Are Japan and Korea experiencing *deindustrialization*? Do we have to worry about it?

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(EHESS & EHESS Paris 日仏財団)

GIPS seminar

2012/05/09 (6 pm – 8 pm)

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自己紹介

- **Associate professor at EHESS** (Graduate school of social sciences in Paris)
- **Director of EHESS Paris 日仏財団** (Fondation France-Japon de l'EHESS):

1. Created in 2009, located in Paris; **http://ffj.ehess.fr/**
2. Aim: developing exchanges between Japan and France (Europe) in the field of social sciences;
3. Perspective: global issues (crisis, institutional change, rising inequalities, welfare state and fiscal consolidation, inter-generational issues, deindustrialization, environmental issues, …)
4. We organize various seminars and conferences;
5. We also coordinate two research programs:

*** "Is deindustrialization inevitable? The future of manufacturing in Japan, Korea, Germany, and France"**

*** "The transformation of corporate finance and governance in Asian firms": the first conference will be held at MIT (2012, June 28-30)**

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Introduction & motivation

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Deindustrialization is a major problem and concern… in France

- France has been an industrial country and **still is**…but

1. Deindustrialization started in the early 1970s; it has accelerated after
2. Manufacturing industries have lost 36 % of their workers between 1980 and 2007, that is 1,9 million jobs (71 000 every year);
3. Their share in total GDP (in value) has decreased from 24 % to 14 % between 1980 and 2007

- **Contribution of the various industries to manufacturing jobs destruction (Demmou, 2010)**

1. The “leading” industries in term of job destruction are intermediate goods and final consumption goods
2. As for the causes, they also differ depending on the industry:
   - Agro-industries and consumption goods have been more affected by the evolution of demand (≠automotive)
   - Foreign competition has been more destructive for automotive, equipme
     intermediate goods

Beyond a Germany-France comparison, necessity of historical perspective and international comparisons

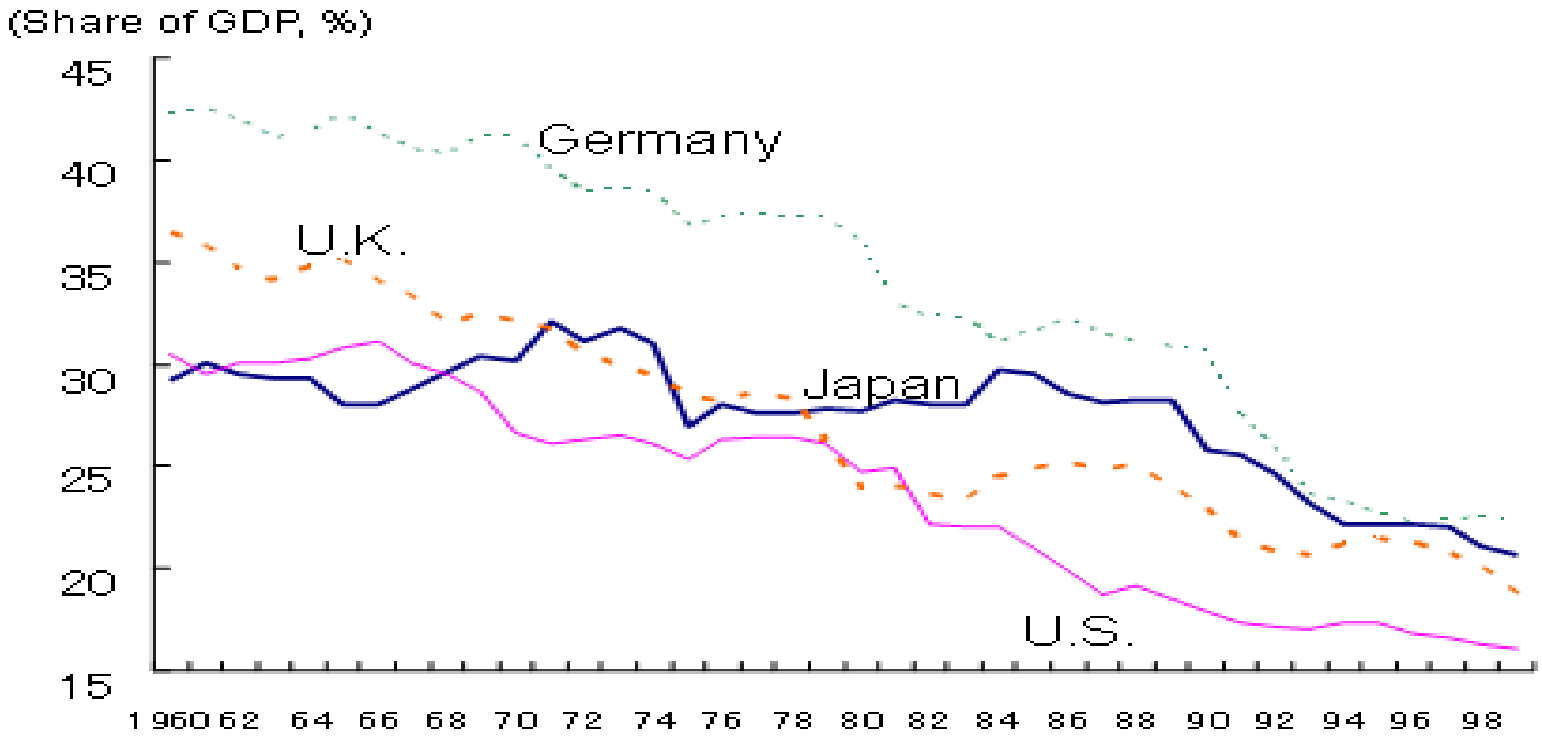
- The importance of the comparison with Germany in the French context

