

Competitiveness, Structural Change and Industrial Policy

Three Dangerous Obsessions or a New Economic Realism?

Michael Peneder

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Michael Peneder

Lecture at the OECD Workshop "Beyond Industrial Policy",
Paris, 11 September 2012

WIFO-Vorträge, Nr. 117

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2012/343/V/0

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Three dangerous obsessions or a new economic realism?

Michael Peneder

Austrian Institute of Economic Research (WIFO)

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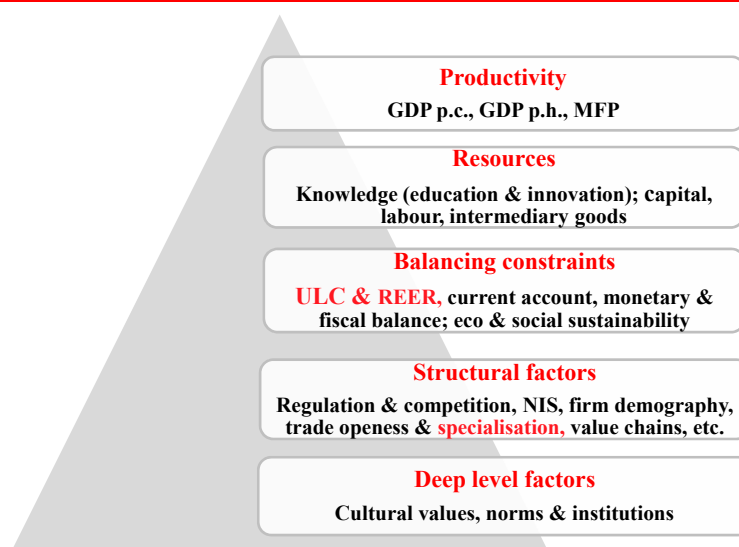
- Part 1: **Competitiveness**
 - **EU DG ECFIN**, Brussels, 27-03-2012: “Cost and quality based factors of external competitiveness“
- Part 2: **Structural change**
 - **UNIDO**, Vienna, 12-03-2012: “Sectoral taxonomies of industrial capability and performance“ (and EU DG ECFIN: see above)
- Part 3: **Industrial Policy**
 - **OECD**, Paris, 24-10-2012: “Industrial Policy – towards a dynamic rationale“
- First synthesis as joint lecture
 - University of **Porto**, 09-11-2012

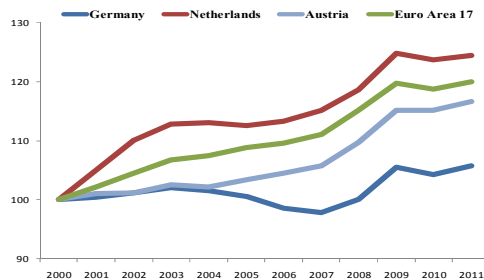
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- **Paul Krugman** (MIT Press, 1996)
 - “So let’s start telling the truth: competitiveness is a **meaningless** word when applied to national economies. And the obsession with competitiveness is both **wrong** and **dangerous**”
- Main arguments
 - **Illusion of conflict**, but trade is no zero-sum-game
 - **Domestic spending** has larger impact than negative terms of trade effects
 - In the long run, wages always rise with productivity ➤ **low wages** indicate low competitiveness!

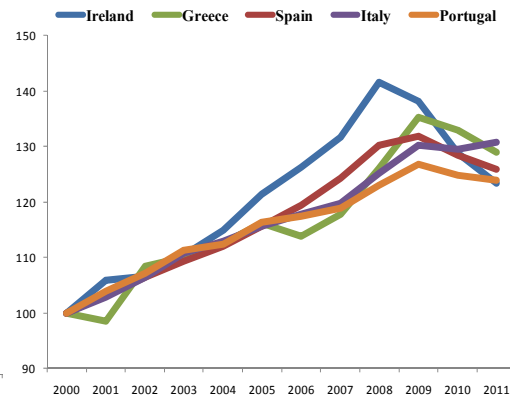
- Competition arises from **scarcity**, e.g. of
 - **Resources** (capital, labour/skills, raw materials)
 - **Access to markets** (EU integration; international trade agreements; transport)
 - **Knowledge & competences** (seeking rents from high-value production)
- Do these scarcities matter only for individual firms?
 - Sure, **enterprises are at the core**, but e.g.
 - relative abundance of inputs affect **industrial location**
 - differences in productivity and industrial structure affect aggregate income and the **standards of living!**

- Policy must define the preferences and constraints to account for interdependencies with other **goals of society**, e.g.
 - Social cohesion
 - Sustainable environment
- **Openness**: the very notion of “competitiveness” implies the willingness and ability to face competition, being domestic or from abroad
- Focus on **productivity**: the objective is to raise incomes, not lower wages !

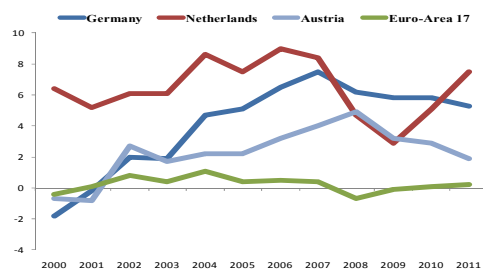


Unit labour costGermany, Netherlands, Austria,
Euro-Area 17

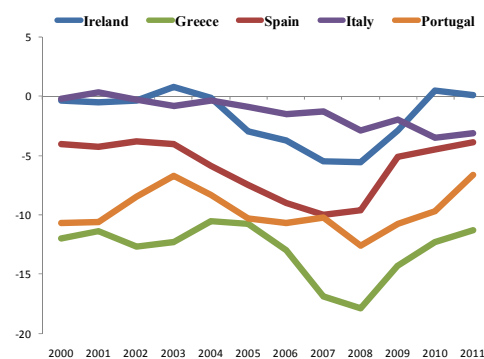
Source: Eurostat, WIFO calculations

Ireland, Greece, Spain, Italy,
Portugal

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Current accountGermany, Netherlands, Austria,
Euro-Area 17

Source: Eurostat, WIFO calculations

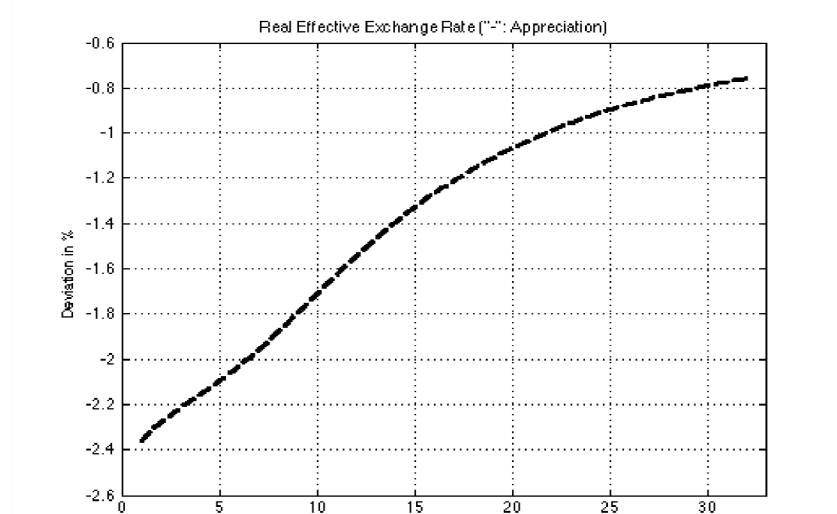
Ireland, Greece, Spain, Italy,
Portugal

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Simulated wage shock

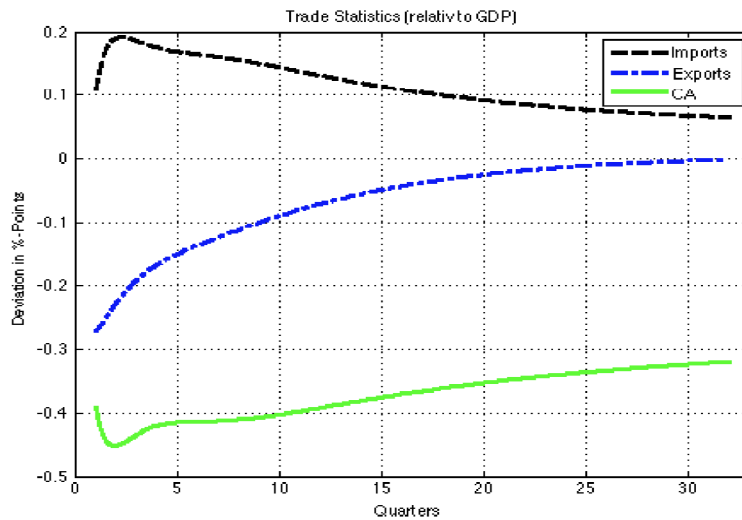
- **Global Integrated Monetary & Fiscal Model (GIMF)**
- Nominal **wage inflation** increases by one percentage point and triggers adjustments
 - Real effective exchange rates (REER)
 - Exports, imports & current account
 - Sectoral output (tradables vs non-tradables)
 - GDP, consumption & investment
 - Labour productivity
- **Euro Area (USA, Emerging Asia, Japan, RoW)**
 - Crude simulation **just for demonstration!**

