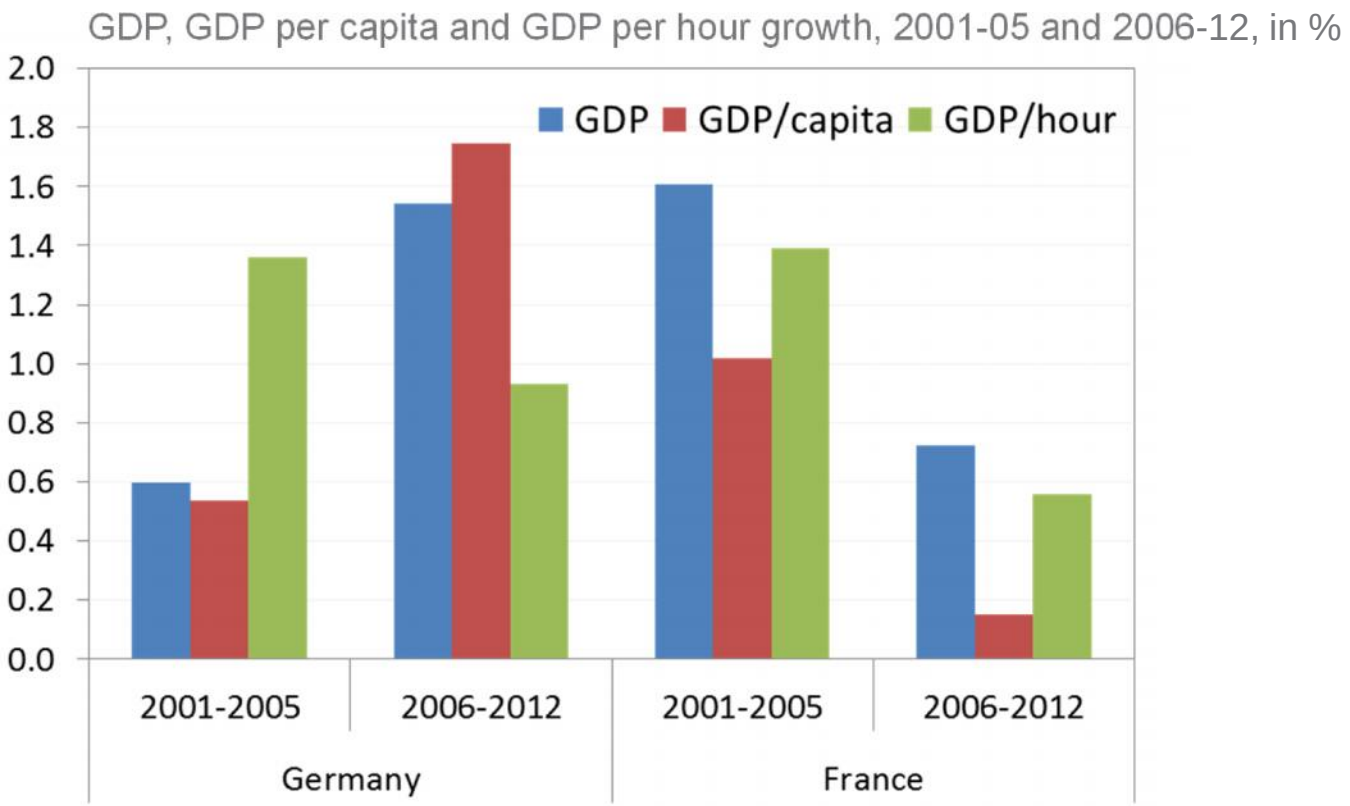




*Source: The Conference Board **Total Economy Database**™, January 2013*

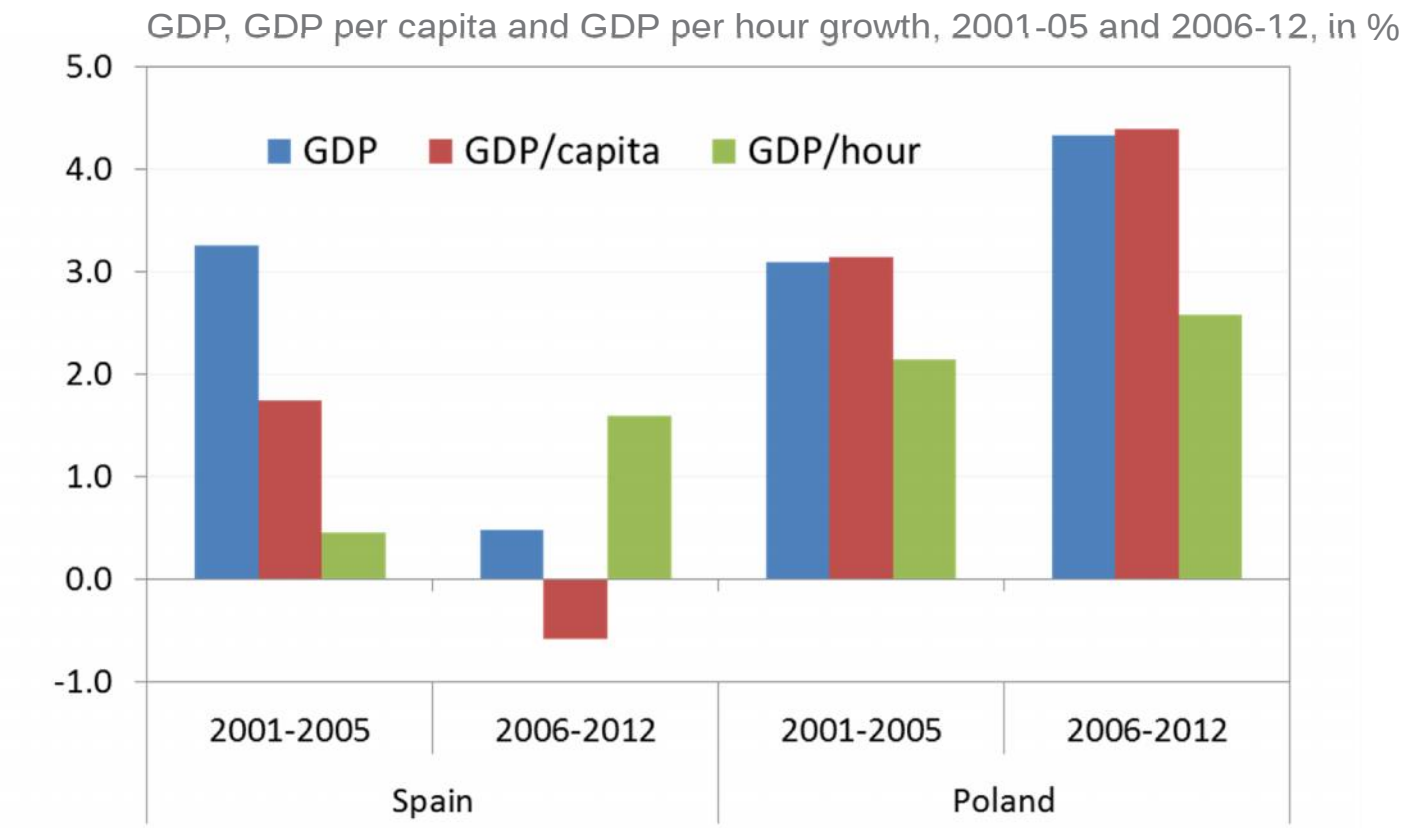
- Most of output growth in 2012 came from growth in total working hours. Labor productivity grew at a recessionary slow pace (0.2%)
- Growth momentum in total working hour will abate to 1.2% in 2013, together with a 1.8% output growth, labor productivity growth will pick up slightly to 0.6%, lower than the average of 1996-2011
- TFP growth diminished during 2006-2010. Despite a strong revival in 2010, TFP growth renewed its downward trend from 2011, suggesting that the productivity effects from ICT applications, especially in the services sector of the U.S. economy, have begun to erode
- For 2013 only a slight improvement in productivity growth is foreseen as GDP growth is held back by fiscal drag
- Some recovery in U.S. productivity growth is related to the recovery in output growth
- But upside opportunity is in greater impact from investment and total factor productivity growth

France and Germany diverge dramatically on GDP, per capita income and labor productivity



Source: The Conference Board Total Economy Database (http://www.conference-board.org/data/economydatabase/)