1. “Failure” vs “success” (e.g. trade balance, unemployment, growth, etc.)
2. “Hyper-productivism” in France
3. French firms are much more internationalized than German firms, with the following meaning: ratio FDI/total investment is 4 times higher for French firms [but the ratio inv/profit is much lower for F firms in general]

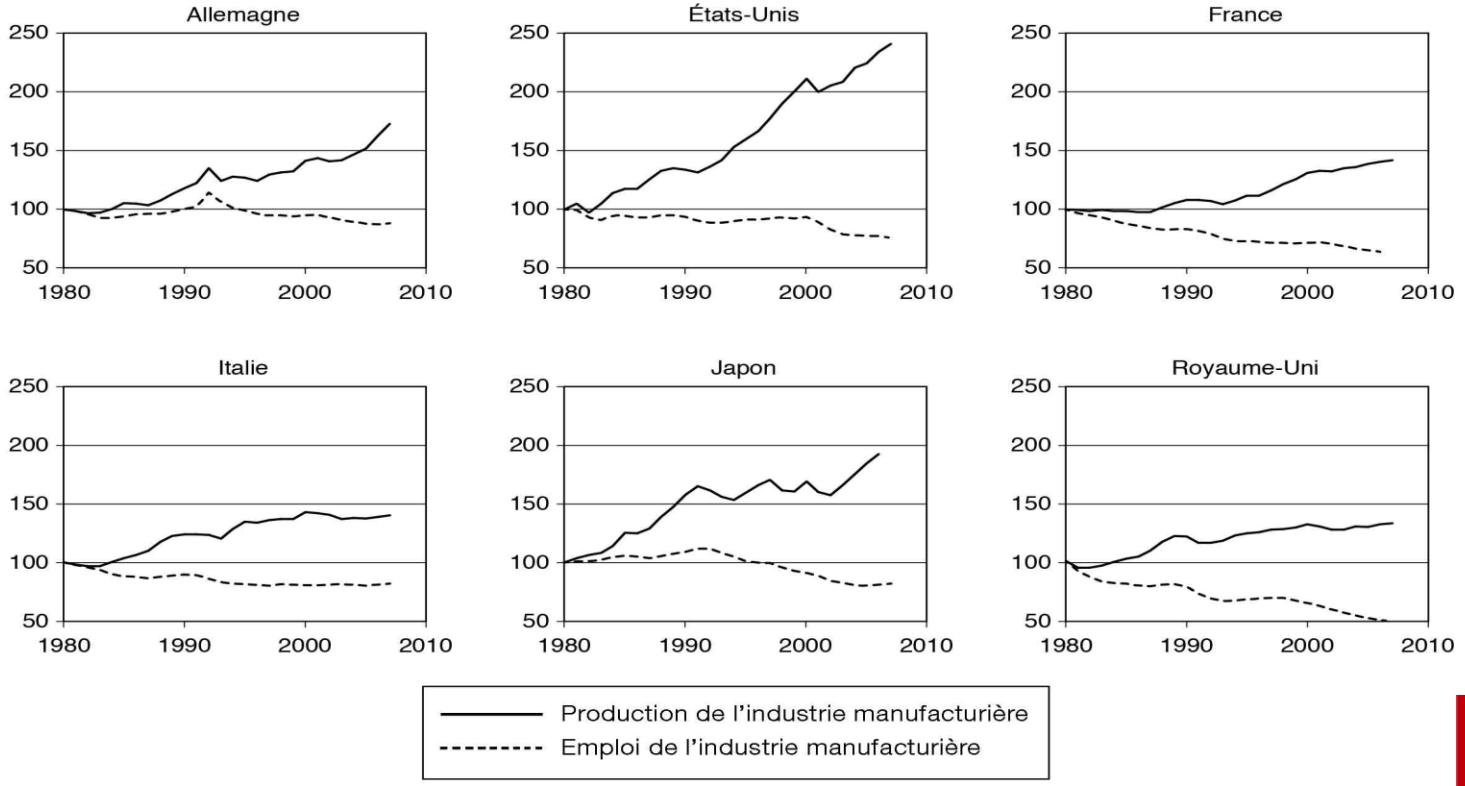
- An historical perspective

- International comparison

“Historical” perspective



International comparison (indices of absolute numbers) ➔ various cases



What is deindustrialization? A first definition and some alternative concepts

- Strictly speaking, deindustrialization corresponds to the decrease of the share of the manufacturing industries in total employment **and** GDP (VA); (see Tregenna, 2009: why the definition matters)

- Alternative concepts:

1. Deindustrialization ≠ delocalization
2. Hollowing out (of manufacturing industries) : 空洞化 (Kûdôka)/ 아웃 (hollowing)
3. Shall we prefer more “neutral” concepts such as industrial mutation/transition, changes in the industrial structure, or more positive ones like “servicization”, “tertiarization”?

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New trends in deindustrialization?