8

REER

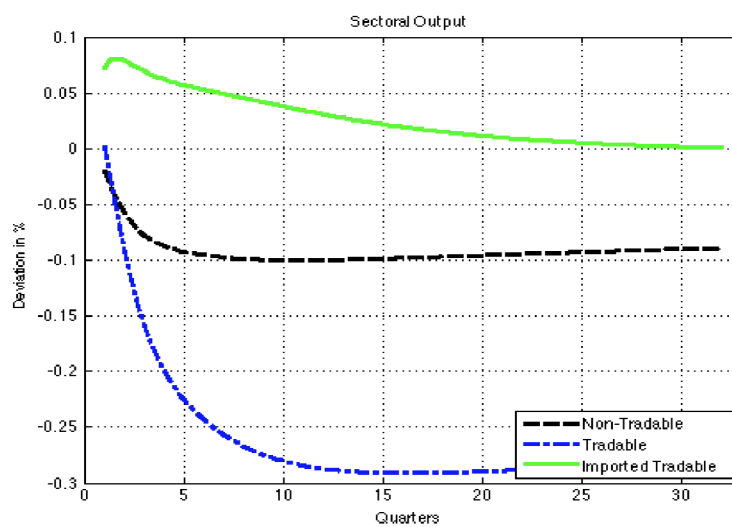
Source: GIMF, WIFO calculations (C. Glocker)

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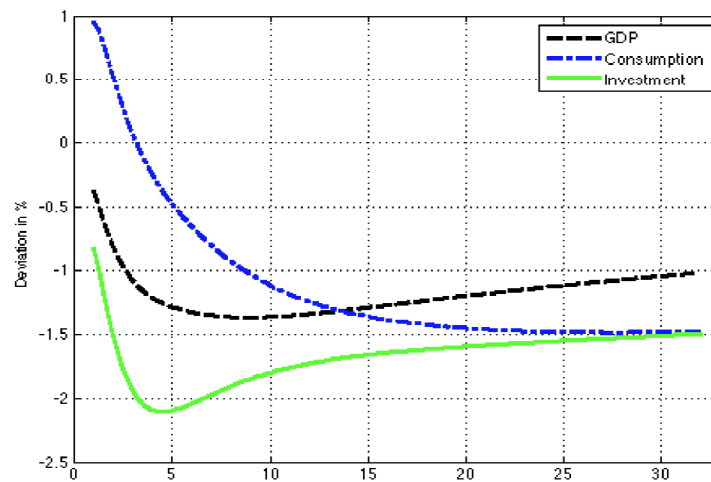
Source: GIMF, WIFO calculations (C. Glocker)

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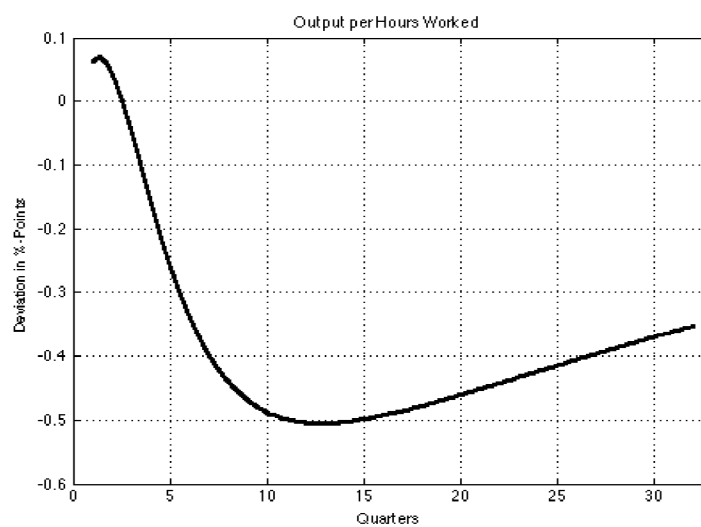
Source: GIMF, WIFO calculations (C. Glocker)

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Source: GIMF, WIFO calculations (C. Glocker)

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Source: GIMF, WIFO calculations (C. Glocker)

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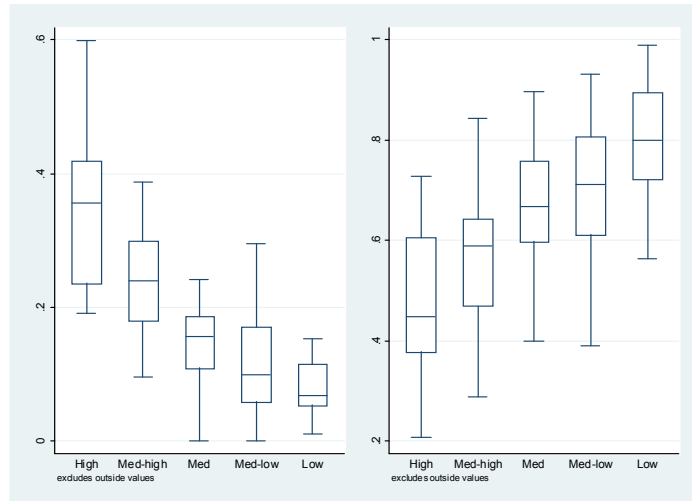
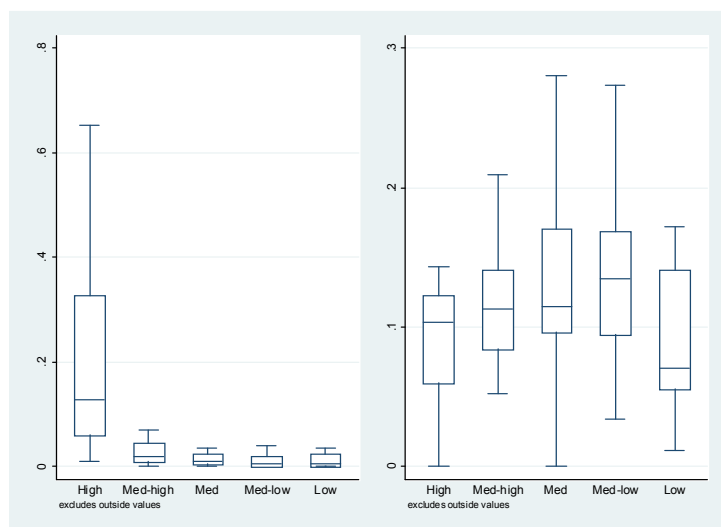
- **Not so well represented in the MIP**
 - Long term structural factors (maybe not even belonging there ?)
- **Quality upgrading** (1999, 2003, 2007, 2010)
 - **between industries**: e.g., labour- , capital intensive, marketing-, technology driven, other manufacturing
 - **within industries**: e.g., high/intermediate/low price segments
- Require **‘economic reading’** as well (no mechanical interpretation) !
 - See Part 2 on **Structural Change!**