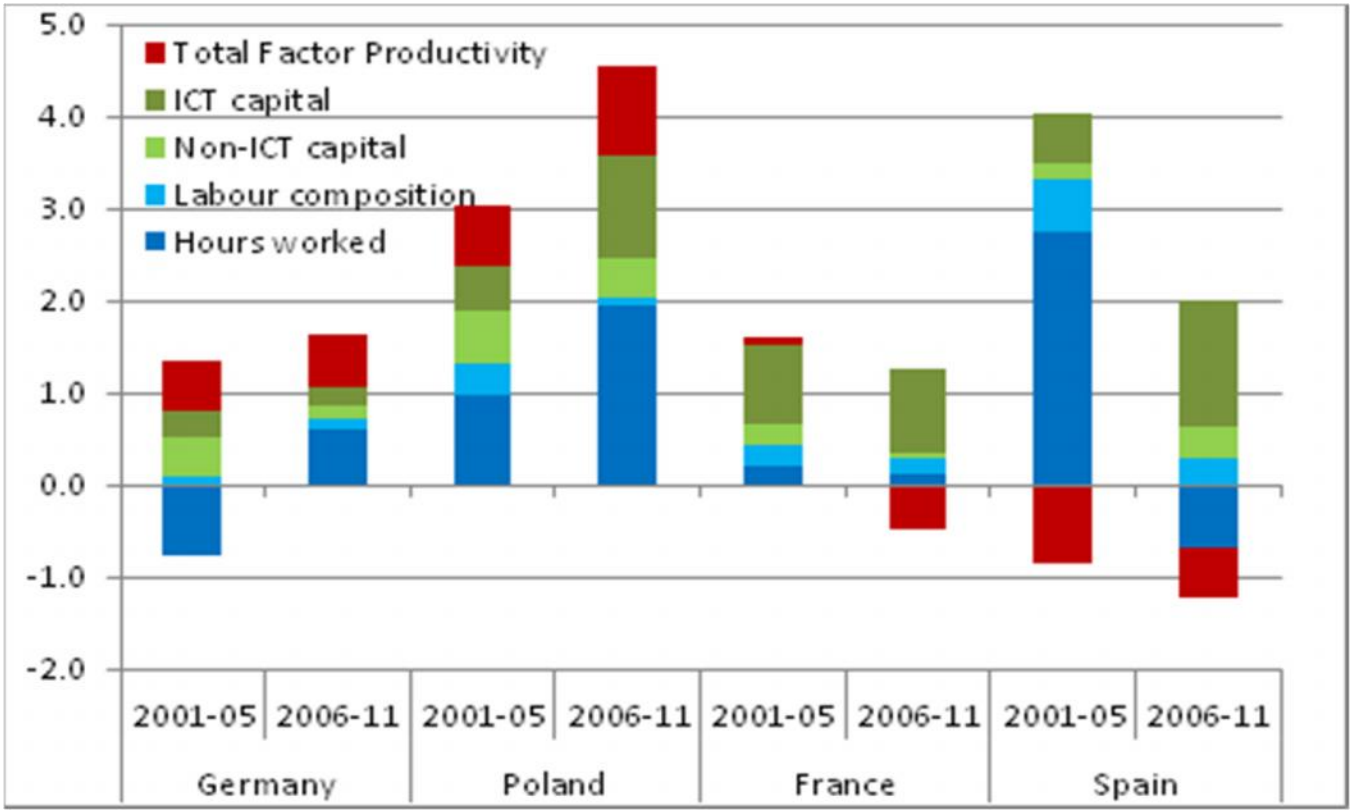
Spain has supported productivity growth through contraction, and Poland through expansion



Source: The Conference Board Total Economy Database (http://www.conference-board.org/data/economydatabase/)

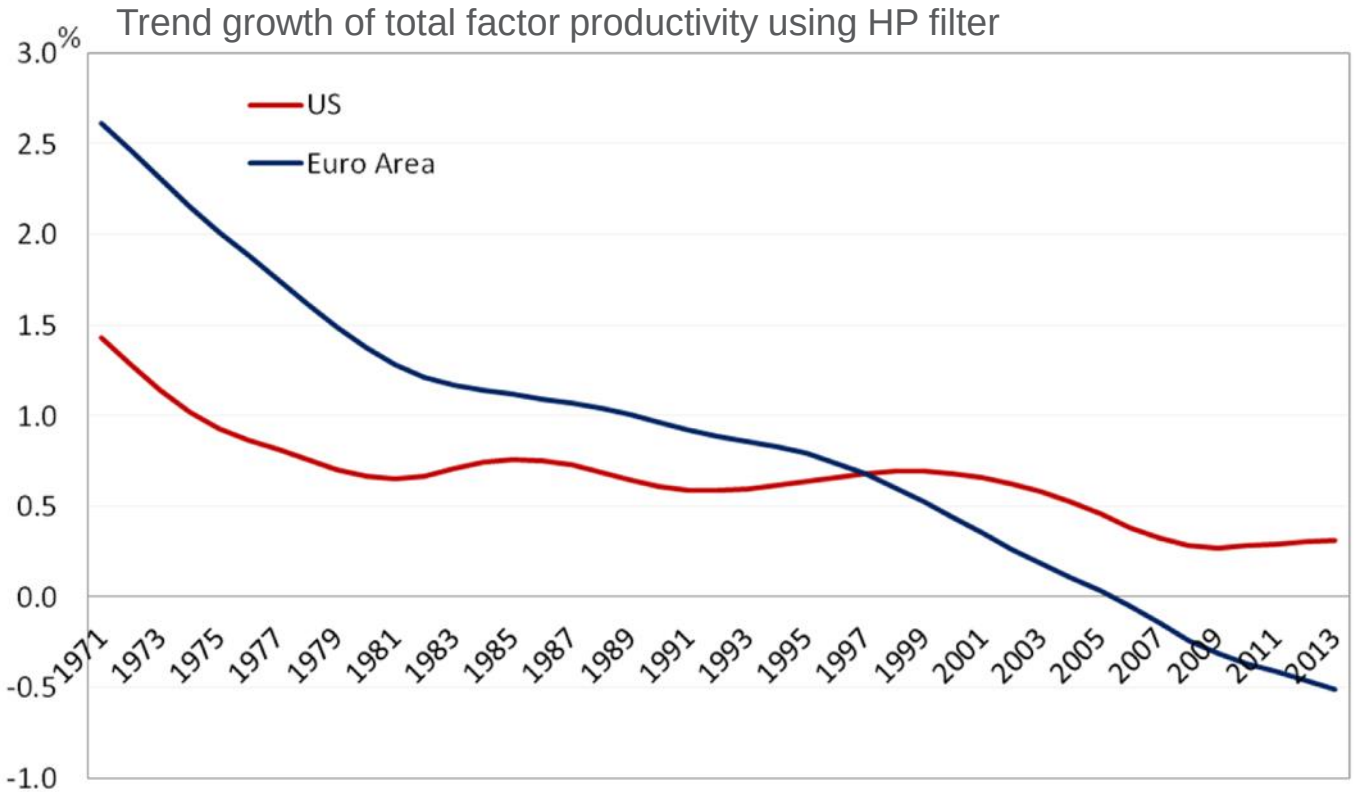
Growth contributions have shifted dramatically in favor of Germany and Poland compared to France and Spain

Sources of Growth in Total Economy, 2001-2005 and 2006-2012



Source: The Conference Board Total Economy Database (http://www.conference-board.org/data/economydatabase/)

Negative total factor productivity growth is not sustainable in the long term



Note: Total factor productivity growth accounts for the changes in output not caused by changes in labor or capital inputs.
Source: The Conference Board Total Economy Database

How can negative total factor productivity growth happen and can it last for long?

- Negative effects from recession should be short-lived once the economy recovers
- Longer-term, TFP signals weaker technological progress and innovation – an ongoing trend since decades
- Increased rigidities in labor, product and capital markets lead to greater misallocation to less productive firms
- Negative reallocation effects with more resources going to less productive sectors in the economy (EU KLEMS)
- Caveat: TFP is a residual, so measurement error in output or inputs and unmeasured effects end up here