- A very classical topic but the nature of the process may have changed during the last decades ➔ identifying the turning point and the nature of the change

- The share of manufacturing in GDP at the global level did decrease…while the manufacturing production has continued to grow
- Meanwhile, we have observed during the last 40 years a process of “delocalization” of the production bases from OECD countries to developing economies
- This process is even more dramatic with the development of China…

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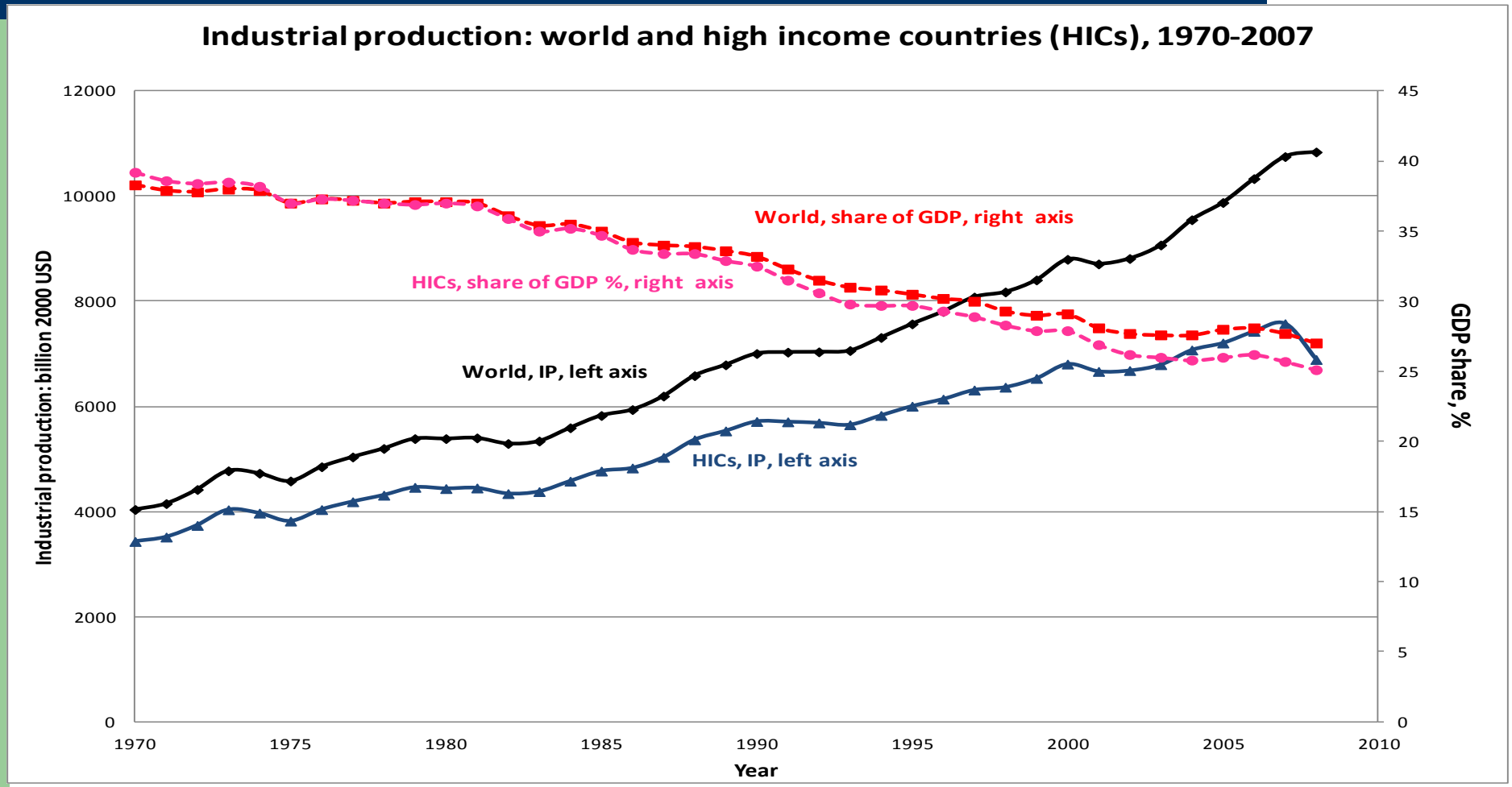
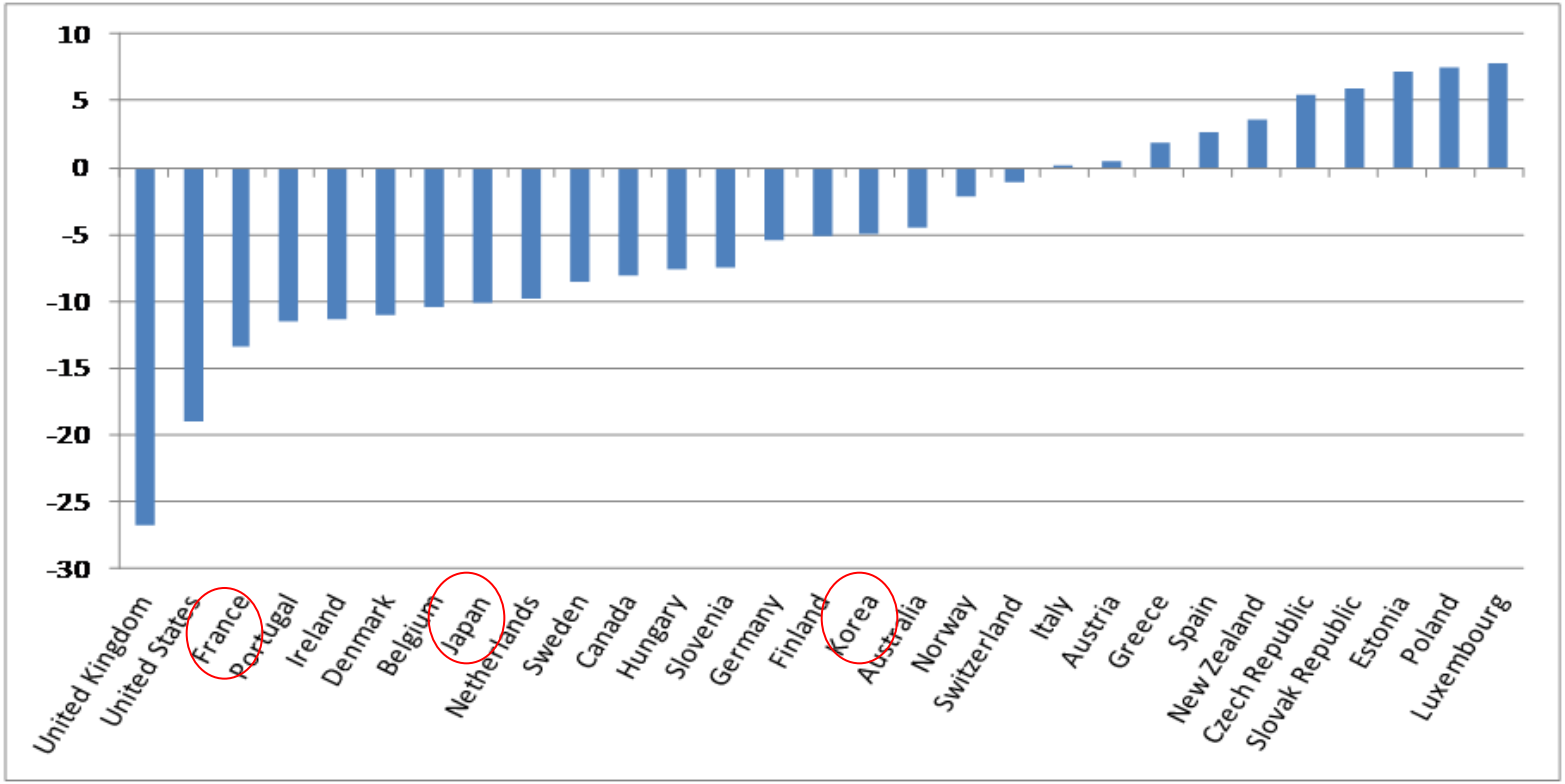
The relocation of industrial production at the global level