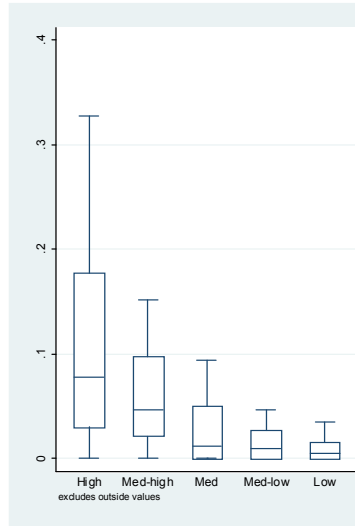
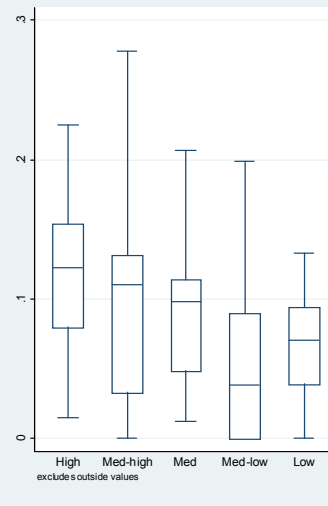
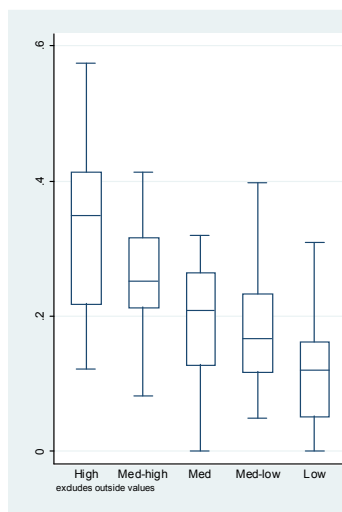
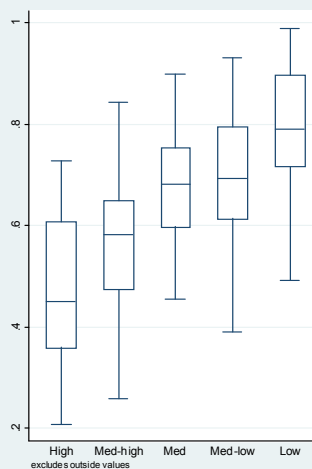
- **Competitiveness** is a natural concern not only for individual firms but also at meso- and macro levels
- **Various analytic layers** ➤ awareness can reduce coordination cost and raise quality of policy advice
- **Cost based factors** mostly reflect critical balancing constraints
- **Quality based factors** tackle the structural drivers of competitiveness ➤ *Structural change*

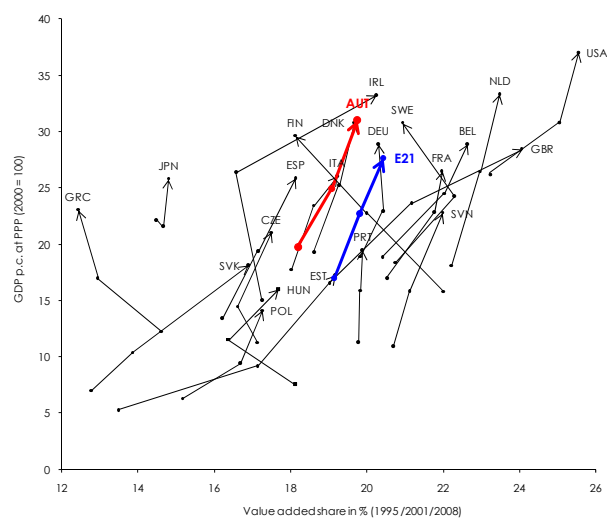
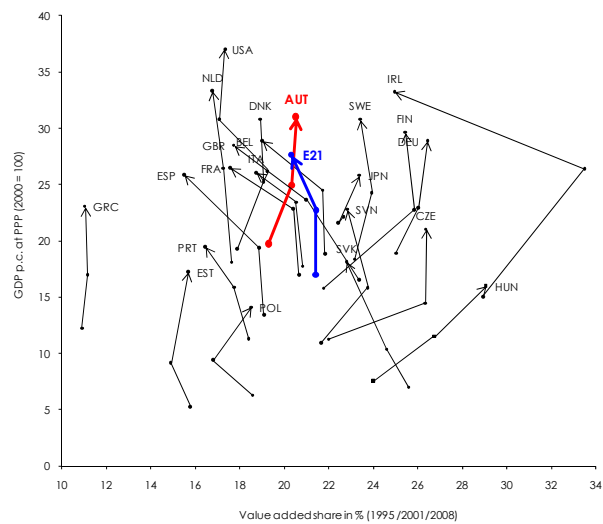
- Classifications substitute **structural knowledge** for exhaustive information about single attributes, thus
 - condensing the intractable diversity of real-life into a smaller number of salient types, and
 - directing our attention towards a few characteristic dimensions, according to which relative similarities or differences can be identified
- Allow us to take account of **heterogeneity**, but simultaneously force us to be selective!

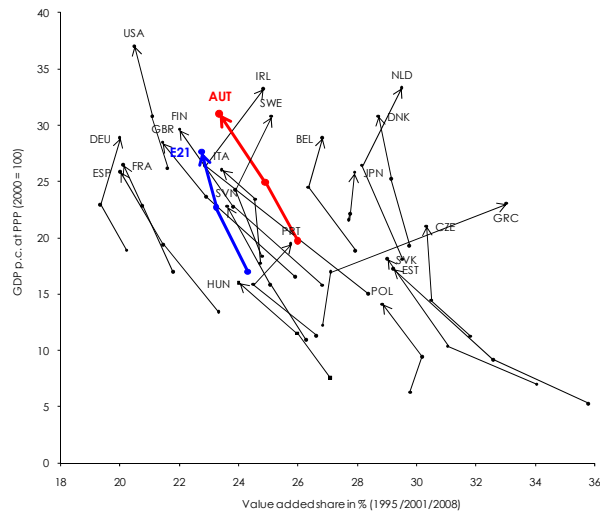
Focus on tension between firm **diversity** and sectoral **contingency**

- **Theoretic** rationale: entrepreneurship; technological regimes
- Start from **micro data** (CIS; 78,000 firms; 22 countries)
- Classify sectors not according to industry averages but distinct **distribution of diverse firm types**
- Manufacturing **and services**; NACE 2-digits
- Statistical **cluster** analysis
- **Discriminatory** power ('proof is in the eating')
- Full documentation in *Research Policy* (2010)

**Creative entrepreneurs:
own product innovations****Adaptive entrepreneurs: opportunities
other than technological innovation****High R&D performers****Aquisition of new technology**

Patents+**Strategic means****High cumulativeness****No sources of information
for innovation**



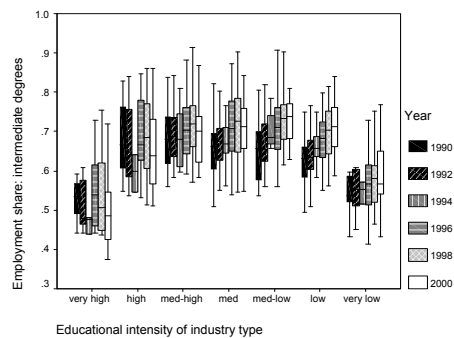
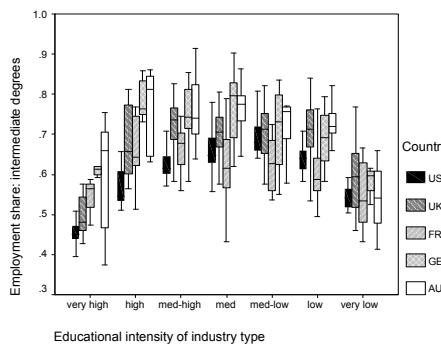
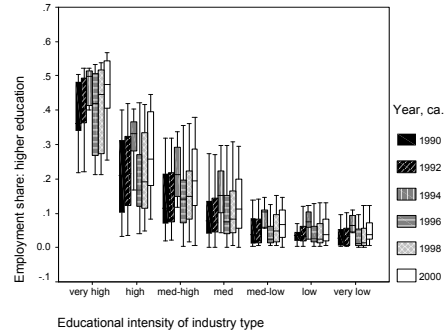
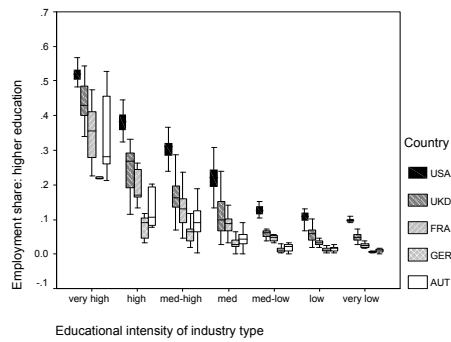
Low innovation intensity