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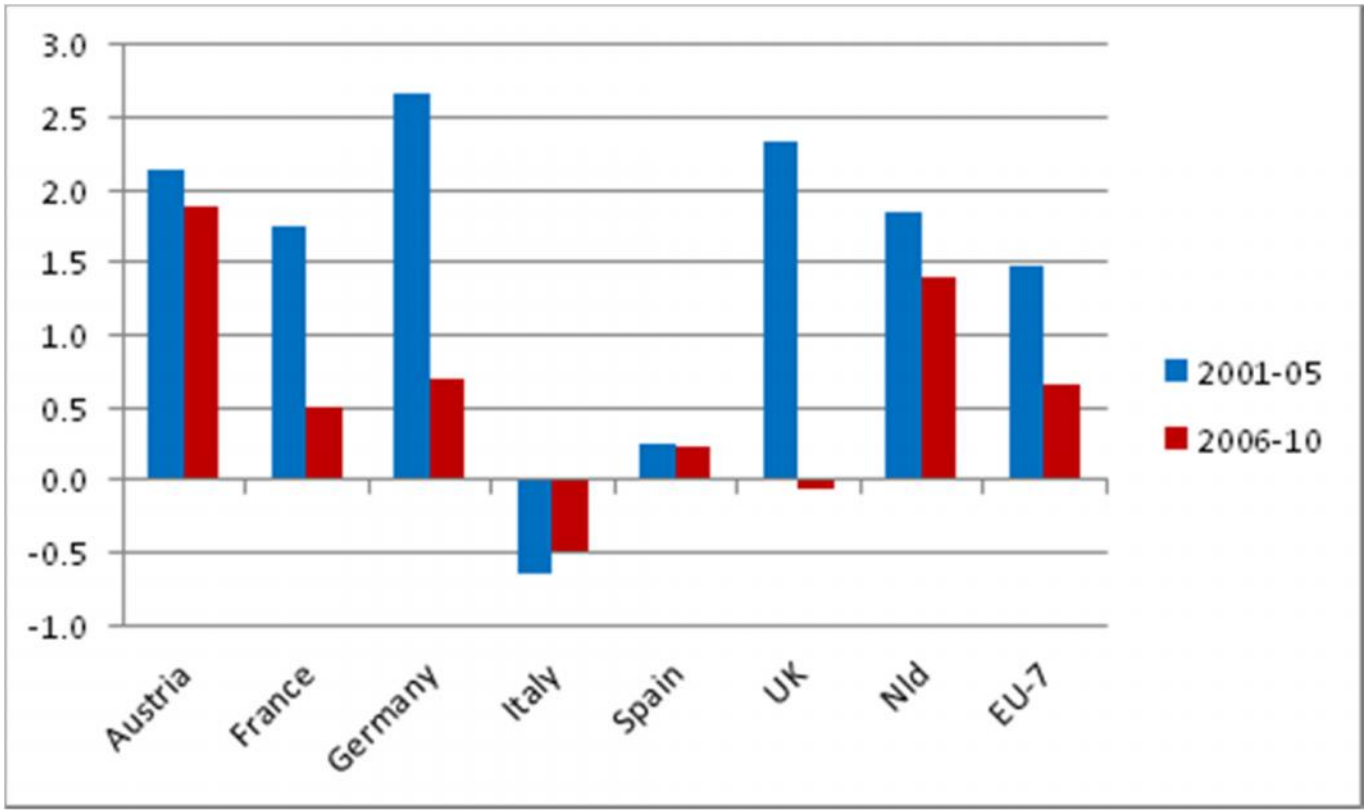
Short Term Shocks
The Impact of the Crisis on Sectoral Productivity and Unit Labor Costs

Total factor productivity growth in goods sector has not fully recovered from crisis

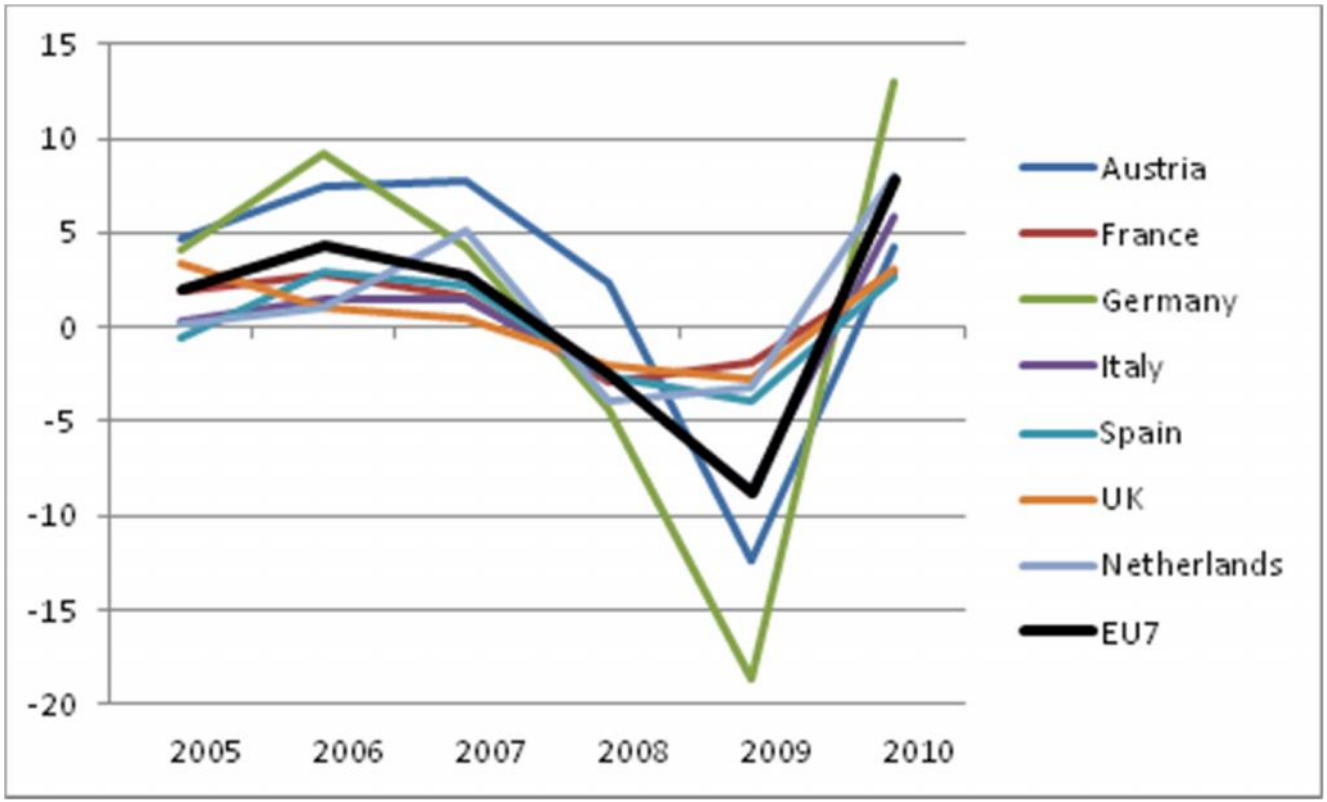
Total Factor Productivity Growth in Goods Sector, %, 2001-2010



Source: The Conference Board EUKLEMS Update (November 2012)

Speed of post-recession recovery TFP growth in manufacturing depends on depth of the hit

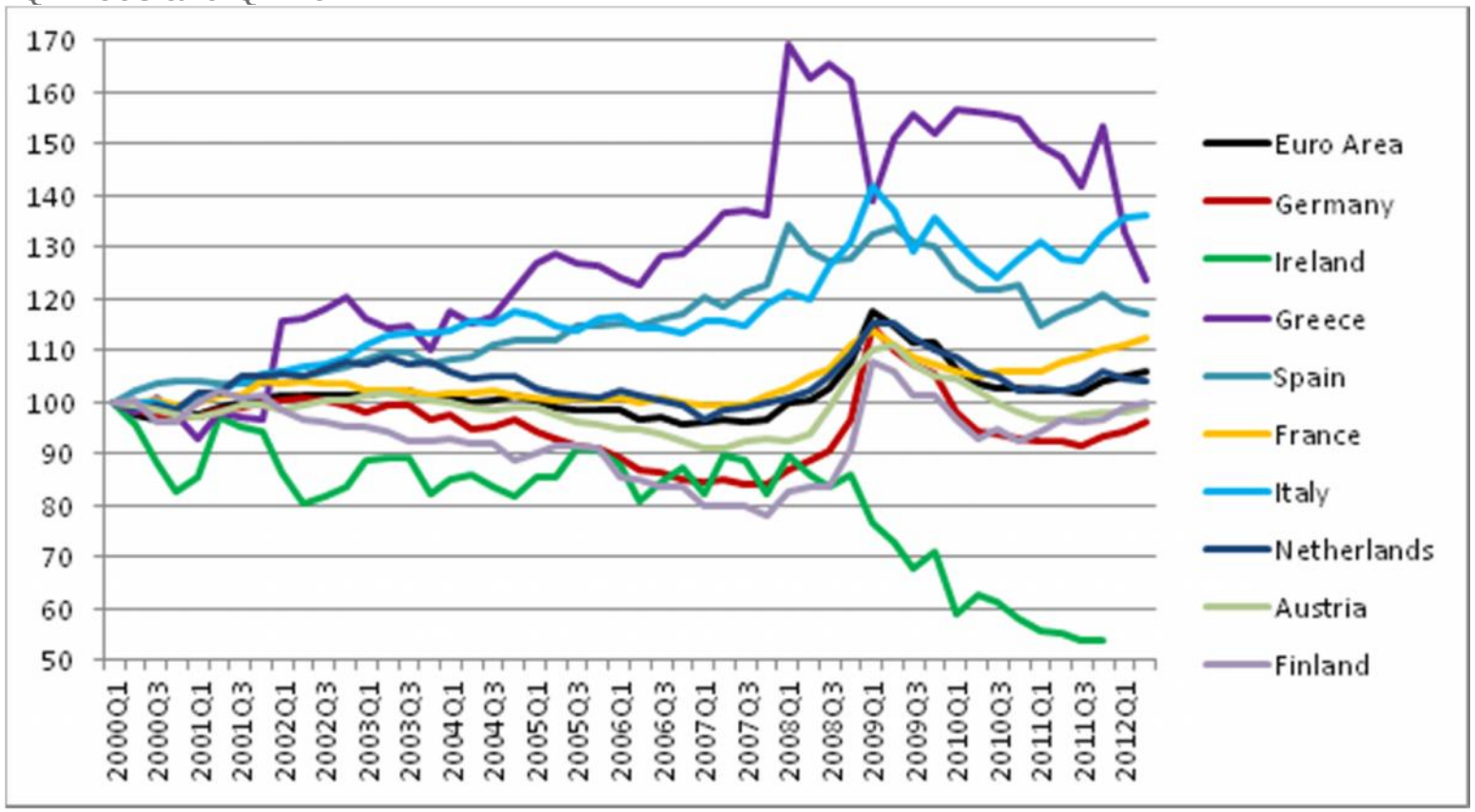
Total Factor Productivity Growth in Goods Sector, %, 2005-2010