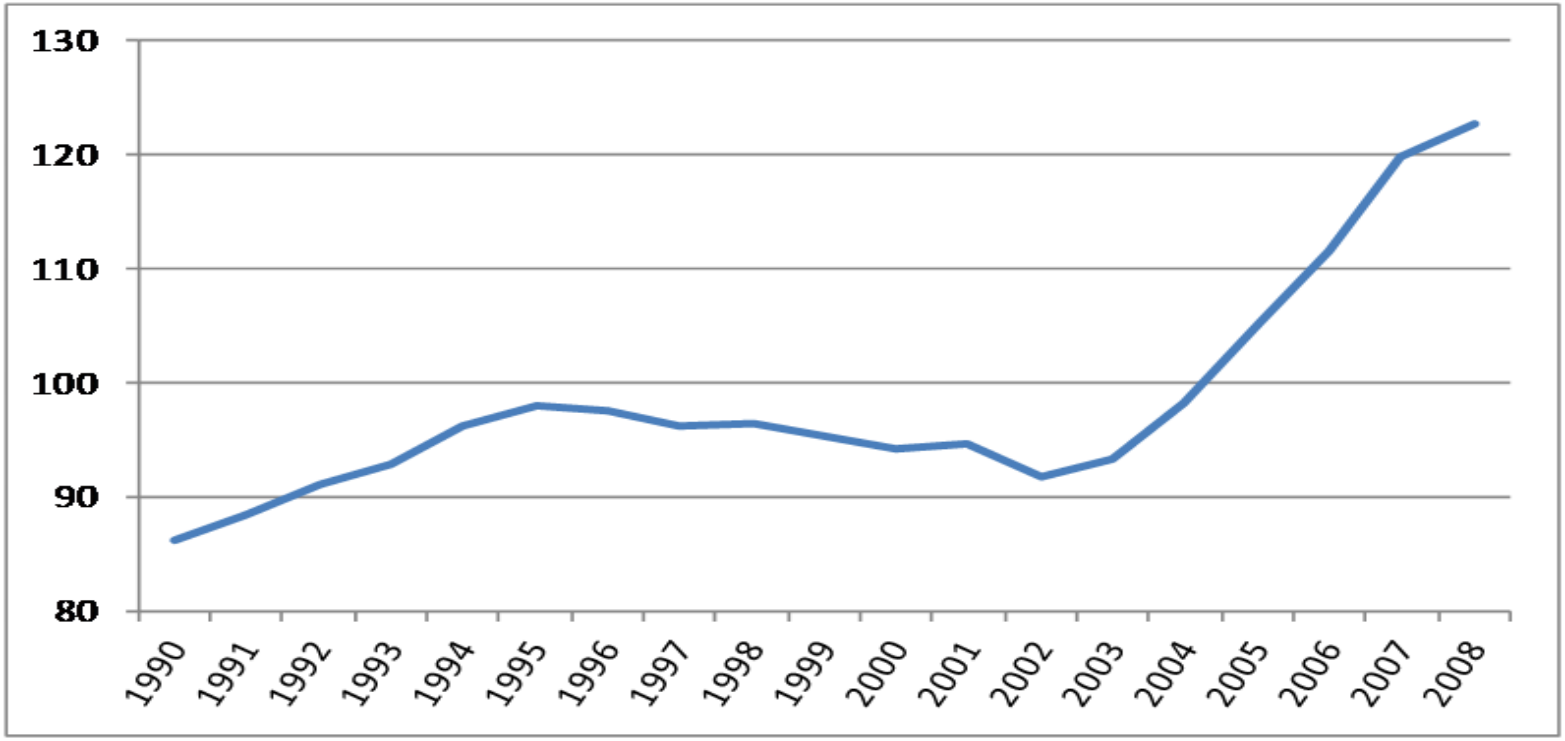


Evolution of manufacturing employment in the OECD countries from 2000

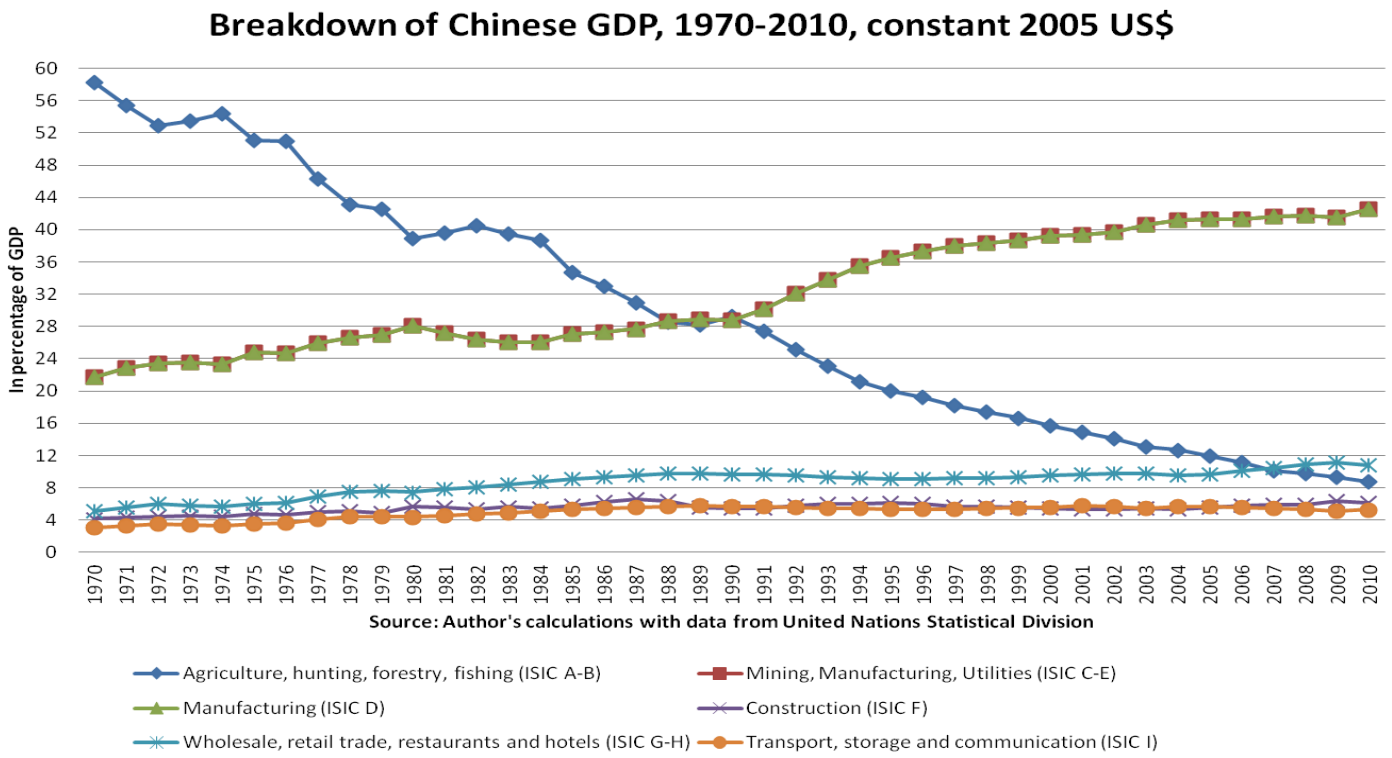