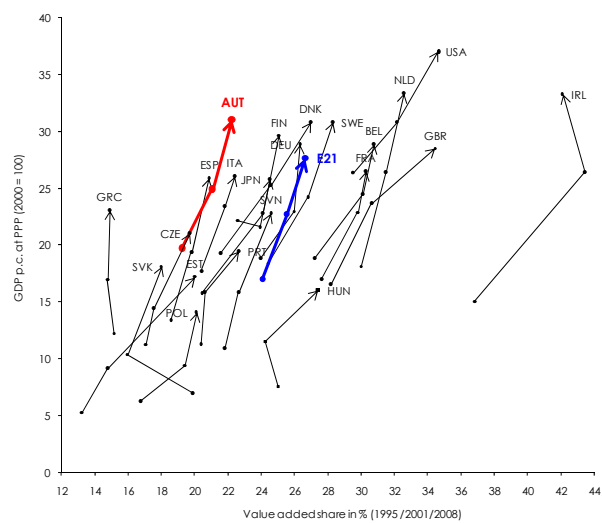
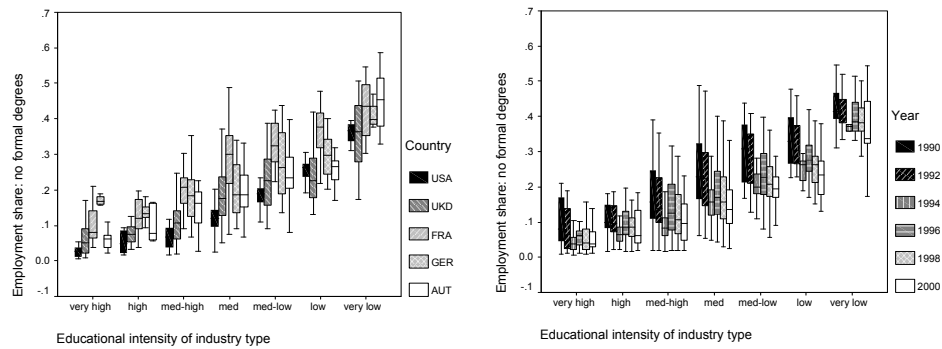
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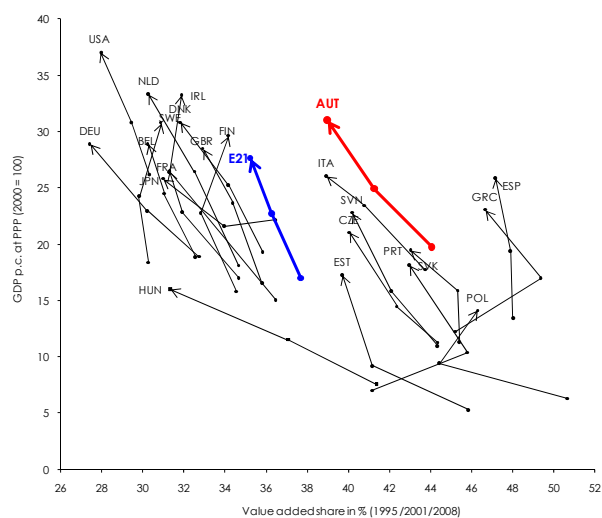
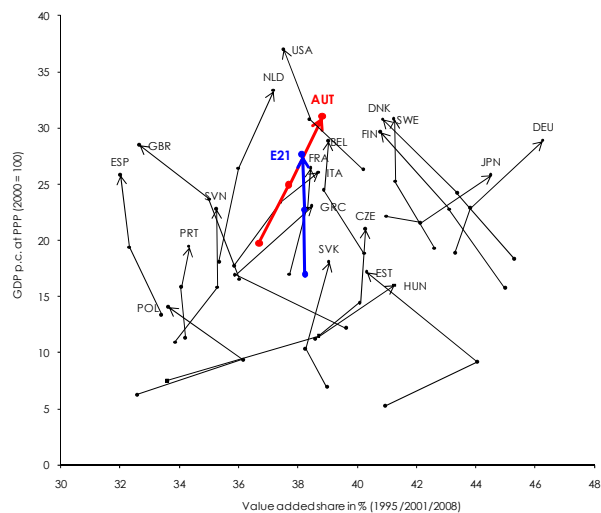
B. Educational intensity

- Shares in total employment/wages by levels of educational attainment
- USA, UKD (1979-2000), FRA (1989 -1999), GER (1979-1998), AUT (1995-2000)
- Sources: labor force surveys, employment statistics; compiled by NIESR
- Manufacturing and services, 2-digits
- National taxonomies + Consensus classification (international analysis)
- Focus on **persistence** between countries and in time
- Full documentation in *Empirica* (2007)

25





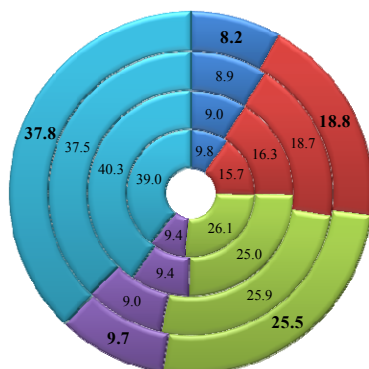


C. Factor intensities & unit values

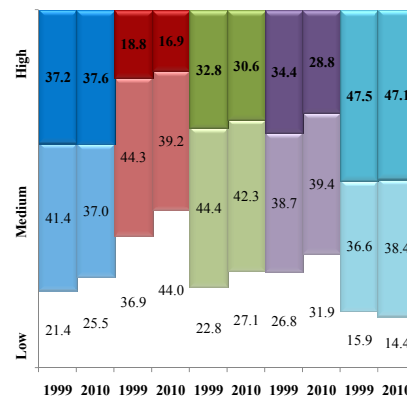
- Focus on **intangible vs tangible** sources of competitive advantage (sunk costs; production function)
- Blends **micro & meso data**; manufacturing, NACE 3-digits; statistical **cluster** analysis
 - Labour intensive – capital intensive – other manufacturing – marketing driven – technology driven
 - Full documentation in *Journal of Evolutionary Economics* (2003)
 - **Price segments** (quality upgrading within industries)
 - High – intermediate – low
 - 33.3 vs. 66.7 percentiles of bilateral 6-digit export unit values

Germany

Export shares in %

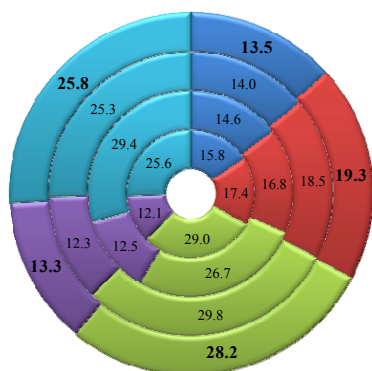


Price segments in %



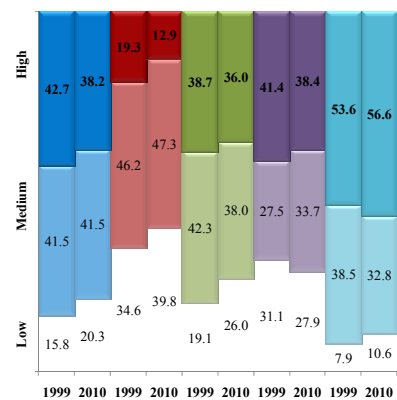
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Export shares in %