Source: The Conference Board EUKLEMS Update (November 2012)

Divergence in unit labor cost measures across European economies begins to reverse

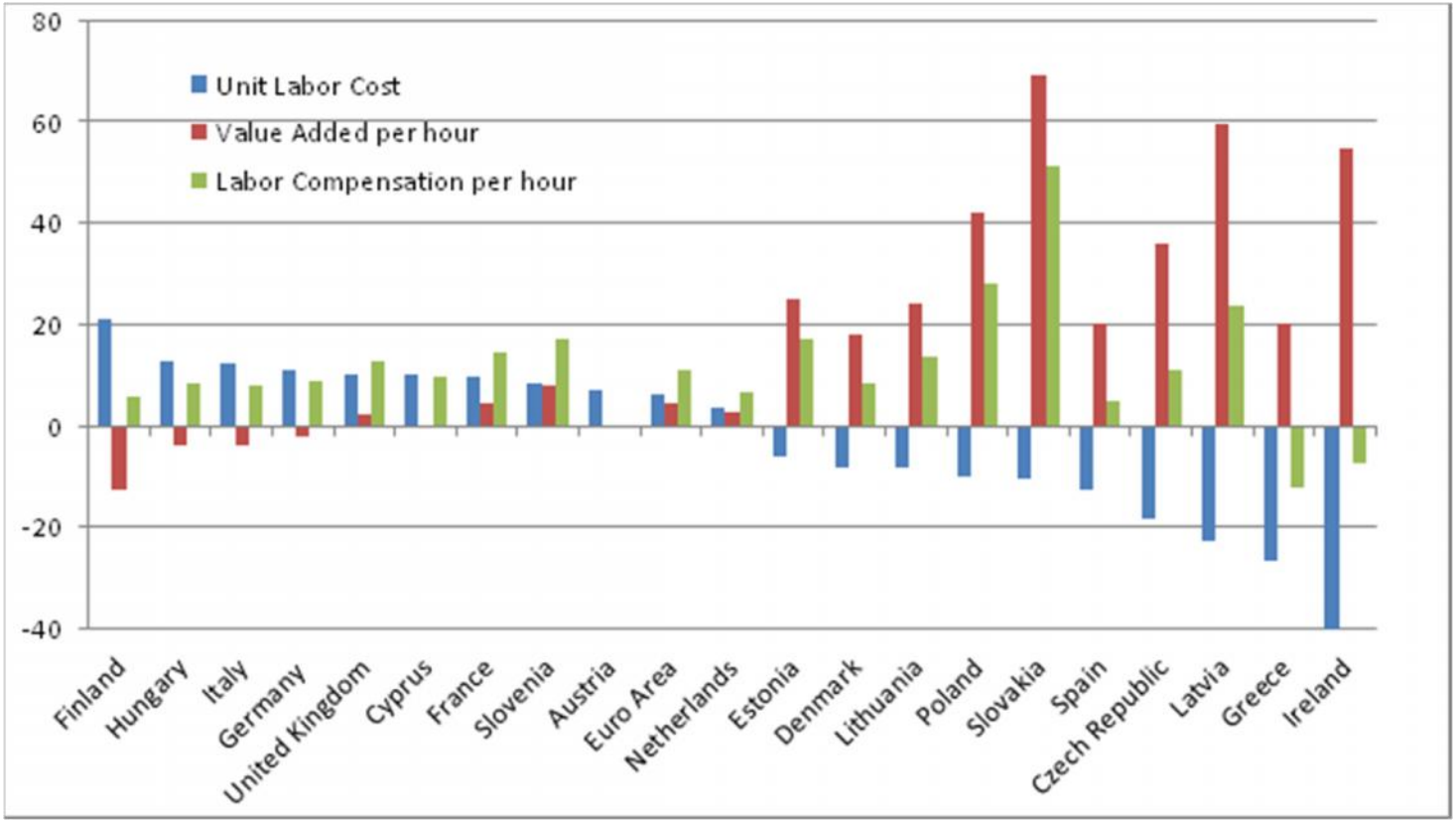
Unit Labor Cost in Manufacturing, 1st Quarter 2008 to 2nd Quarter 2012, % change between Q1 2008 and Q4 2011



Source: The Conference Board, Eurostat, Colijn van Ark (2013)

Gains in unit labor cost are mix of falling labor compensation and rising labor productivity

Unit Labor Cost, Labor Productivity, and Labor Compensation per Hour in Manufacturing, 1st Quarter 2008 to 2nd Quarter 2012, %



Note: Data for Ireland is Q4 2010-Q4 2011, data for Cyprus is Q1 2008-Q1 2012
Sources: The Conference Board, Eurostat, *Eurostat, Colijn van Ark (2013)*

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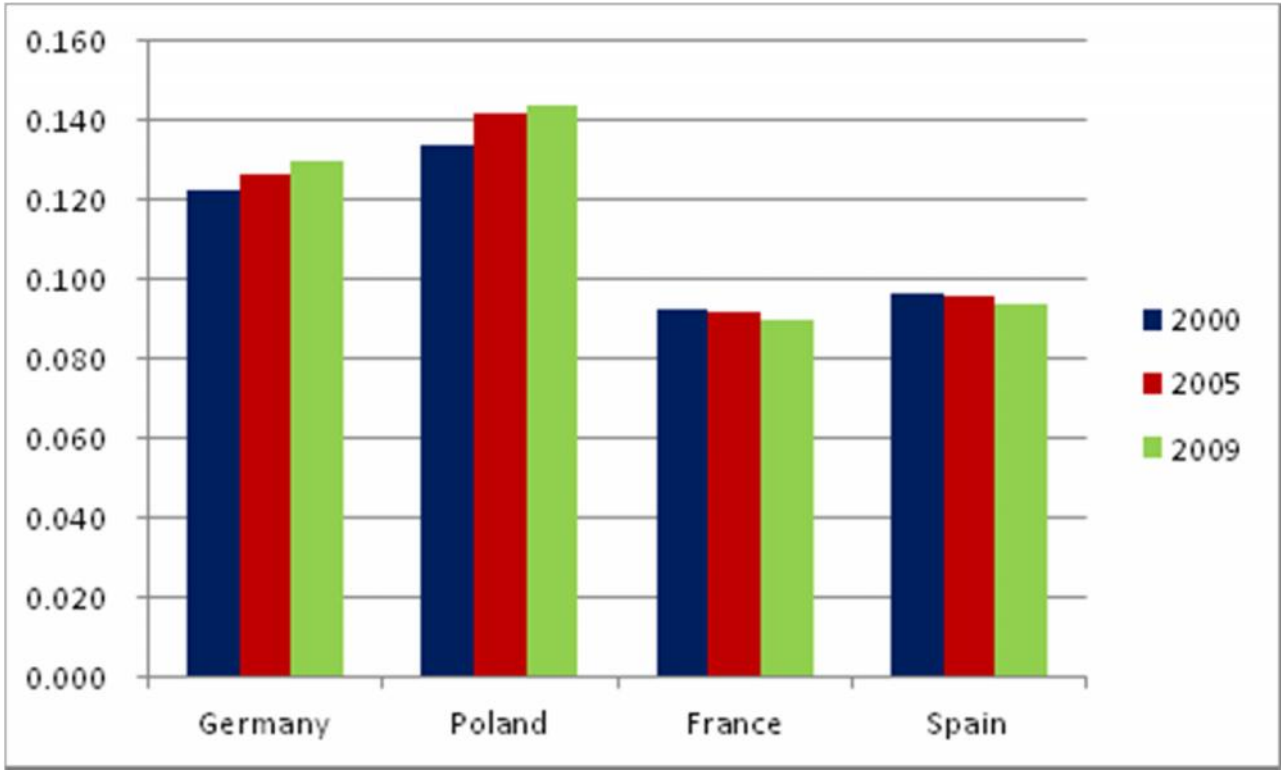
Major Trends on the Demand Side: The Global Value Chain

The World Input-Output Database

- World input-output tables for global production structure and final demand
- Covers 41 countries with annual data from 1995-2008 (http://www.wiod.org)
- Includes harmonised national supply and use tables, linking production, inputs and value added with final demand categories, and trade between countries
- Includes socio-economic accounts to measures quantities of labour by skill, industry and country, and measures of efficiency by labour type
- See Marcel Timmer, ed., *The World Input-Output Database (WIOD): Contents , Sources and Methods*, University of Groningen (http://www.wiod.org/publications/source_docs/WIOD_sources.pdf)

Employment in goods sector due to foreign demand has increased in Germany but stalled in France