Percentage change in manufacturing employment, 2000-2008 (OECD, Stan)



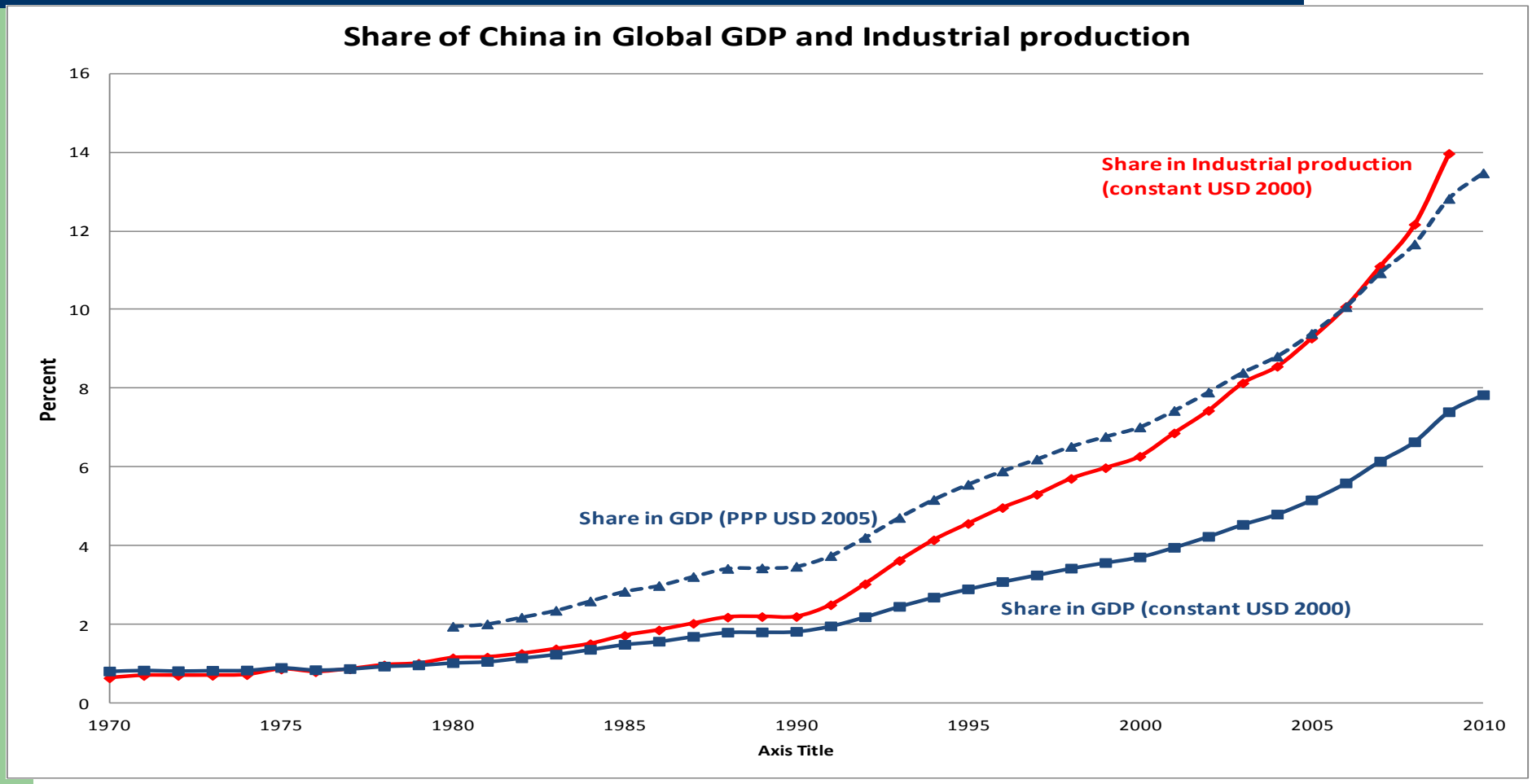
Growth of manufacturing employment in China
(employment in millions)



