

# WIFO

TEL. (+43 1) 798 26 01-0

FAX (+43 1) 798 93 86



ÖSTERREICHISCHES INSTITUT FÜR WIRTSCHAFTSFORSCHUNG  
AUSTRIAN INSTITUTE OF ECONOMIC RESEARCH

WIEN 3, ARSENAL, OBJEKT 20 • A-1103 WIEN, POSTFACH 91  
P.O. BOX 91, A-1103 VIENNA – AUSTRIA • <http://www.wifo.ac.at>

# Remaking Manufacturing in the US and Europe

WWWfor Europe lecture Series

**Karl Aiginger**

**Vienna, 21<sup>st</sup> May, 2013**

- **The quest for a new industrial policy**
- **The US challenge for Europe**
- **Europe as a model for US**
- **Summary**

- 
- **1983: Stresa: corporatism and flexible specialization**
  - **1991 (MIT): searching for the secret of the Japanese**
    - Toyoda system; "Made in America" (MIT Press, 1989)
  - **1995 Conference: US still leading in Unit Values**
    - Spec. high tech industries, but US does not concentrate on these
    - Complementarities and supporting industries are lacking
    - Japanese economy starts lost decades
    - IT is now seen "everywhere": incl. productivity statistics
  - **2013: US economy "alone at home"; challenge China**
    - MIT Commission: Production in the Innovation Economy

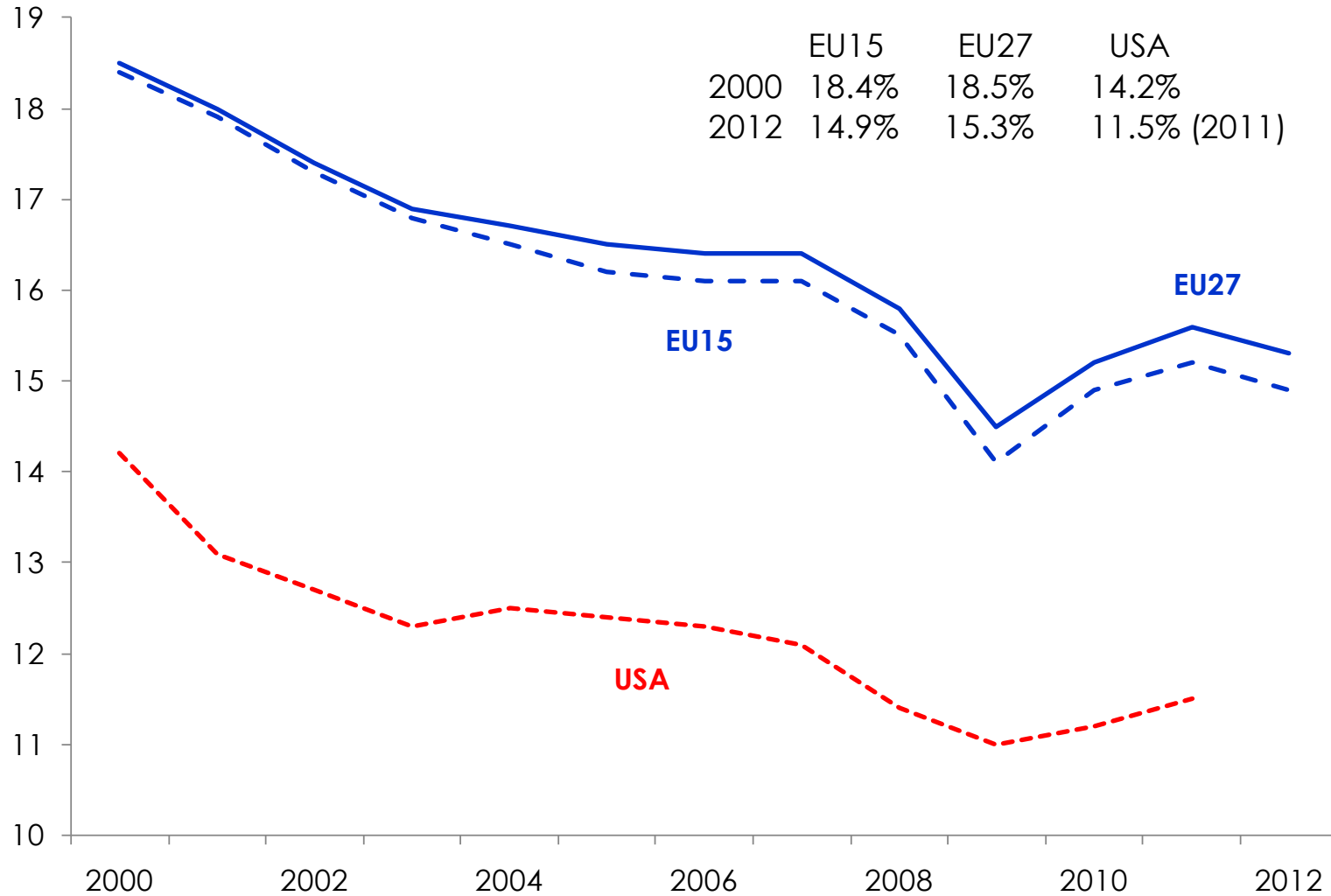
## First push after 2000

- Decline of manufacturing
- Continued technology lead of US
- Globalization/China