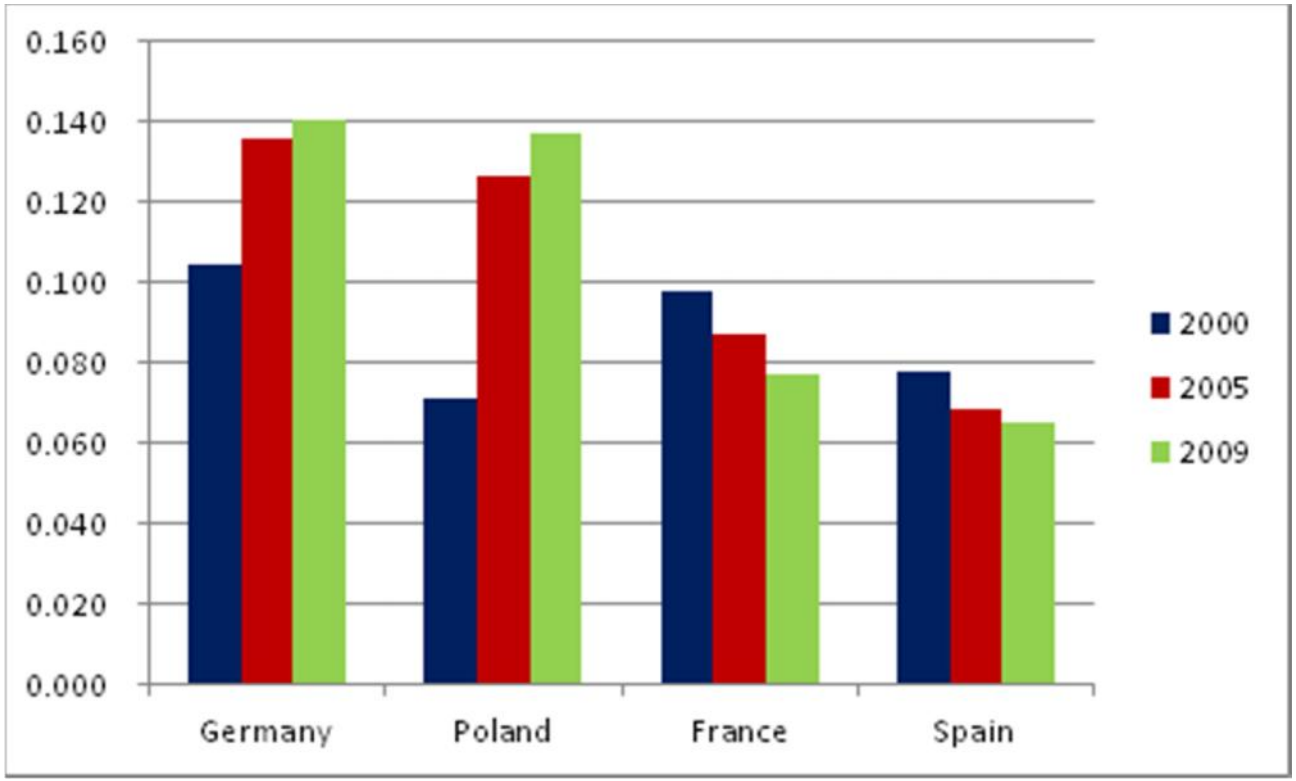
Employment Share in Goods Sectors in Producing for Foreign Demand, 2000-2009 (proportion of total employment)



Source: World Input-Output Database (WIOD)

Changes in employment shares in non-goods sector due to foreign demand have been much more dramatic

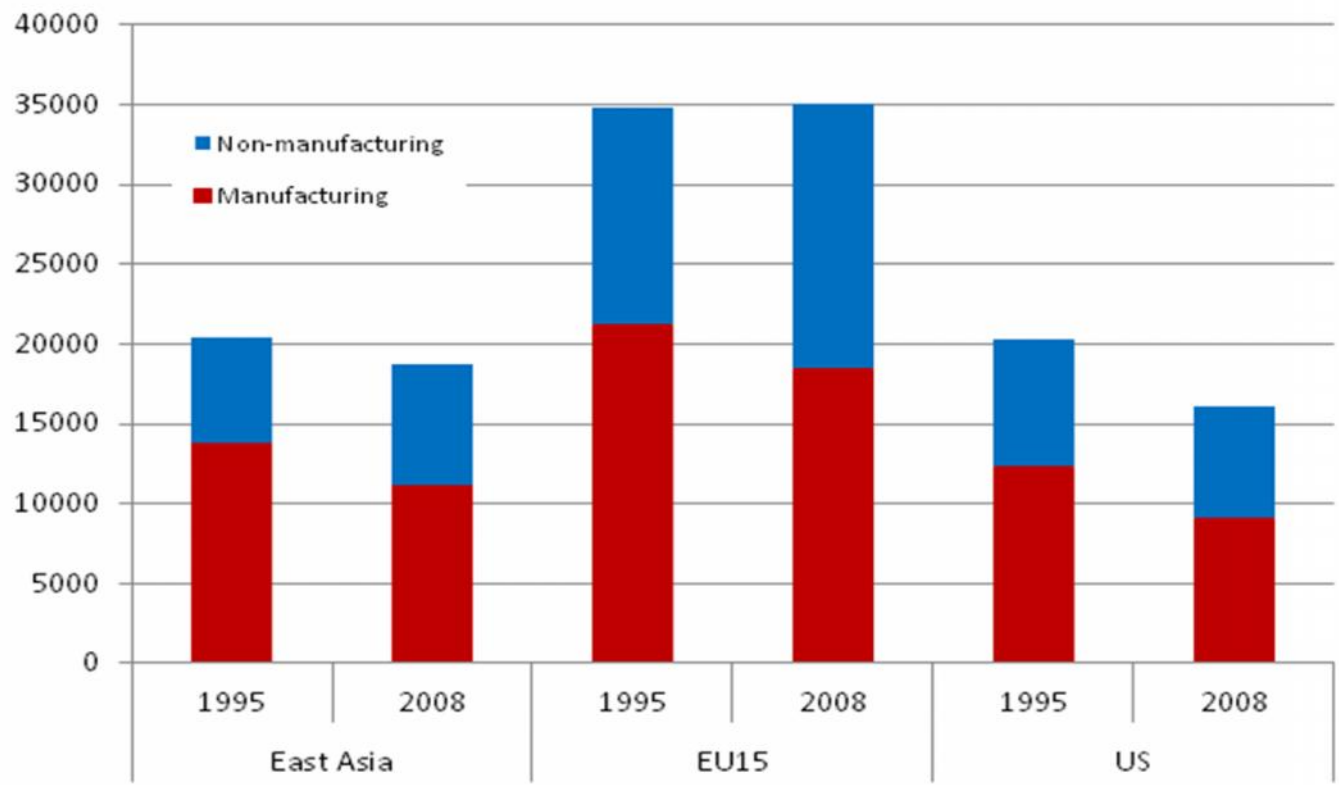
Employment Share in Non-Goods Sector in Producing for Foreign Demand, 2000-2009 (proportion of total employment)



Source: World Input-Output Database (WIOD)

Europe has created more service sector employment dedicated to production for the global value chain

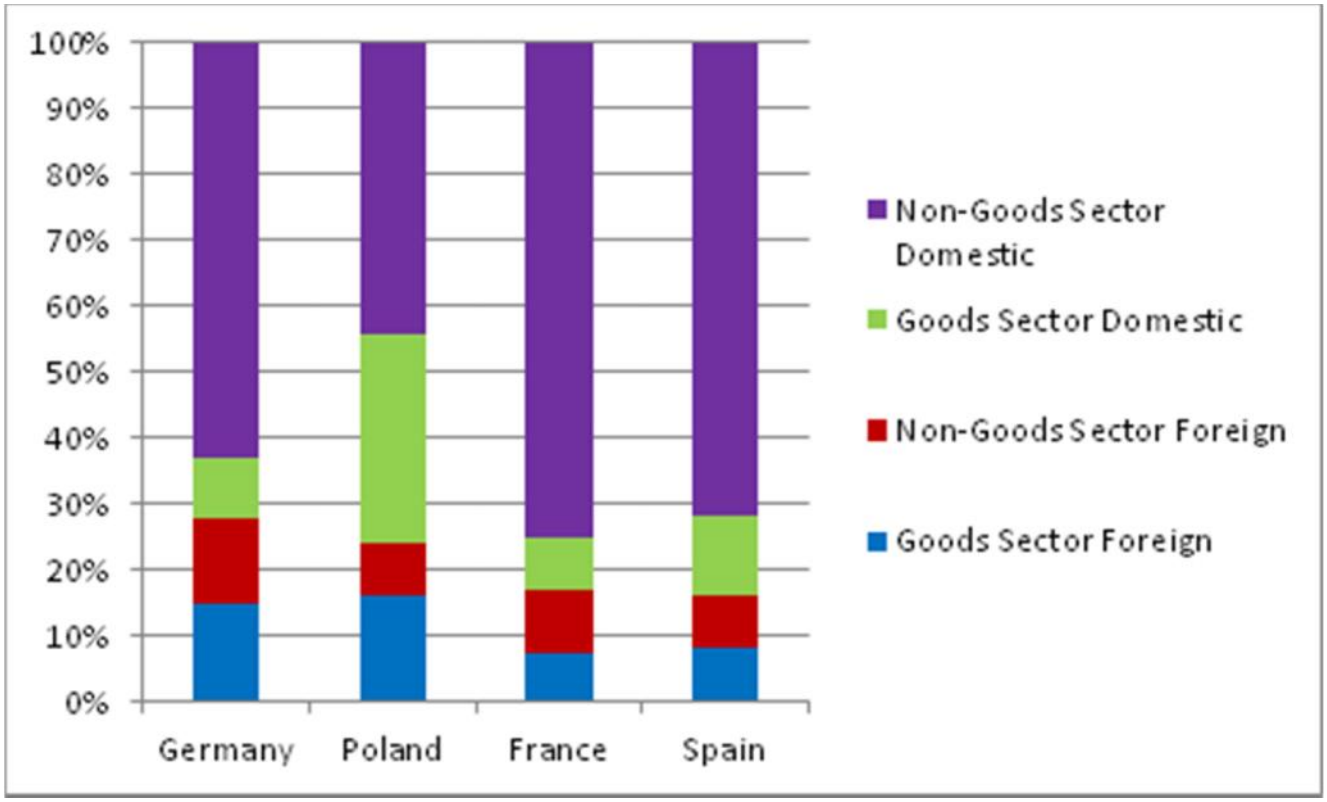
Number of workers in manufacturing and non-manufacturing contributing to global production of manufacturing products