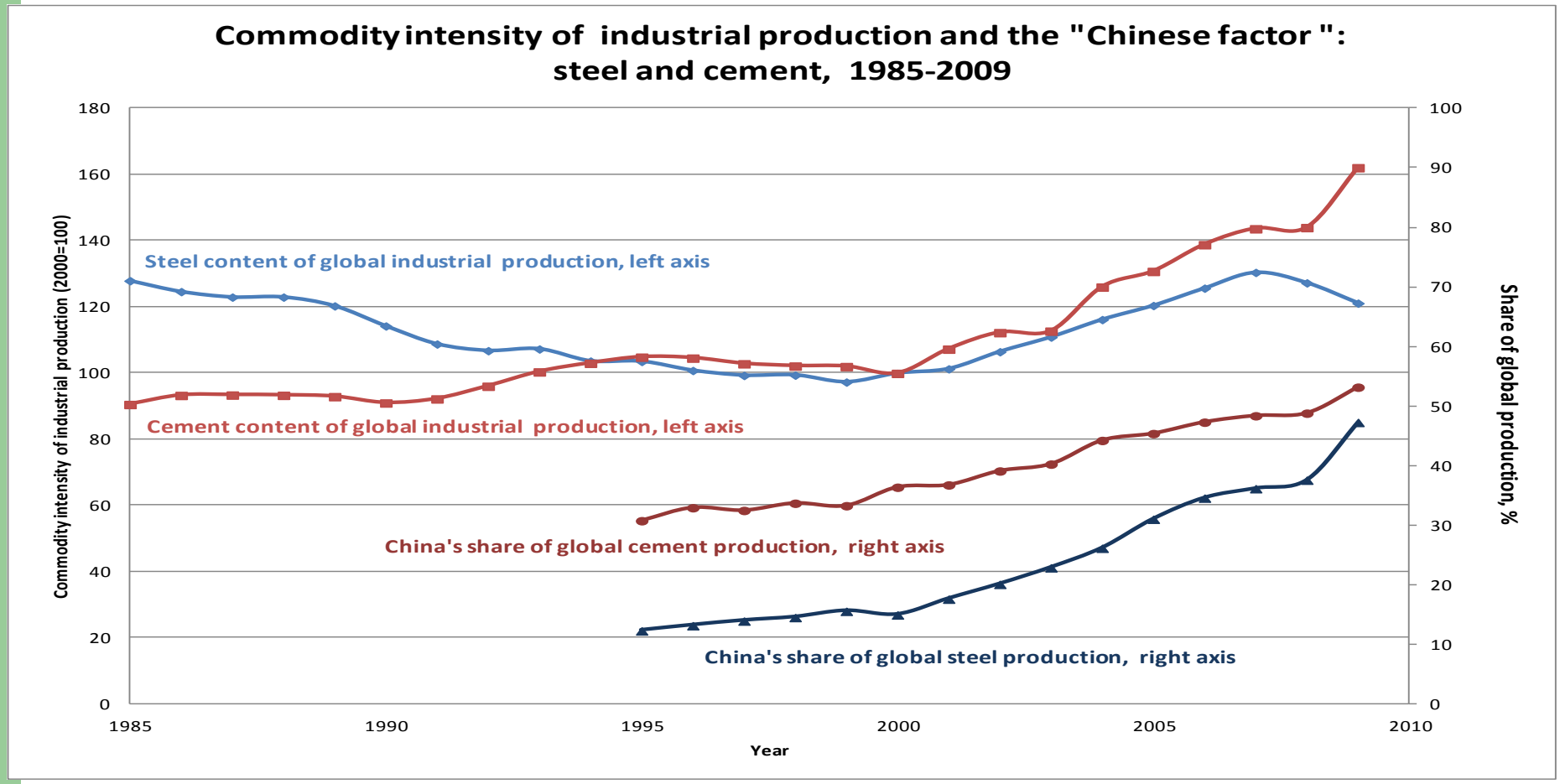
Development and structural change of the Chinese economy



The surge of China in the Global economy and its industrial bias



The rise of China as a manufacturing superpower and its consequences



Defining the “Chinese issue”

- The effect of North-South trade on manufacturing dynamics in North has not been found as important until recently (see for example Rowthorn & Coutts, 2004)

- However, things may change with the emergence of China as a manufacturing superpower…

1. Scale effect (significative ≠ with the experience of NIEs)
2. Fast catching-up including in tech-sectors (investment in R&D + impact of foreign investment)
3. Concern for developped economies but even more for developing economies (e.g. Vietnam), especially through the impact on world markets

Why is it interesting to look at Japan and Korea's industrial dynamics from a European (French) point of view?