## Second push after the crisis

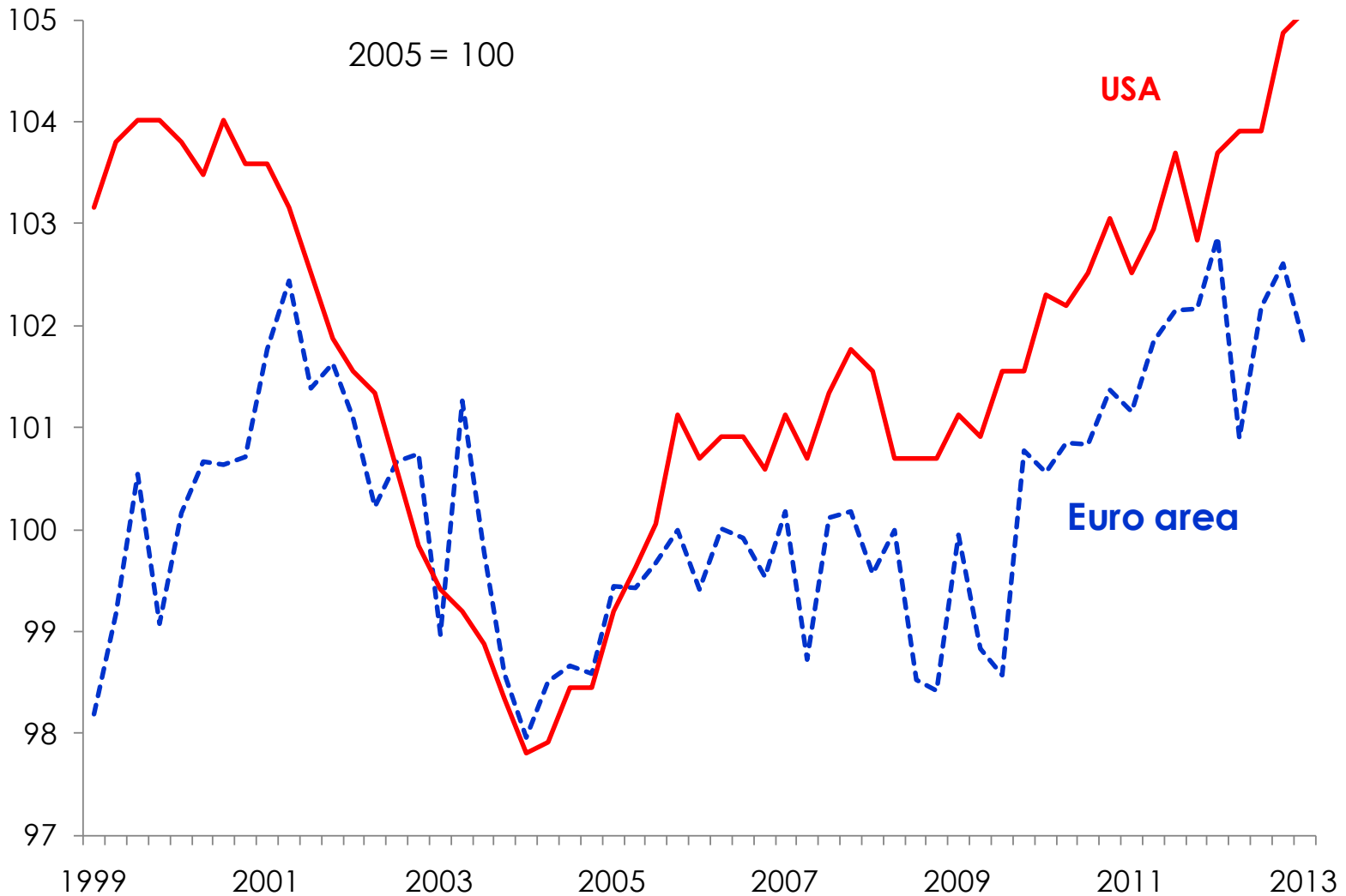
- Weak growth/high unemployment rate
- In Greece and Portugal trade deficit/GDP (at max) is as large as the share of manufacturing
- Rebalance economy away from finance and property
- Societal challenges (social, ecological, health).

# The share of manufacturing in GDP decreasing (at current prices)



# Industrial production Euro area vs US

## Crisis and quicker recovery in the US

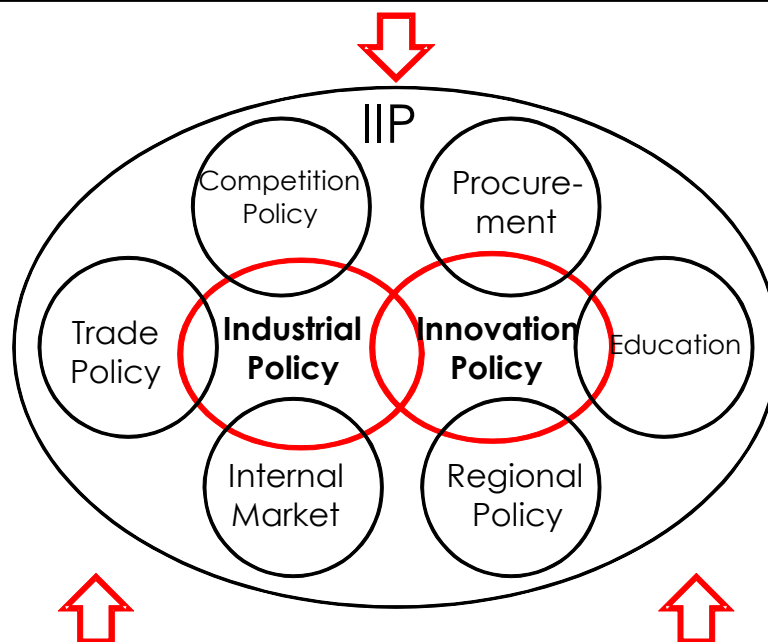


- Support of **market** forces (not against)
  - Foster **competition**, not single large firms
  - **Broad** technologies, not picking out one winner
  - Support goals with **long-term** interest of **society**
  - Based on **education** and **innovation**
  - **Systemic** not fragmented
- ⇒ **Different this time (Rogoff, Aghion, Aiginger) .**

# The Systemic Industrial and Innovation Policy (SIIP) in a nutshell (Aiginger, 2012)

## Pulling forces

Vision of a new growth path (welfare beyond GDP)  
 Societal goals (health, climate, social cohesion)  
 Excellence in specific technologies (e.g. energy)



## Pushing forces

Competition, openness and globalization  
 Activated, trained and retrained labor force ( flexicurity )  
 Competitive advantages (supported by policy )  
 Climate change, ageing



- The quest for a new industrial policy
- The US challenge for Europe
- Europe as a model for US
- Summary

## Industrial policy for the Globalisation Area

- Horizontal instruments plus vertical operationalisation \*
  - Price, cost, innovative competitiveness
    - Standardization and innovation
    - 6 key enabling technologies \*
  - Monitoring the effect of other policies
    - Transport, energy, consumer, single market, trade \*
- ⇒ “Competitiveness & sustainability at centre stage”