Source: World Input-Output Database (WIOD)

While contribution of foreign activities to productivity differs widely, the bulk is accounted for by domestic market services

Contribution to Growth in Productivity by Sector Depending on Source of Demand, as % of total



Source: World Input-Output Database (WIOD)

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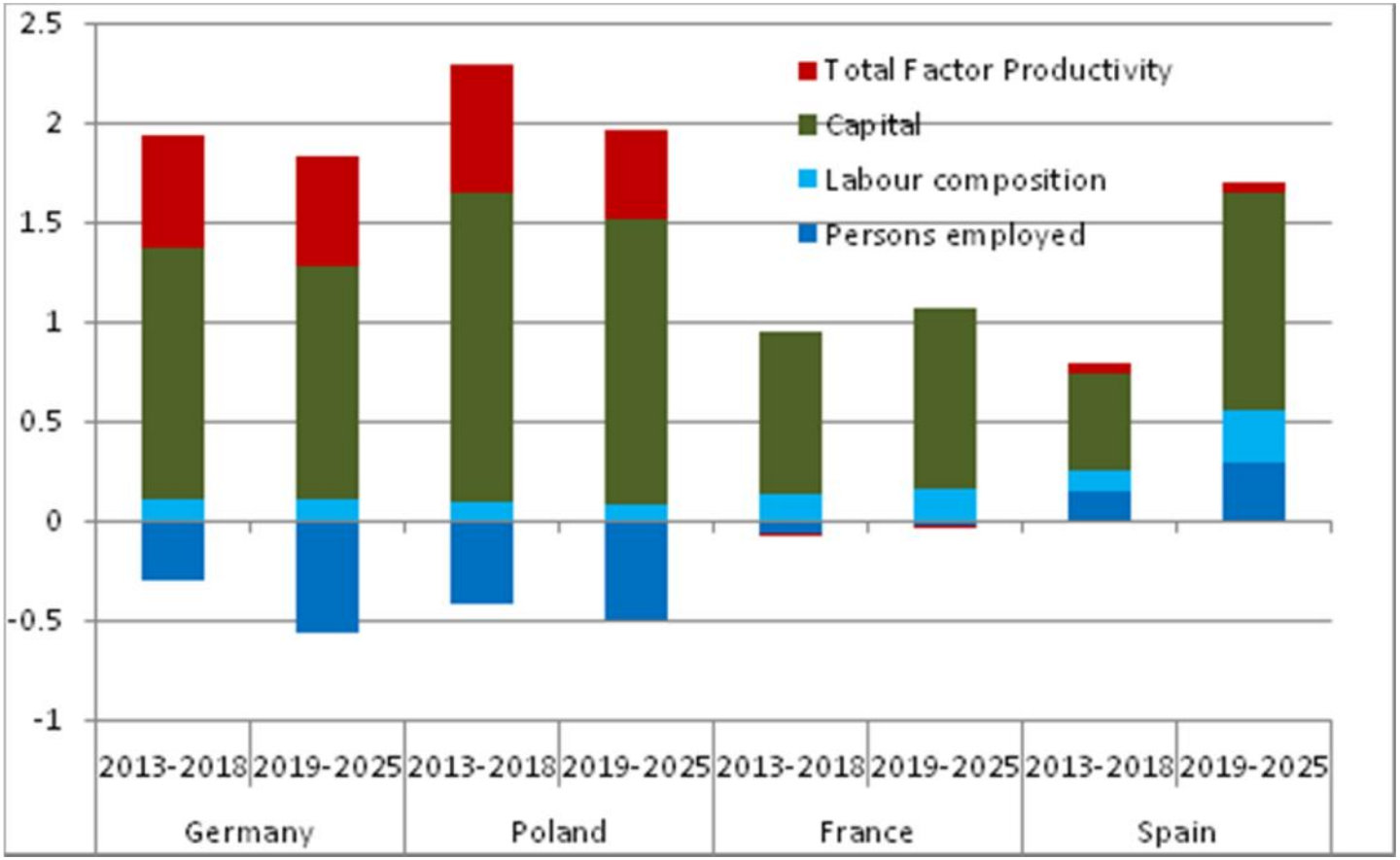
The Future of Europe's Competitiveness
The Global Outlook and a Scenario Approach for Europe

Growth projections are based on measurement of trend growth (as proxy for potential output growth)

- Projections of Gross Domestic Product (GDP) used in *The Conference Board Global Economic Outlook*, are based on trend growth (as proxy for potential output growth)
- Potential output represents the level of output an economy can produce in a noninflationary way, given the size of its labor force and its potential to invest in and create technological progress
- Projections for medium- (2013-2018) and long-term (2019-2025) trend growth cover 11 regions, including 33 advanced economies and 22 major emerging economies.
- Model uses a production-based growth accounting framework which measures supply side contributions of labor, capital and productivity.
  - Labor is projected by demographic information
  - Capital services growth and total factor productivity growth are estimates by regression approach using relevant variables (savings, trade openness, education, population dependency ratios, etc.)
- Smooth adjustment from actual 2012 growth rate to medium-term trend growth rates
- Optimistic and pessimistic deviation from base case projections are based on assumptions with regard to productivity as key driver of long term growth

Trend growth projections suggest trade-off between demographics and productivity growth

Contribution of Labor and Capital Input and Total Factor Productivity to GDP Growth, 2013-2018 and 2019-2025, in %



Source: The Conference Board Global Economic Outlook 2013 (http://www.conference-board.org/data/globaloutlook.cfm)

A new grouping of countries emerging from trends?

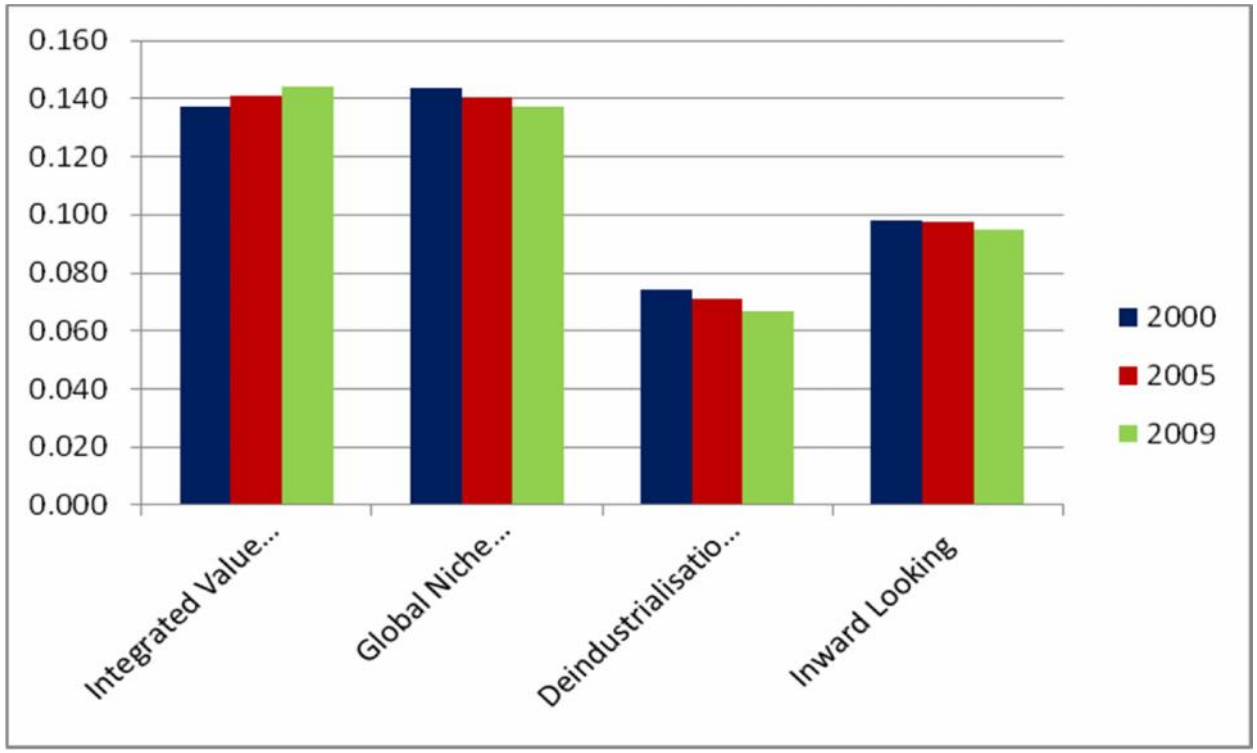
1. Integrated value chain
   - Germany and Central & Eastern Europe (incl. Austria) have created a strong value chain amongst themselves, and tied into global value chain, providing potential for strong innovation
   - But demographics are projected to be weak and growth is coming from external sector.
2. Global niche players: an arc of small economies in northwestern Europe
   - Nordic, Baltic and Benelux countries and Ireland have narrow but highly competitive export sectors, but more strength in services sector of economy

A new grouping of countries emerging from trends?