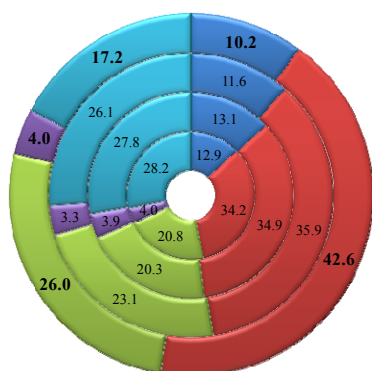


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Price segments in %

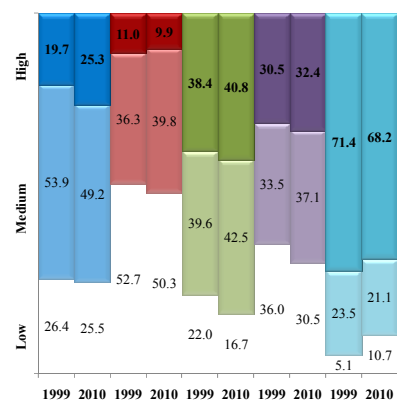


Export shares in %



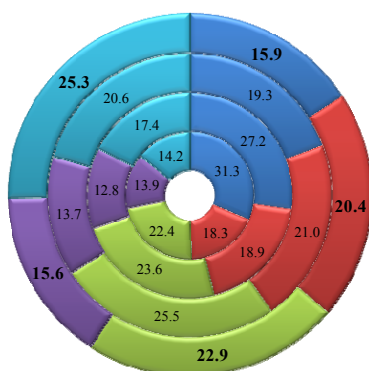
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Price segments in %

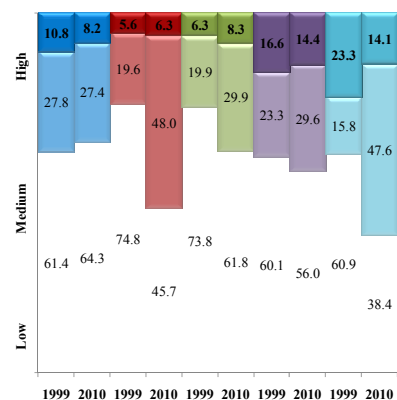


- Rather persistent industrial structures
 - especially in **labour intensive** industries ➤ structural adjustments largely accomplished (shares already very small)
 - Consistent increase of shares in **capital intensive** industries ➤ less footloose due to high sunk cost
 - Share of **technology driven** industries tends to decrease (most dramatically in Finland) ➤ rather volatile, fast moving
 - Consistent large shares in **high price segments**

Export shares in %

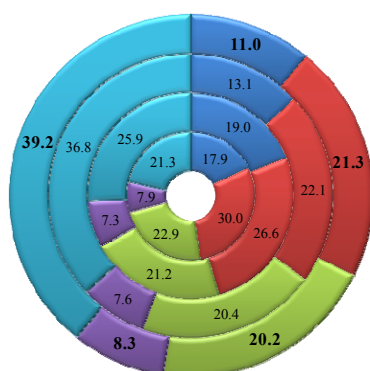


Price segments in %



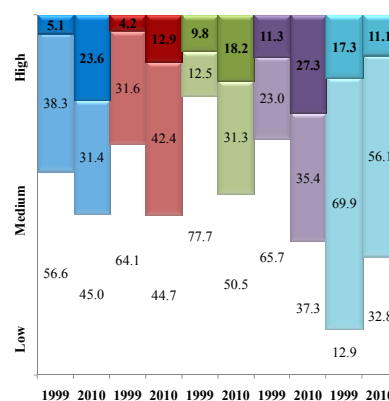
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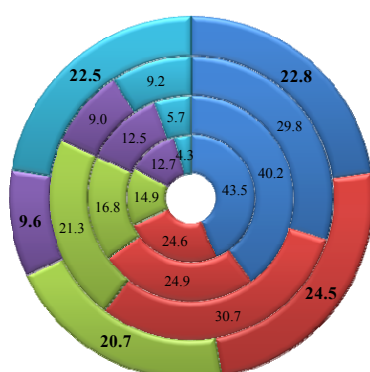


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Price segments in %

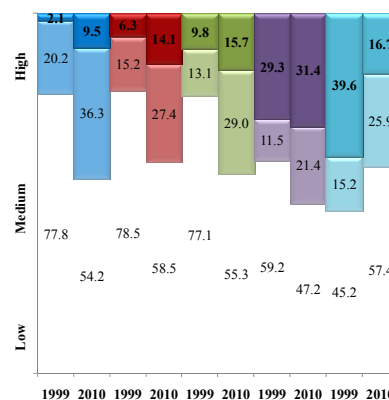


Export shares in %



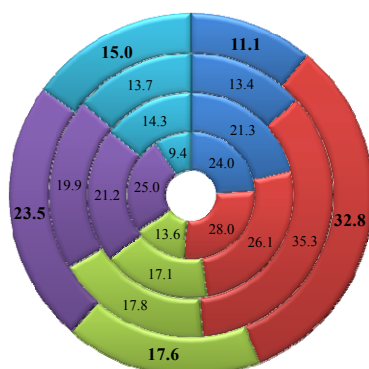
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Price segments in %

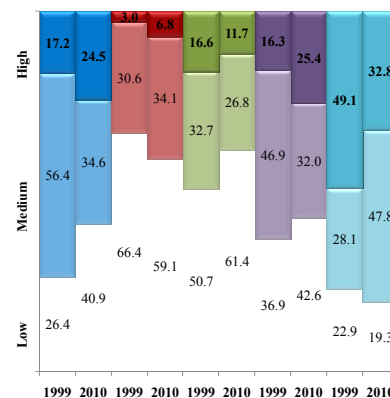


- Very pronounced structural adjustments
 - Consistent decrease in share of **labour intensive** sectors
 - Mixed patterns for **capital intensive** industries
 - Strong growth in share of **technology driven** industries, but mostly within low price segments
- Still very small shares in **high price segments**

Export shares in %

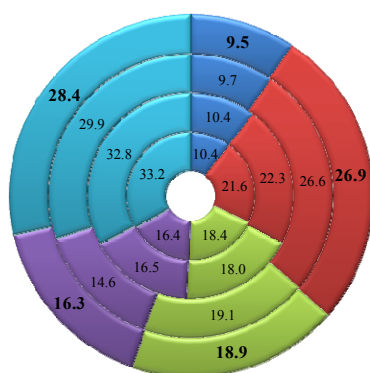


Price segments in %



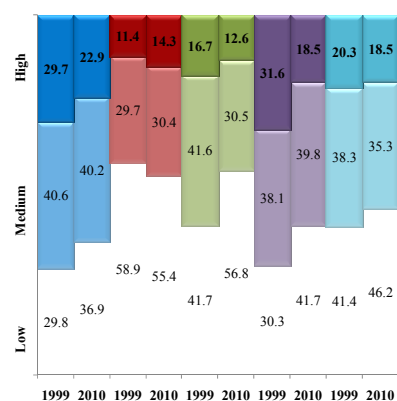
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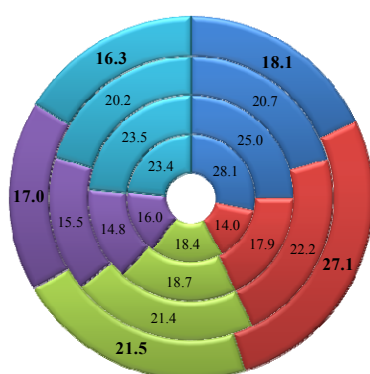


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Price segments in %

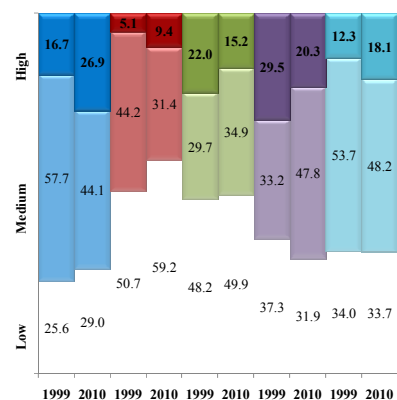


Export shares in %



■ Labour intensive industries ■ Capital intensive industries ■ Other Manufacturing ■ Marketing driven industries ■ Technology driven industries

Price segments in %



- No uniform pattern – quite heterogenous, but
 - Consistent decrease in share of **labour intensive** industries
 - Consistent increase in share of **capital intensive** industries
 - Share of **technology driven** industries tends to decline (except in Greece, where shares are already lowest)
 - Consistent small shares in **high price segments**

- A puzzle of many parts
- Multiple ‘faces’ of IP
- Competing rationales
 - Market-, system-, and government failure
 - Industrial development
- When (not) to intervene?
- Systemic requirements
- Fitting the pieces