## ■ Four pillars:

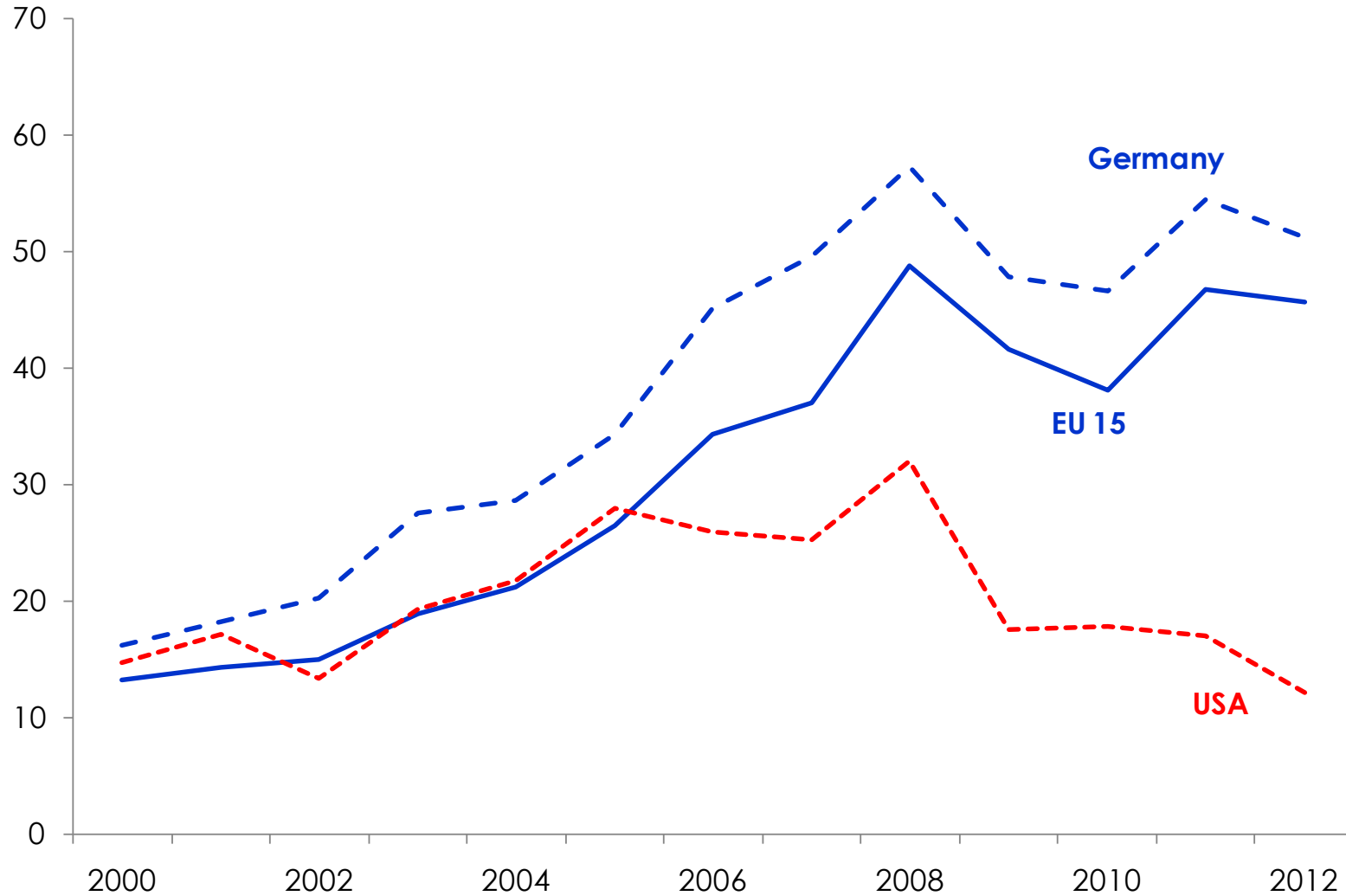
- Investment, innovation
- Expand internal market
- Focus on finance of real economy & SME
- Human capital

## ■ Third industrial revolution:

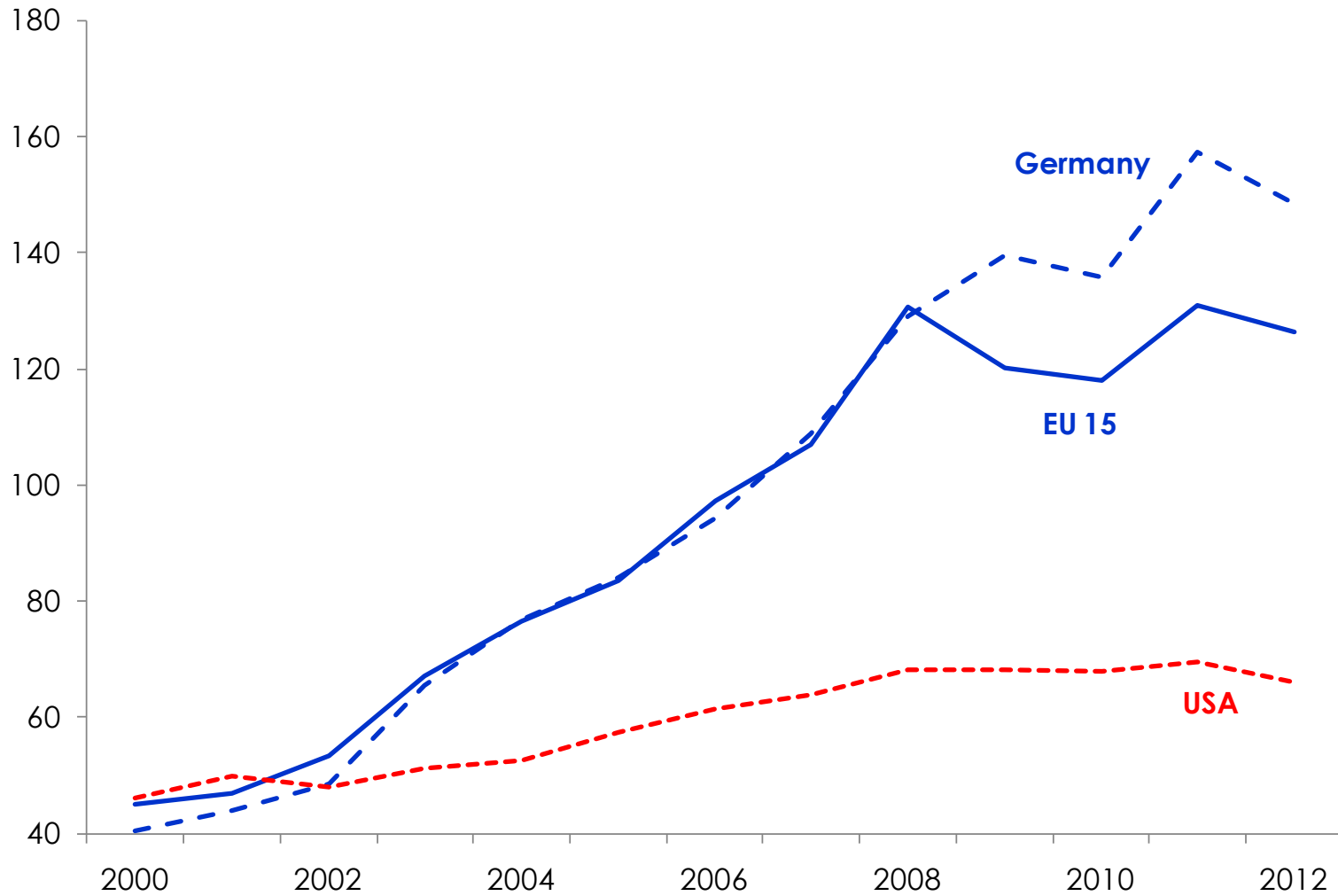
- New infrastructure and renewable energy

⇒ Reverse downward trend: from 16% to 20% (2020).