- From analyzing deindustrialization in France to studying industrial dynamics in J, K, G, and F (J, K & G: 3 successful countries?)

- Why Japan AND Korea?

1. Germany AND France (Europe/Asia); beyond confusion between J & K
2. Common wisdom: manufacturing capacities are moving to Asia

- "False" reasons: A rather idealized image of Japan and Korea's industrial dynamics in France:

1. No deindustrialization in J and K
2. Success of industrial policy in J and K

- "Good" reasons:

1. Development in J & K has been successfully based on industrialization and exports of manufacturing products
2. J & K may have to face even more dramatically the Chinese challenge and th associated new trends in deindustrialization

Context of this presentation: a 3 years research program coordinated by FFJ

- Workshops

1. 1st conference in Paris (20 & 21 mars 2012)
2. 2nd conference in Tokyo (April 2013)
3. 3rd conference in Brussels (2014)

- Education: a regular seminar at EHESS & PSE on “Industrial dynamics in Japan and Korea”

- Publication: book or special issue of a journal (2014)

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Contents of today's presentation
(~ synthesis of our first conference, March 2012 in Paris)

- What is deindustrialization? How do we explain it?
- Are Japan and Korea experiencing deindustrialization?
- Do we have to worry about it?
- Any relevant public policies?
  Revisiting industrial and innovation policies

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What is deindustrialization? How do we explain it?

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Deindustrialization: towards a more precise and comprehensive definition?

- Measurement issues + implications in terms of typology:

1. Share of manufacturing in total employment and GDP (nominal/real)
2. Looking at absolute numbers: a decrease of the share of manufacturing may be associated to a stability of absolute numbers

- Borders between manufacturing and services are becoming less and less clear:

1. For example, ***outsourcing*** practices contribute to an “artificial” increase to the share of services
2. Conversely, the content of manufacturing products in terms of services is also increasing

- Looking at the causes of deindustrialization: what are we talking about?

The causes of deindustrialization (1/3)

- A major trend that has affected all the industrialized countries from the late 1960s. It concerns economies, which have reached a certain level of development (“post industrial stage”) :

1. Long term trend: transition from agriculture to manufacturing and services.
2. From this point of view, deindustrialization may seem a “*natural*” phenomenon = corresponding to a certain stage of development.
3. **Domestic mechanisms** (~ consensus among economists):

Demand: evolution of the demand from agricultural goods to manufacturing goods and to services (Engel’s law);

Supply: in general, productivity growth is much higher in manufacturing than in services

The causes of deindustrialization (2/3)

- **Is globalization responsible?** (dominant image in the public opinion; never ending controversy among economists)

1. **Outward FDI** (off shoring by MNEs) leads to a mechanical decrease of the national production & employment in a first step; the impact of the second step (increased efficiency, evolving specialization in other industries, increasing exports of components) is open;
2. At the same time, even in the absence of off shoring, it is possible to observe a decay of manufacturing activities at the level of a firm or of a whole sector, for example because of **international competition** (in this case, national firms do not off shore but national consumers buy foreign products)

The causes of deindustrialization (3/3)

- Remarks regarding the international dimension of deindustrialization

1. The discussion in Japan has over-focused on the impact of the exchange rates
2. ≠ types of FDI (e.g. market led vs costs cut driven; see Japanese FDI in the US and in Europe vs in China) and ≠ destinations may have ≠ impacts
3. The fragmentation of production and the evolving international/regional division of labor may make the analysis of the impact even more difficult…
4. "Is finance responsible?"

Example 1: what happens when a manufacturing company makes more profit from its financial investments than from its manufacturing sales (+ associated services)

Example 2: various studies (e.g. Le Blanc, 2012; Besson et al., 2011; Mouhoub, 2011) have shown that a sizeable share of outward FDI by French MNEs are driven my margin behaviors

Are Japan and Korea experiencing deindustrialization?