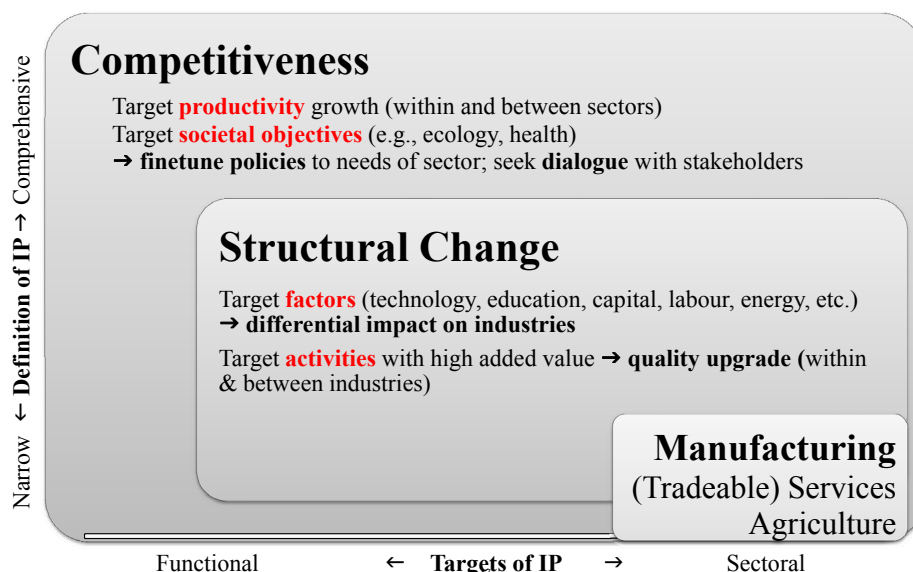
A puzzle of many parts ...

- Innovation policy
- Education policy
- SME policy
- Trade policy
- Competition policy
- State Aid regulation
- Sector regulations
- Infrastructure policy, etc. etc.

➤ **Do we need another Industrial Policy, and what is distinctive about it?**

46

The multiple 'faces' of IP



- **Market failure, system failure, government failure,** ... isn't this an odd way to warrant policy?
 - Strong belief in 'optimal' outcomes as benchmark
 - Rather constraints to policy choices and design
- Towards a **dynamic logic of intervention**
 - Reason policy by what we **aim to achieve**
 - Assess **strengths** and **weaknesses** of markets vs government as distinct means of economic co-ordination
 - Aim for a coherent vision and **integrated perspective**

- **Dynamic industrial policies** are public interventions to enhance **industrial development**, i.e. productivity growth and structural change,
 - be it at the level of individual **enterprises**, firm populations, **sectors** or the aggregate **economy**
 - in a **sustainable** manner, and
 - subject to the overall **goals of society**.

- Strengths
 - **Allocative efficiency**: selection directed by demand, directly coupled to user's preferences, utility & consumer welfare
 - **Productive efficiency**: strong selection forces discipline on agents; incompetence or corruption tend to be punished rapidly
 - **Co-ordination** of decentralised knowledge (supply and demand)
 - **Fast learning** about own comparative (dis-)advantage
- Weaknesses
 - **Market failure** (public goods, external effects, asymmetric information, collusion & monopoly, transaction costs)
 - Self-organisation is **myopic** (→ lock-in to local equilibria), and
 - on itself **blind** to other societal goals (e.g. income distribution, health, ecology etc.).

- Strengths
 - Mobilise **resources** (e.g., infant industry; market failures)
 - Potential for **purposeful**, planned and directed activities
 - Can set/adjust priorities according to overall **goals of society**
- Weaknesses
 - **Agency** problem (principal's power is diffuse)
 - **Capture** by interest groups → rent-seeking behaviour
 - **Leviathan** → growing administrative burden and control
 - **Crowding-out** of private initiative
 - **Weak selection** → allocative & productive inefficiencies

When (not) to intervene?

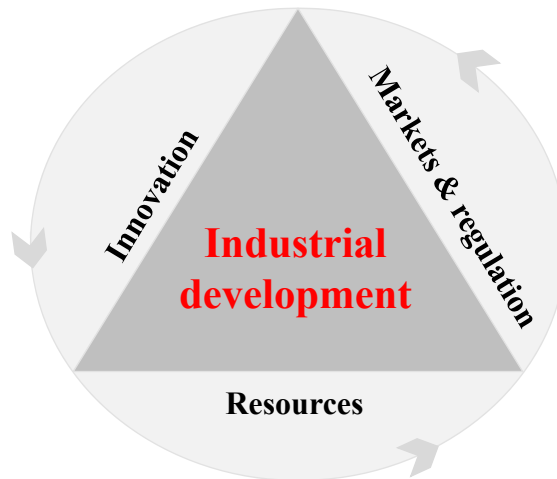
- Degree of intervention should depend on the economy's capacity for **self-organisation** (→ developed economies need less IP), but also on the **quality of public institutions** (→ less mature societies might want less IP)
- Apply principle of **opportunity cost**
 - If private markets can do it, don't waste public resources
 - Not every positive effect is good enough!
- Conduct systematic **evaluation** by independent agencies
- Go for even stronger **international co-ordination** to avoid escalation of subsidy or trade wars (prisoner's dilemma).

52

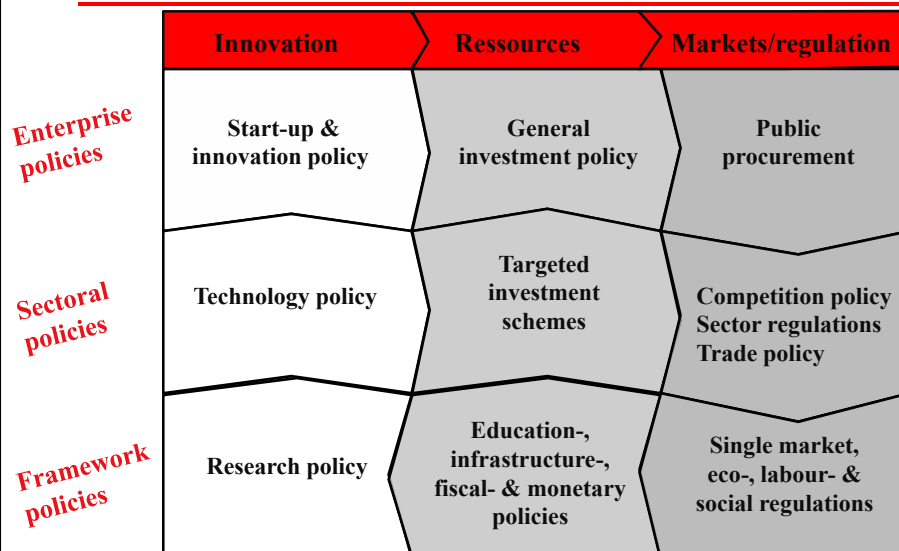
System characteristics

Examples	Variation ➤ (Stochastics); Structural change	Cumulation ➤ Time (i.e. dynamics)	Selection ➤ Direction
White noise	(+)	-	-
Blind growth	-	+	-
Random walk/drift	+	+	-
Static equilibrium	(+)	-	+
Steady state growth	(+)	+	+
Evolutionary change	+	+	+

53

System functions (drivers)

54

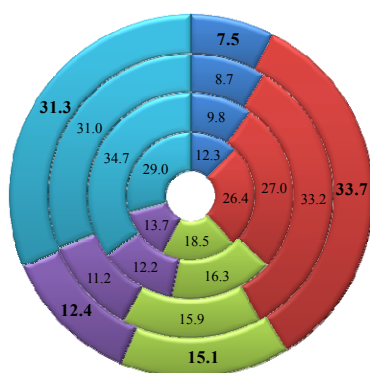
Fitting the pieces

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Thank you for your attention !