3. Deindustrialisation model: the United Kingdom
   - Larger range of services activities that isn't making up for the smaller impact of growth from manufacturing
   - Low share of employment dedicated to foreign production
4. Inward looking: the Mediterranean group
   - Meditterranean economies (France, Italy, Spain, Portugal, Greece) are more dependent on slower growing domestic economies
   - Faster demographics and domestic sector are main drivers of growth but slow productivity will create consistently slower growth environment

Only “Integrated Value Chain”-group has managed to raise employment in goods sector for foreign production

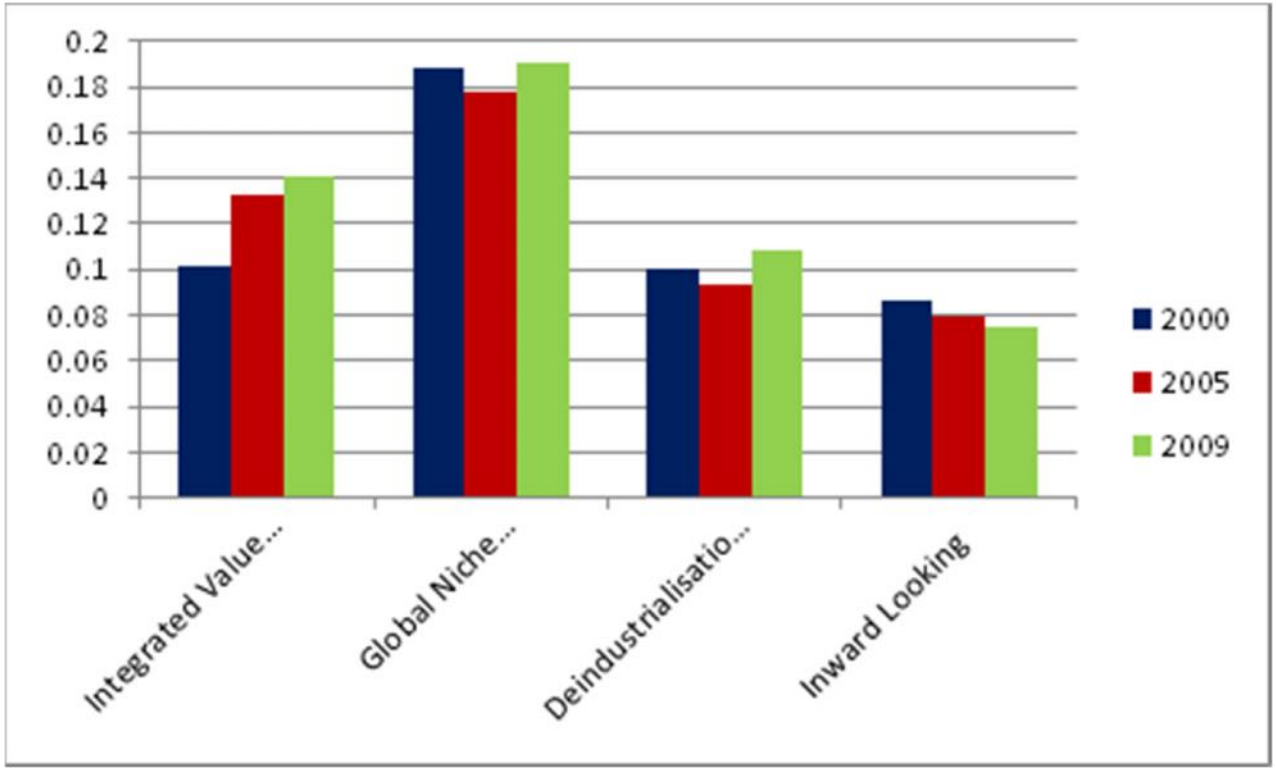
Employment Share in Good Sectors in Producing for Foreign Demand, 2000-2009 (proportion of total employment)



Source: World Input-Output Database (WIOD)

“Global Niche”-group has highest employment share in non-goods sector, but “Integrated Value Chain” is catching up

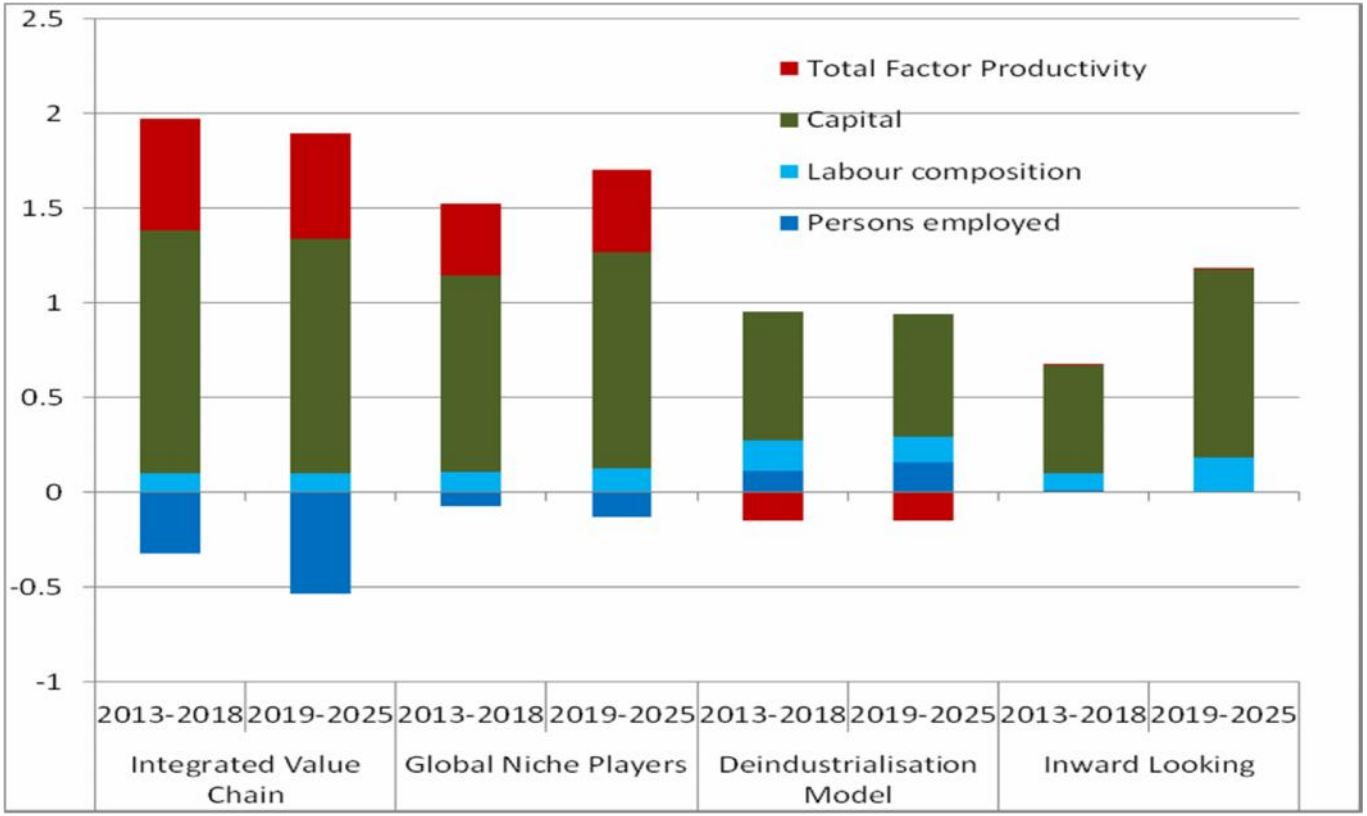
Employment Share in Non-Goods Sector in Producing for Foreign Demand, 2000-2009 (proportion of total employment)



Source: World Input-Output Database (WIOD)

Growth projections most favorable to “Integrated Value Chain”-group, but offsetting effects from demographics