- Energy costs are much lower in the US
  - And falling due to shale gas exploitation & fracking
  - Coals demand decreases → exported to Europe
  - Cheap gas and oil discourage clean energy
  - Energy intensive plants shift to US
  - Labor costs in US flat, cheaper in south by one third
- ⇒ **1/3 cost advantage labor, 2/3 lower energy prices threatens EU-strategy**



# Energy prices EU vs. US electricity



- 
- To stay competitive with the US, Europe has to **match US in energy prices**
  - This sets limits to:
    - Higher taxes/standards
    - Reestablishment of emission trading
    - Progress of alternative energies.

---

**Competitiveness : total costs must **match** total productivity**

- **If costs of energy are higher (4% of total costs rel. to 2%)**
  - **Compensate this by:**
    - Boosting energy efficiency
    - Higher innovation and education expenditures
    - Or better efficiency of innovation and education system
  - **Technology: ultra-low carbon technology (e.g. steel).**
- ⇒ **Europe is lagging US in R&D and higher education**
- ⇒ **Closing the difference in R&D and higher education is more effective than closing gap in energy price.**



- **Negotiate with US about carbon tax**
- **Reduce taxes on labour (increase on property)**
- **Redirect energy subsidies to clean technologies**
- **Set standards in trade agreements**
  - **Preventing "carbon leakage"**
  - **Supporting technology transfer.**

# Support for integrated industrial policy: WWWforEurope Project

FP7 program: Searching for a new path of development for Europe

- More dynamic, more inclusive, more sustainable
- 33 research organization, 4 years, lead WIFO.
- Redefine competitiveness: ability to provide long-run goals
- Develop a Systemic Industrial Policy

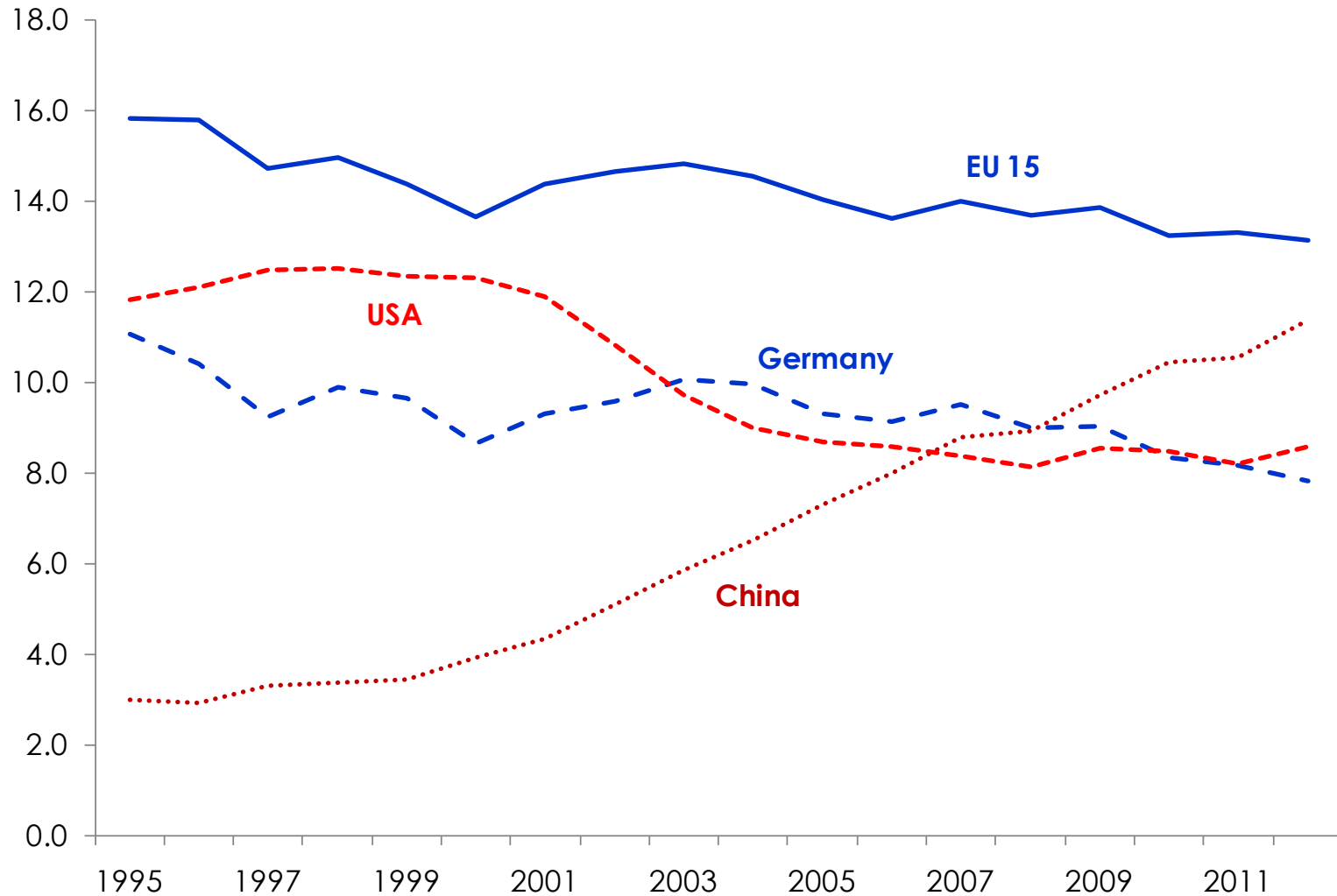
⇒ Scientific support for systemic industrial policy in Europe

⇒ <http://www.foreurope.eu/>.