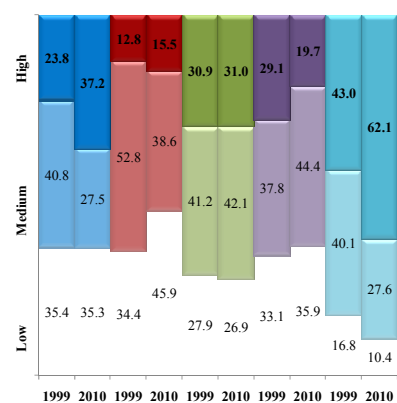
- Further country sheets on trade specialisation

Export shares in %



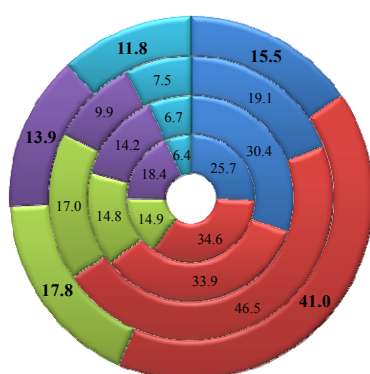
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Price segments in %



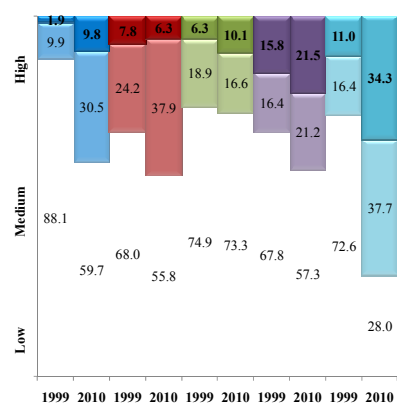
1999 2003 2007 2010

Export shares in %



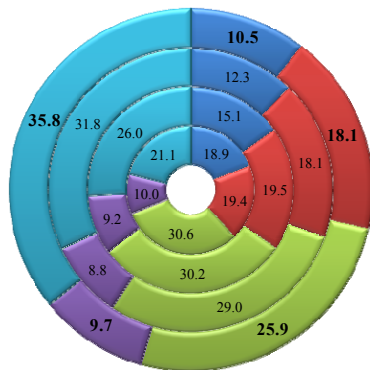
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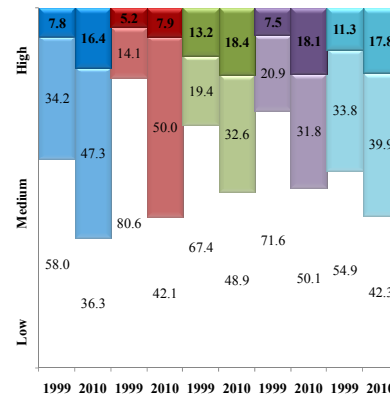
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Price segments in %



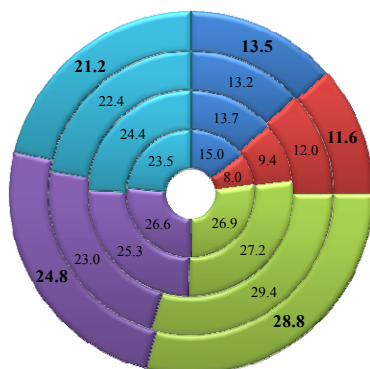
High

Medium

Low

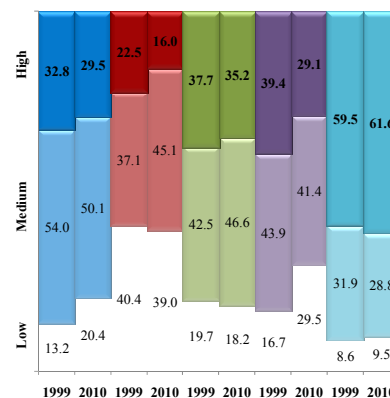
1999 2010 1999 2010 1999 2010 1999 2010 1999 2010

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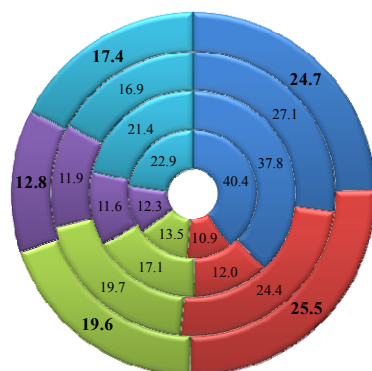
High

Medium

Low

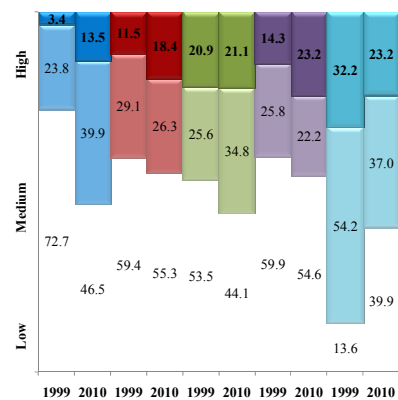
1999 2010 1999 2010 1999 2010 1999 2010 1999 2010

Export shares in %



■ Labour intensive industries ■ Capital intensive industries ■ Other Manufacturing ■ Marketing driven industries ■ Technology driven industries

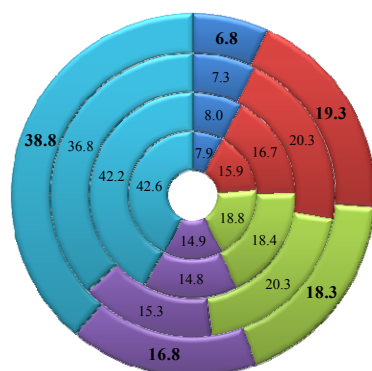
Price segments in %



High
Medium
Low

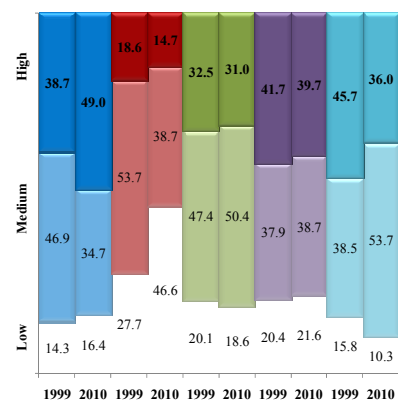
1999 2010 1999 2010 1999 2010 1999 2010 1999 2010

Export shares in %



■ Labour intensive industries ■ Capital intensive industries ■ Other Manufacturing ■ Marketing driven industries ■ Technology driven industries

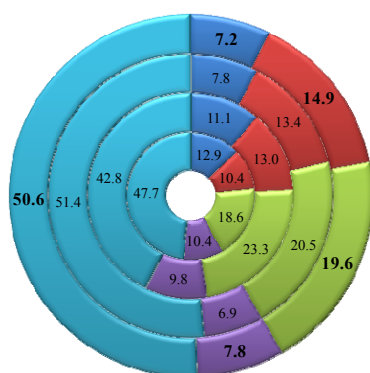
Price segments in %



High
Medium
Low

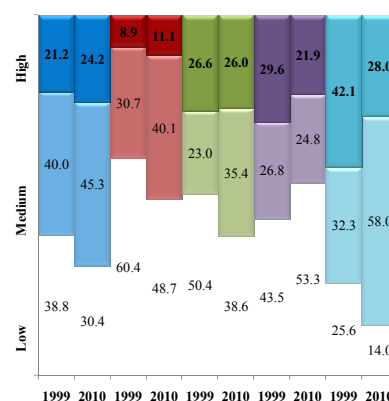
1999 2010 1999 2010 1999 2010 1999 2010 1999 2010

Export shares in %



■ Labour intensive industries ■ Capital intensive industries ■ Other Manufacturing ■ Marketing driven industries ■ Technology driven industries

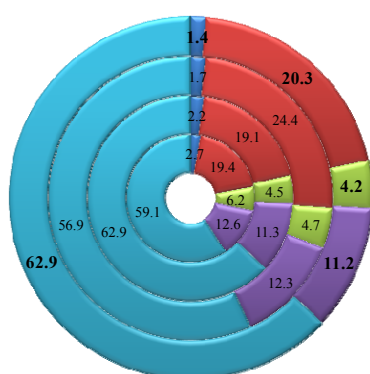
Price segments in %



High
Medium
Low

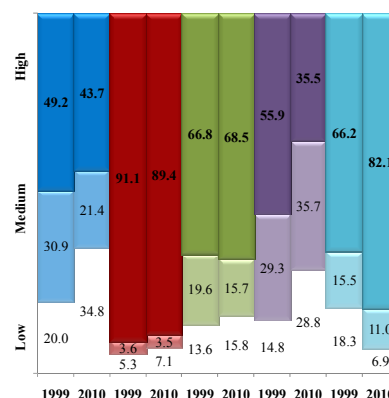
1999 2003 2007 2010

Export shares in %



■ Labour intensive industries ■ Capital intensive industries ■ Other Manufacturing ■ Marketing driven industries ■ Technology driven industries