Contribution of Labor and Capital Input and Total Factor Productivity to GDP Growth, 2013-2018 and 2019-2025, in %



Source: The Conference Board Global Economic Outlook 2013 (http://www.conference-board.org/data/globaloutlook.cfm)

Implications of productivity developments for growth agenda

- Only jobs is not enough to sustain growth – the focus needs to be on productive jobs
- Productivity gains in recovery need to be exploited to reallocate resources to more productive uses
- Manufacturing production for foreign sector is most beneficial when integrated in global supply chain
- Services sector (domestic and foreign) creates biggest scope for productivity gains.
- Opportunity for structural reforms in key markets should not go wasted – single market, especially in services, is key element
- Investment in intangibles is key investment strategy in knowledge-based economy, especially to strengthen services economy

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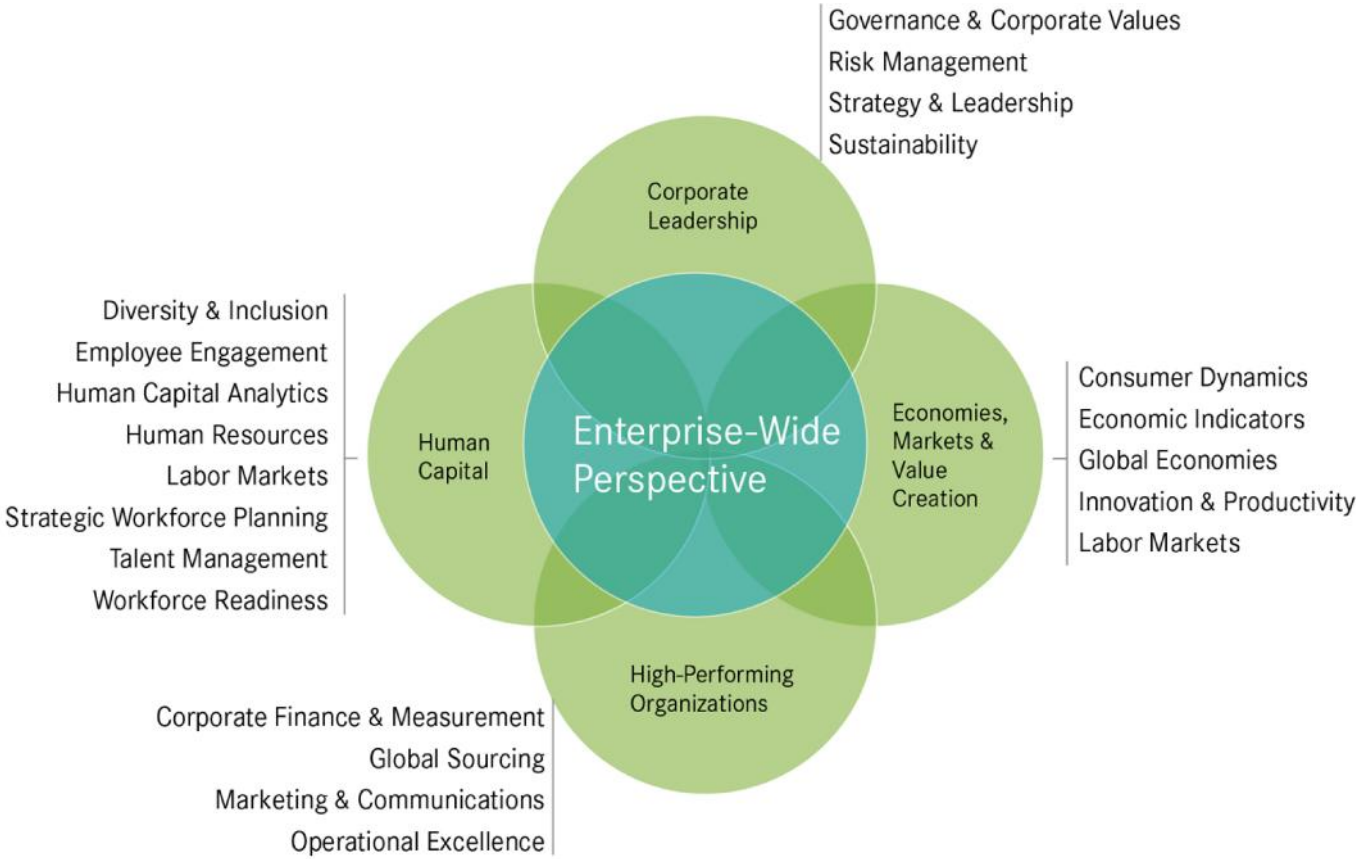
- Our membership includes over 1,200 companies in both the established and the emerging markets of the world.

Started in 1916, we consistently provide

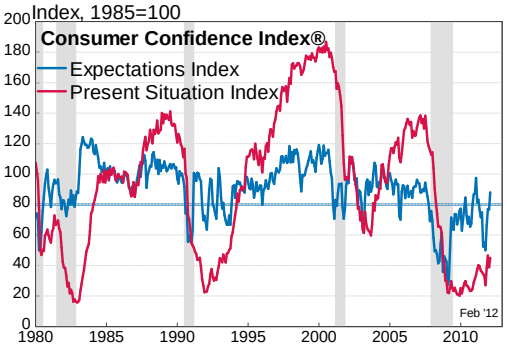
- Objective economic data and analyses that help business and policy leaders make sense of their operating environments
- In-depth research and best practices concerning management, leadership, and corporate citizenship
- Public and private forums in which executives learn with and from their peers
- A platform and thought leadership for the business community worldwide

A knowledge and research program which aims at an enterprise-wide perspective

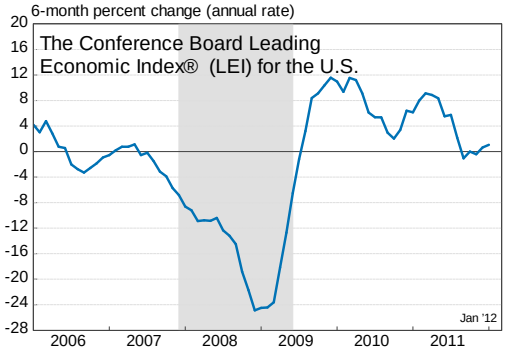


Economics program has a strong quantitative basis

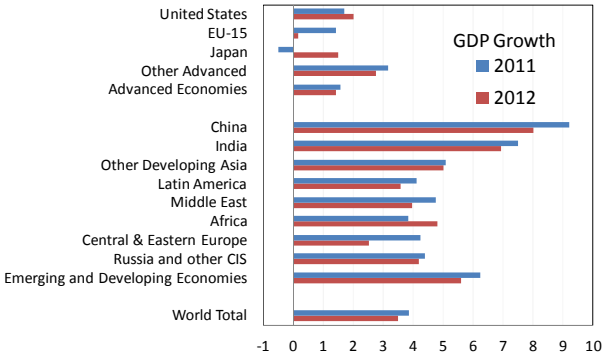
Consumer Dynamics



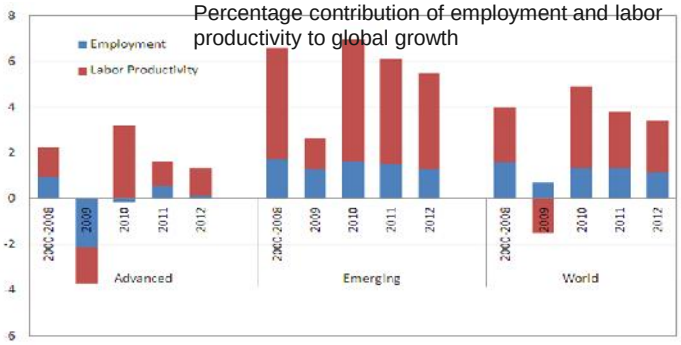
Economic Indicators



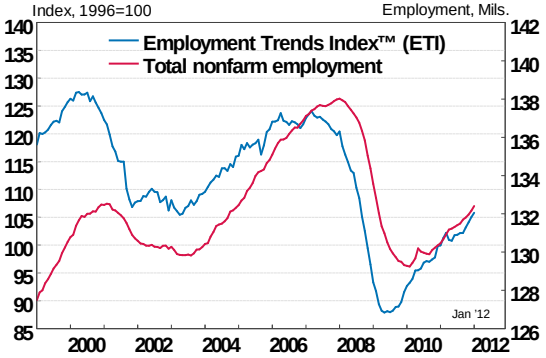
Global Economies



Innovation and Productivity



Labor Markets



Three pillars underlying TCB's economics program

- Short term indicators, forecasting and analysis:
  - ✓ Consumer Confidence Index and CEO Confidence Index for the U.S.
  - ✓ Leading Economic Indicators for 11 major economies
  - ✓ U.S. economic forecast, Euro Area and global growth projections
- Medium to long-term outlook:
  - ✓ Productivity and Competiveness Databases
  - ✓ Intangible Capital and Innovation Research
  - ✓ Global Economic Outlook
- Business scenario development:
  - ✓ Macro scenarios for major countries and regions
  - ✓ Starter scenarios for sectors and major economic activities
  - ✓ Business scenarios at firm level