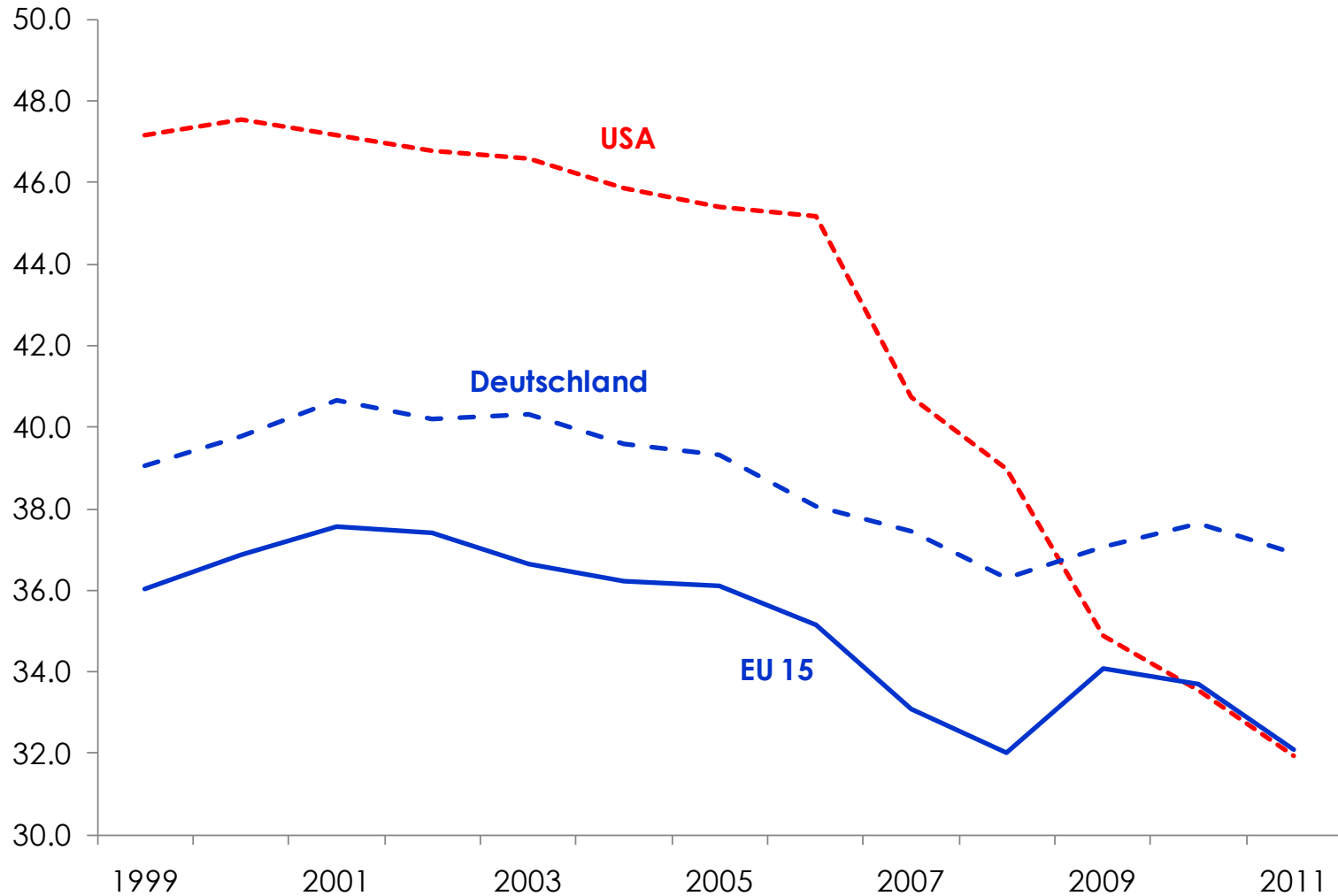
- The quest for a new industrial policy
- The US challenge for Europe
- Europe as a model for US
- Summary

# How market shares were lost:

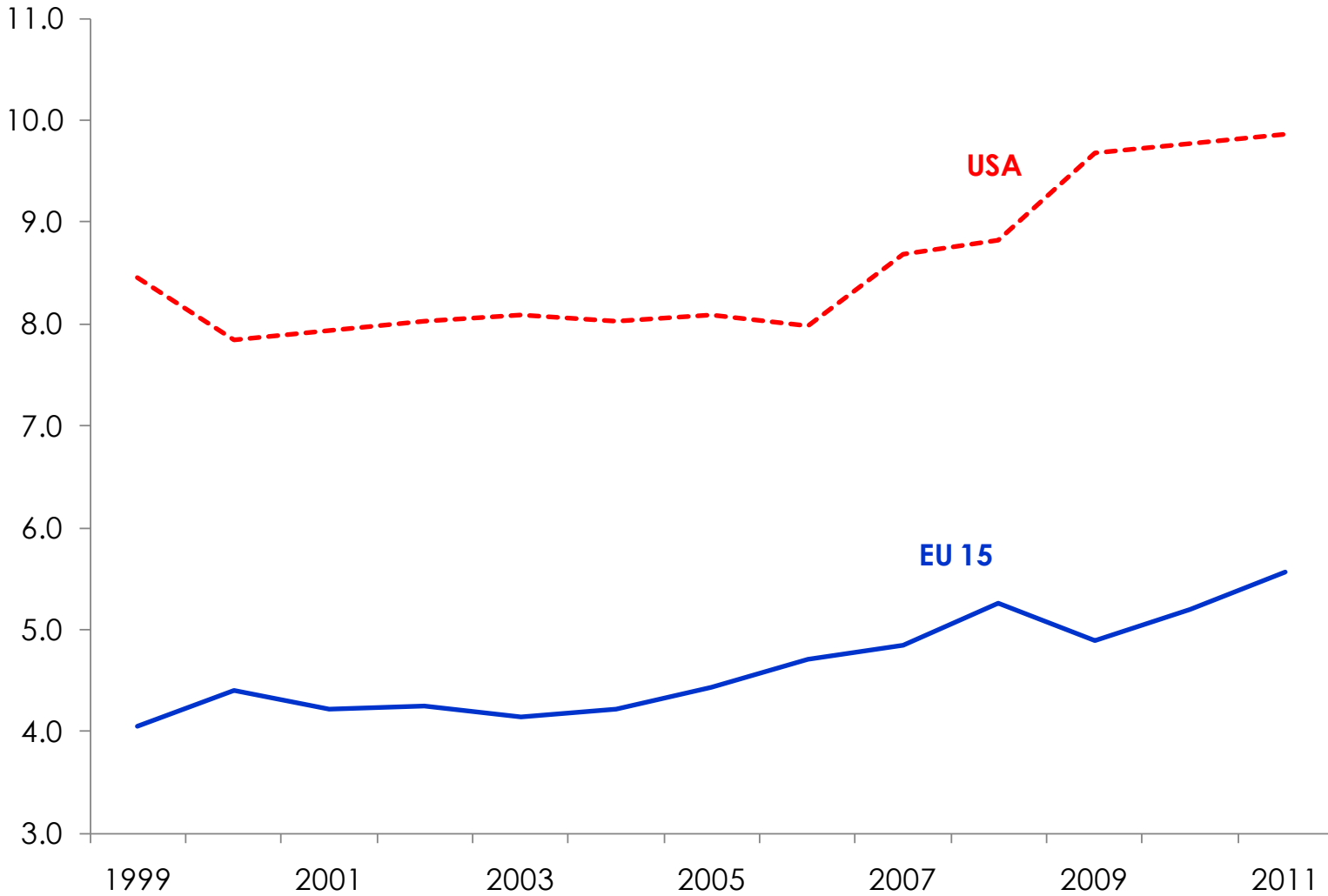
## Share of exports (in % of GDP)



# Share of technology driven industries in exports



# Share of resource based industries in exports



- US firms currently “home alone”
  - forced by finance in wrong direction
  - US has to cope elements of European system
  - 'Rebuilding' industrial ecosystem, complementarities
  - Convening, coordination, risk pooling, bridging
  - Vocational schools and community colleagues
  - Industrial centers less based on externalities
- ⇒ MIT proposes US firms to go for cooperation
- Both with other firms, community