Price segments in %



High
Medium
Low

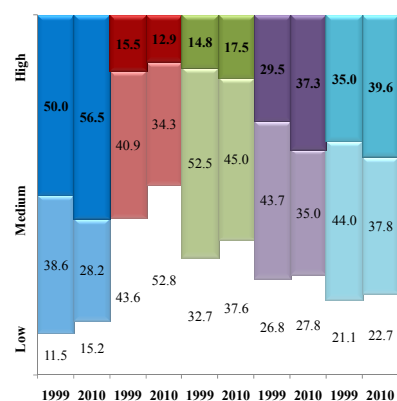
1999 2003 2007 2010

Export shares in %

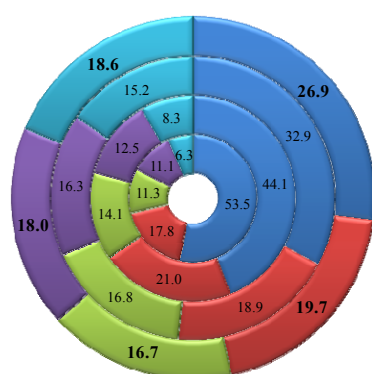


■ Labour intensive industries ■ Capital intensive industries ■ Other Manufacturing ■ Marketing driven industries ■ Technology driven industries

Price segments in %

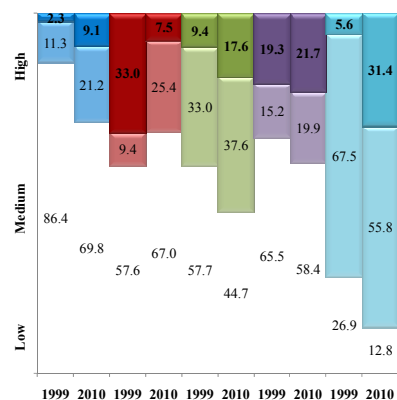


Export shares in %

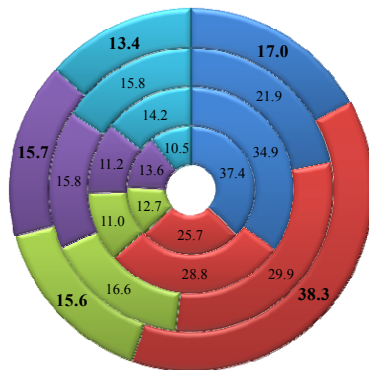


■ Labour intensive industries ■ Capital intensive industries ■ Other Manufacturing ■ Marketing driven industries ■ Technology driven industries

Price segments in %

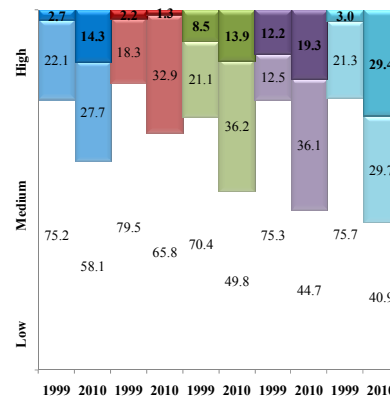


Export shares in %

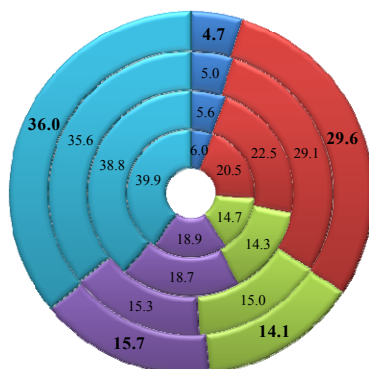


■ Labour intensive industries ■ Capital intensive industries ■ Other Manufacturing ■ Marketing driven industries ■ Technology driven industries

Price segments in %

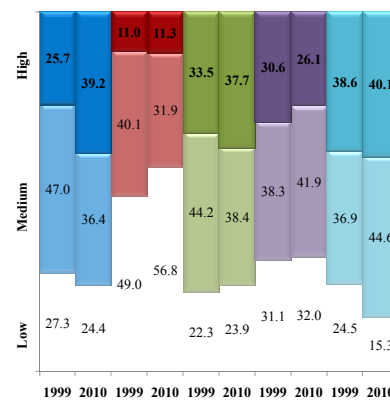


Export shares in %

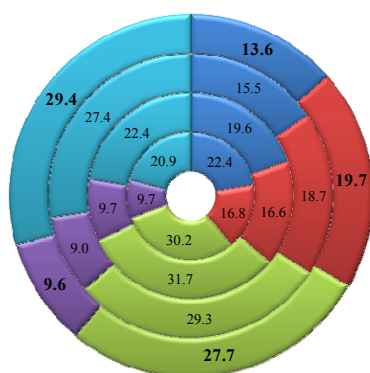


■ Labour intensive industries ■ Capital intensive industries ■ Other Manufacturing ■ Marketing driven industries ■ Technology driven industries

Price segments in %

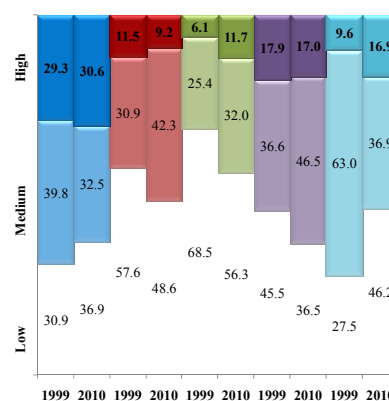


Export shares in %

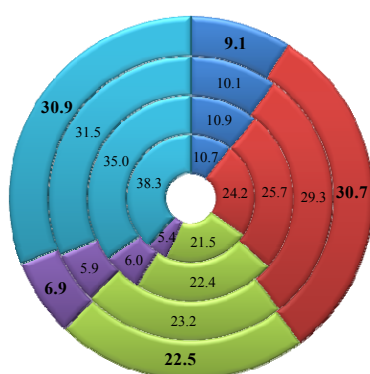


■ Labour intensive industries ■ Capital intensive industries ■ Other Manufacturing ■ Marketing driven industries ■ Technology driven industries

Price segments in %

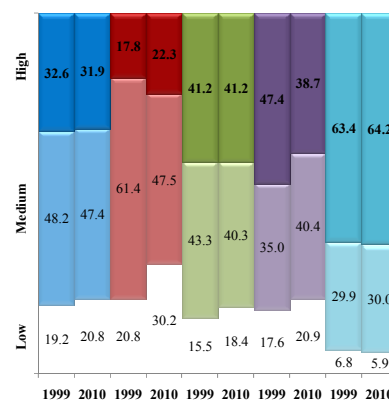


Export shares in %

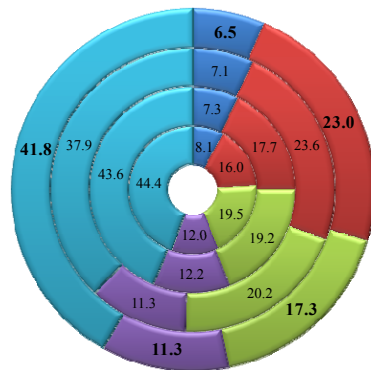


■ Labour intensive industries ■ Capital intensive industries ■ Other Manufacturing ■ Marketing driven industries ■ Technology driven industries

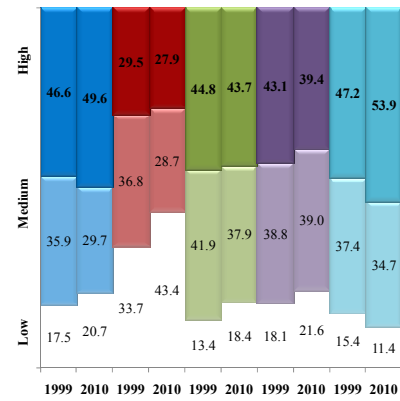
Price segments in %



Export shares in %



Price segments in %



■ Labour intensive industries ■ Capital intensive industries ■ Other Manufacturing ■ Marketing driven industries ■ Technology driven industries