- The quest for a new industrial policy
- The US challenge for Europe
- Europe as a model for US
- **Summary**



- **“Competitiveness” does not imply to be cheaper (not even price competitiveness)**
  - **Relation between cost and productivity**
    - With focus to increase productivity
  - **And better: to be able to supply other goals.**
- ⇒ **New definition proposed in WWWforEurope**
- "Competitiveness is ability of a country to provide welfare (measured by Beyond GDP goals) for its citizens".**

- **Reaction to slow growth (EU), large deficits (US)**
  - **“making”, “producing” is the stable, necessary basis of the economy**
  - **Volatile cycles, less bubbles than finance, construction, housing**
  - **If production is relocated, services/R&D follow**
- ⇒ **Looking for the role of industrialized countries in globalization.**

# WIFO ■ The two roads ahead for the US and EU

---

- **Competing by low wages, low prices for energy**
    - “One third-two third model” of (Southern) US
  - **Climbing up the quality ladder: education, innovation**
    - Providing capabilities, “new” industrial policy
    - Convening, coordination, risk pooling&reduction, bridging
    - Consider societal goals in industrial strategy.
- ⇒ **Hopefully the MIT-project will help the US to take the high road**
- ⇒ **And Europe does not follow the ‘One third/two third model’.**

# WIFO

TEL. (+43 1) 798 26 01-0

FAX (+43 1) 798 93 86



ÖSTERREICHISCHES INSTITUT FÜR WIRTSCHAFTSFORSCHUNG  
AUSTRIAN INSTITUTE OF ECONOMIC RESEARCH

WIEN 3, ARSENAL, OBJEKT 20 • A-1103 WIEN, POSTFACH 91  
P.O. BOX 91, A-1103 VIENNA – AUSTRIA • <http://www.wifo.ac.at>

# Remaking Manufacturing in the US and Europe

WWWfor Europe lecture Series

**Karl Aiginger**

**Vienna, 21<sup>st</sup> May, 2013**

- 
- Aiginger, K., Sieber, S., "The Matrix Approach to Industrial Policy", *International Review of Applied Economics*, Vol. 20, No.5, 2006, pp. 573-603.
  - Aiginger, K., "Industrial policy: a dying breed or a re-emerging phoenix", *JICT*, Vol. 7, No 3+4, 2007, pp. 297-323.
  - Peneder, M., Technological regimes and the variety of innovation behavior: *Research Policy* 39, 2010, pp. 323-334.
  - Aiginger, K., "A systemic industrial policy to pave a new growth path for Europe", *WIFO Working Paper*, 421/2012.
  - Aiginger, K., Bärenthaler-Sieber, S., Vogel, J., *Competitiveness under new perspectives*, WIFO, WWForEurope project, 2013.

**European Commission, An Integrated Industrial Policy for the Globalisation Era Putting Competitiveness and Sustainability at Centre Stage, Brussels, COM(2010), 614.**

**European Commission, A Stronger European Industry for Growth and Economic Recovery, Industrial Policy Communication Update, Brussels, COM(2012) 582 final.**

**European Commission, Mission Growth: Europe at the Lead of the New Industrial Revolution, Brussels, 2012.**

[http://ec.europa.eu/enterprise/initiatives/mission-growth/index\\_en.htm](http://ec.europa.eu/enterprise/initiatives/mission-growth/index_en.htm)

**European Commission, A resource-efficient Europe – Flagship initiative under the Europe 2020 Strategy, 2012.**

<http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2011:0021:FIN:EN:PDF>

**European Parliament: Resolution of 9 March 2011 on an Industrial Policy for the Globalised Era (2010/2095(INI)).**

<http://www.europarl.europa.eu/sides/getDoc.do?pubRef=-//EP//TEXT+TA+P7-TA-2011-0093+0+DOC+XML+V0//EN>

**OECD, Beyond Industrial Policy – Emerging Issues and New Trends, Draft STI Working Paper on Industrial Policy, Paris, DSTI/IND(2012)19.**

- **Area 1: Challenges for the European Welfare State**
- **Area 2: The Environmental and Biophysical Dimension**
- **Area 3: Drivers for Change: Innovation, Industrial and Innovation Policy**
- **Area 4: Governance Structures and Institutions at the European Level**
- **Area 5: The Role of Regions in the Socio-ecological Transition**
- **Area 6: Framing of the Project, Integration and Synthesis.**

## ■ Soft and holistic industrial policy

- Cooperation government/industry
- Establish priorities
- Solve coordination problems
- Scope for experiments
- Fight against particular interests
- Increase productivity

## ■ Action fields

- Product -, labour -, capital market, technology, institutions

⇒ **There is no "one size fits all" industrial policy**

⇒ **Systems, networks, institutions, abilities matter.**



# New systemic industrial policy should be continued

---

- Employment goals, competitiveness, climate goals cannot be attained separately
- If there are trade offs synergies have to be developed
- Permanently shifting priorities between goals will not work.

⇒ Gas maybe welcomed “transition technology”

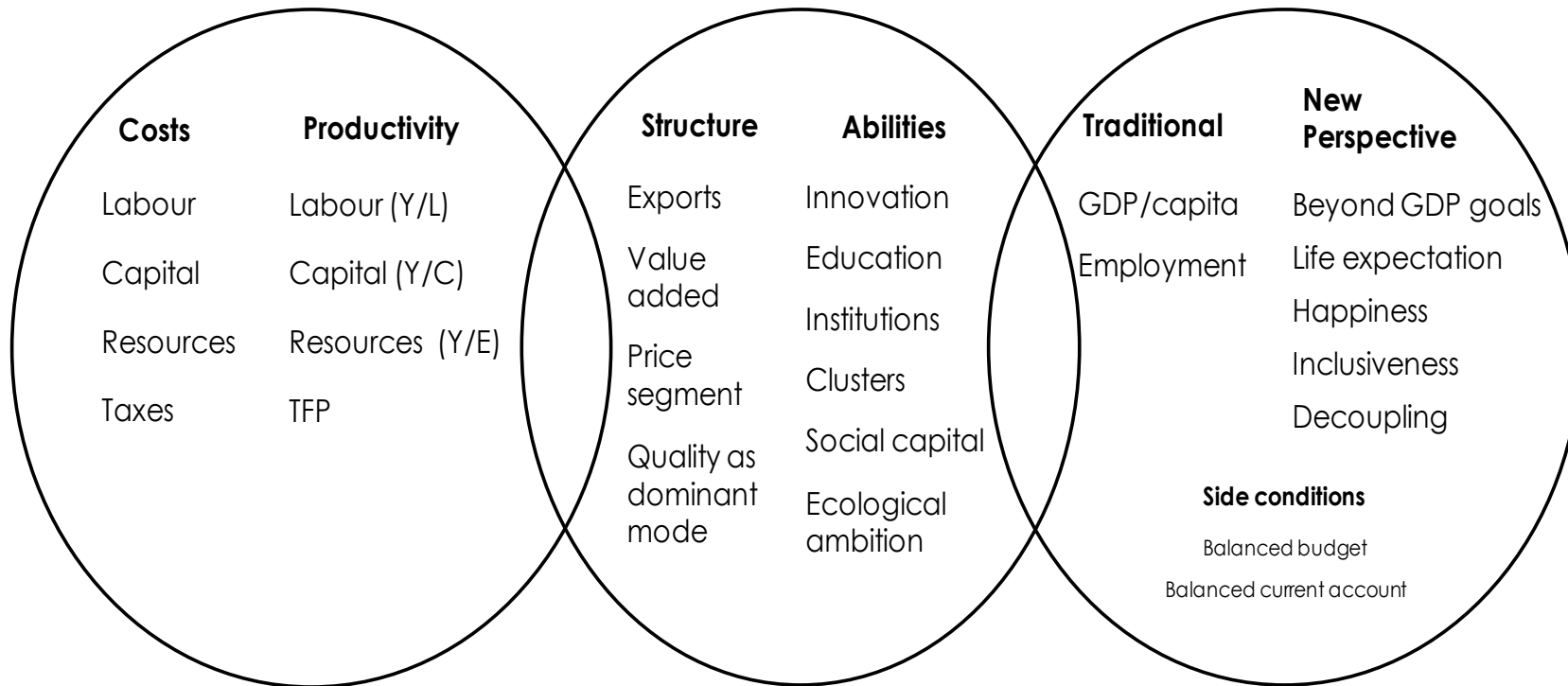
⇒ Low energy prices for a carbon emitting energy

- Is a short-run relief
- It should not destroy strife for non-carbon technologies.

Price competitiveness

Qualitative competitiveness

Outcome competitiveness

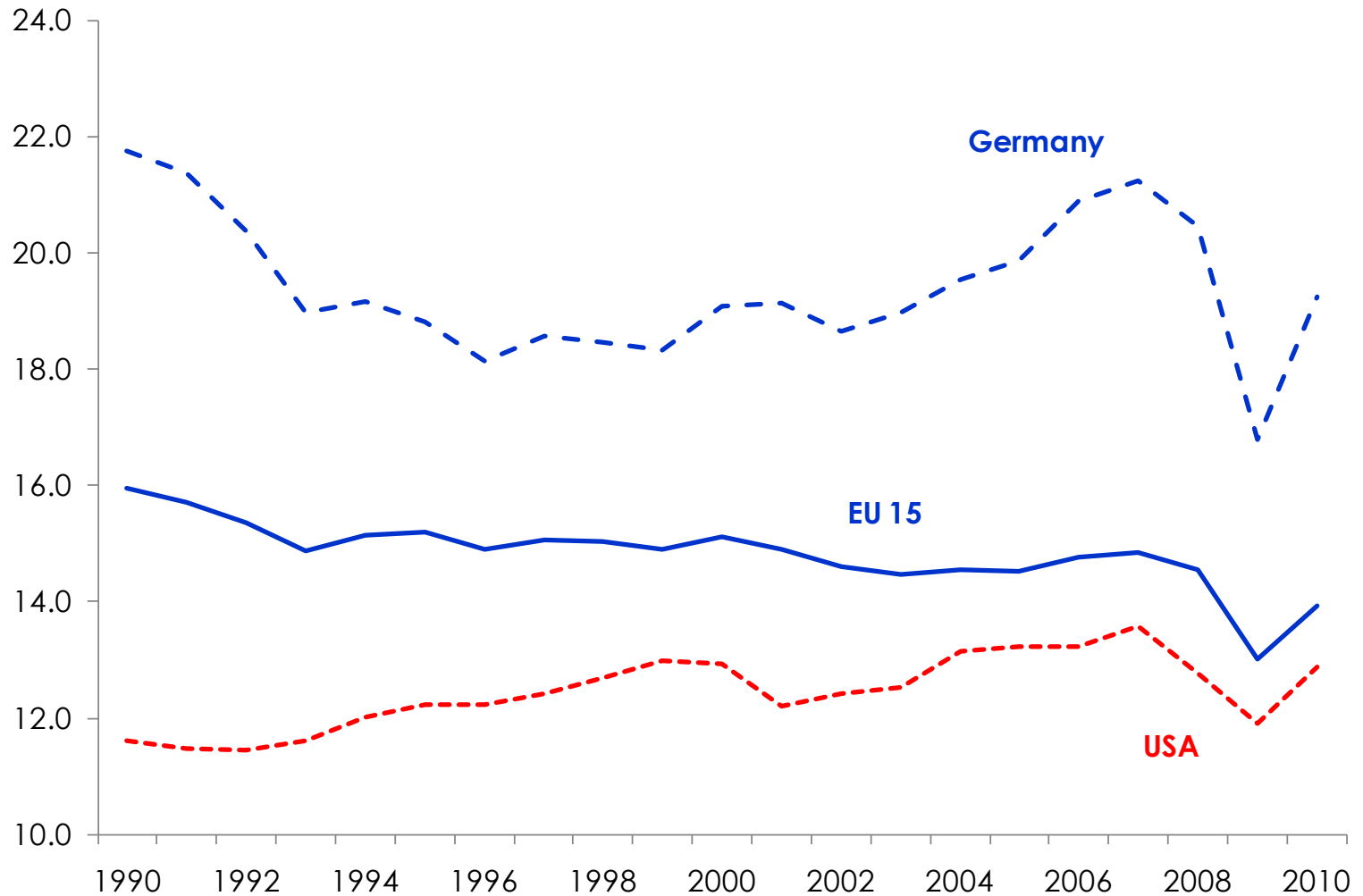


*Input oriented evaluation*

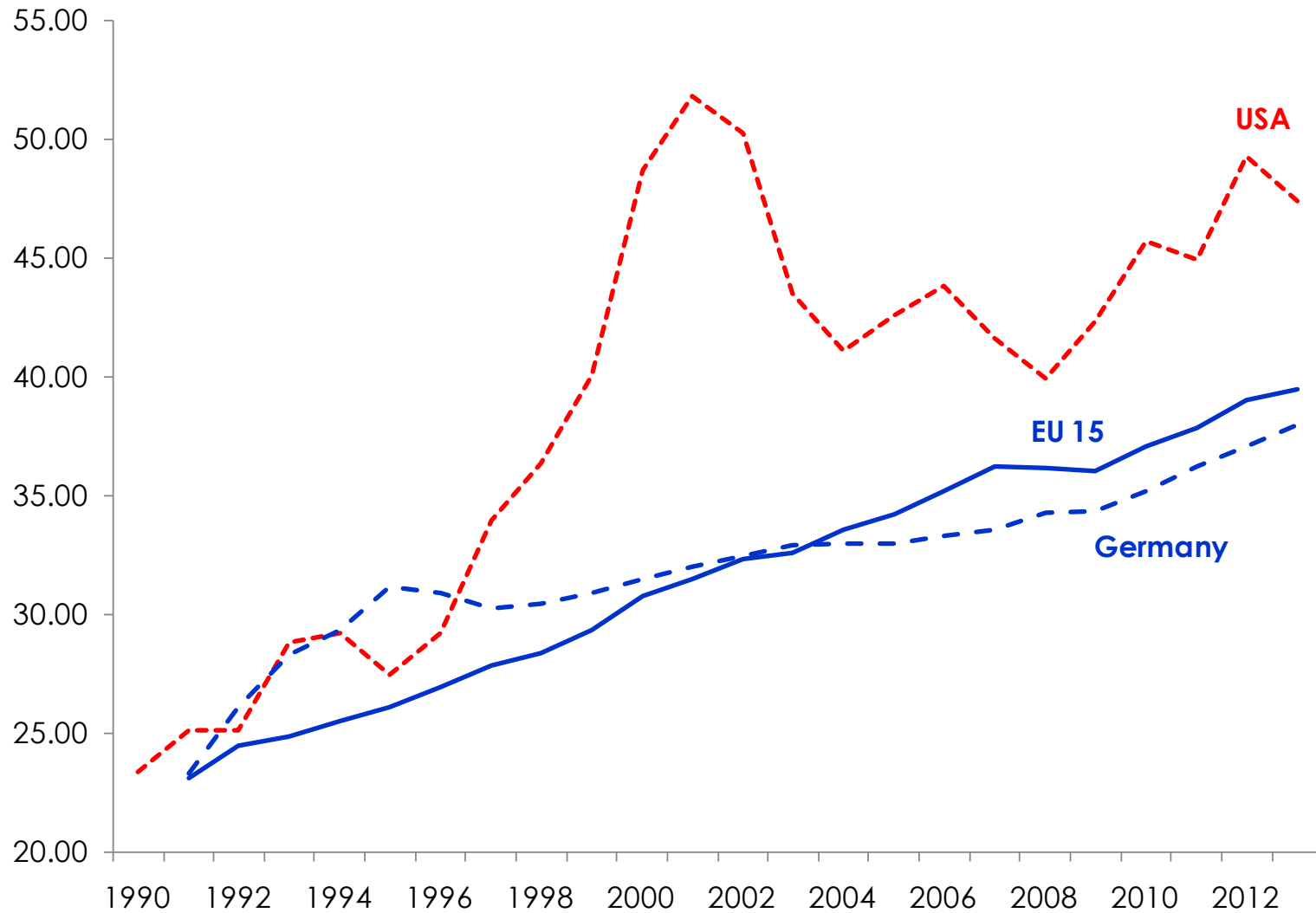


*Output oriented evaluation*

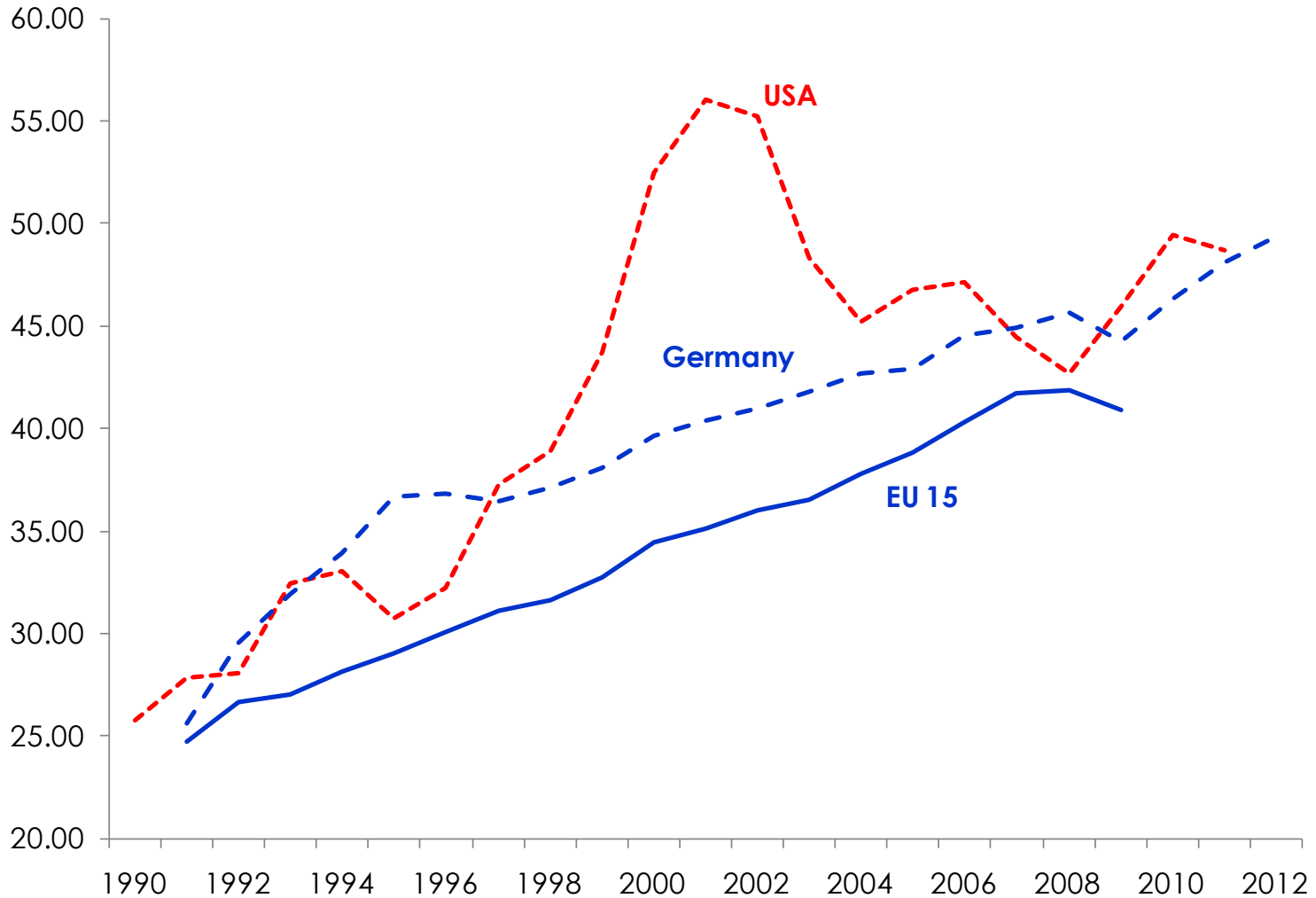
# Share of manufacturing in GDP (Prices 2005)



# Wages per employee: Total economy



# Wages per employee: Manufacturing



# Manufacturing proved to be important

## Industrial base improves performance after crisis