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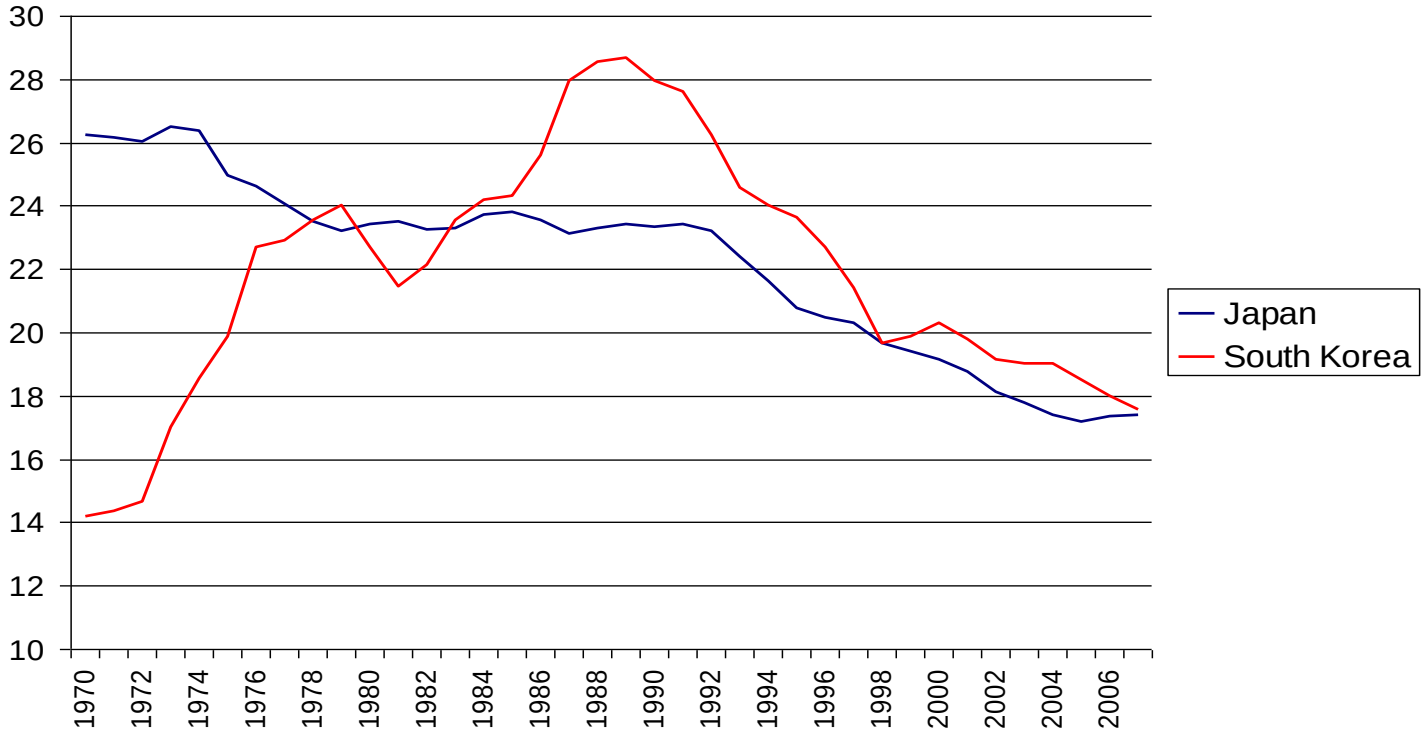
Evolution of the share of manufacturing in total employment in Japan and Korea, in % (1970-2007)



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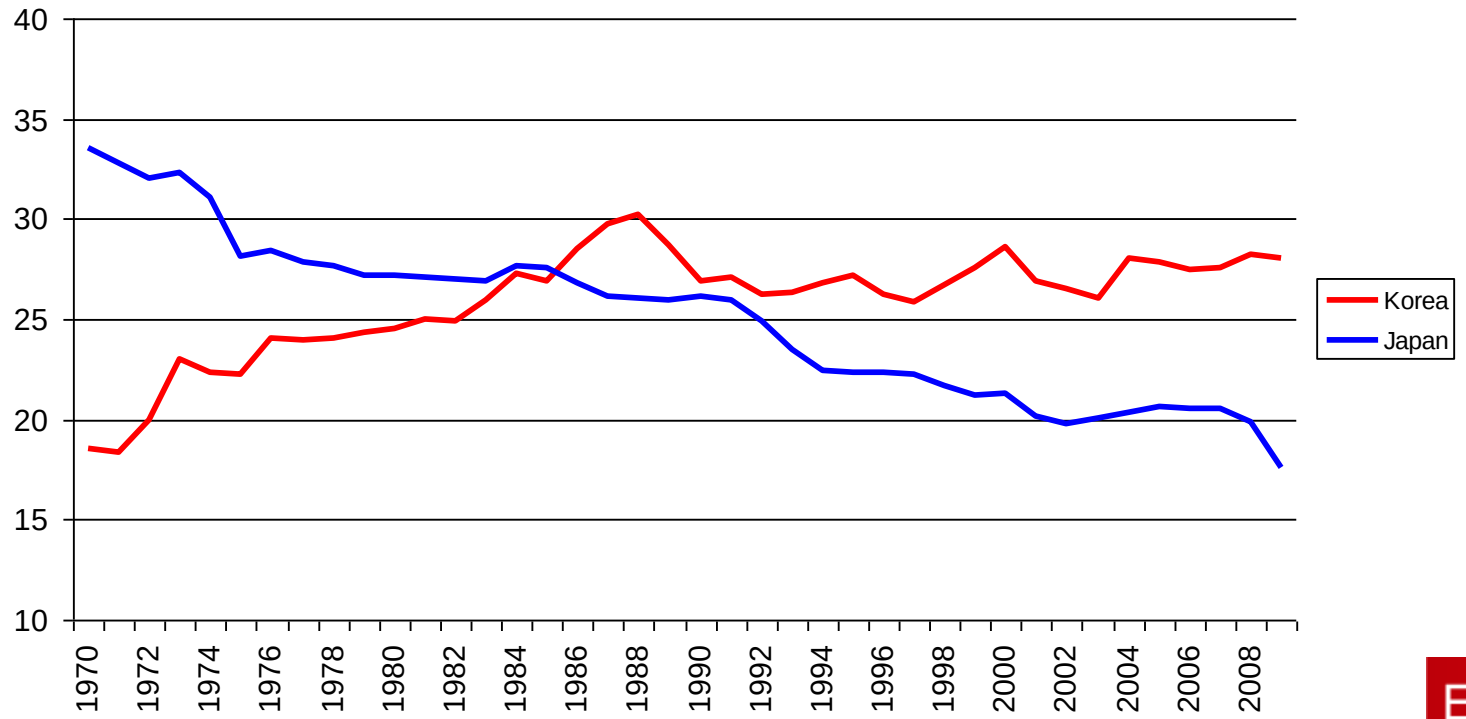
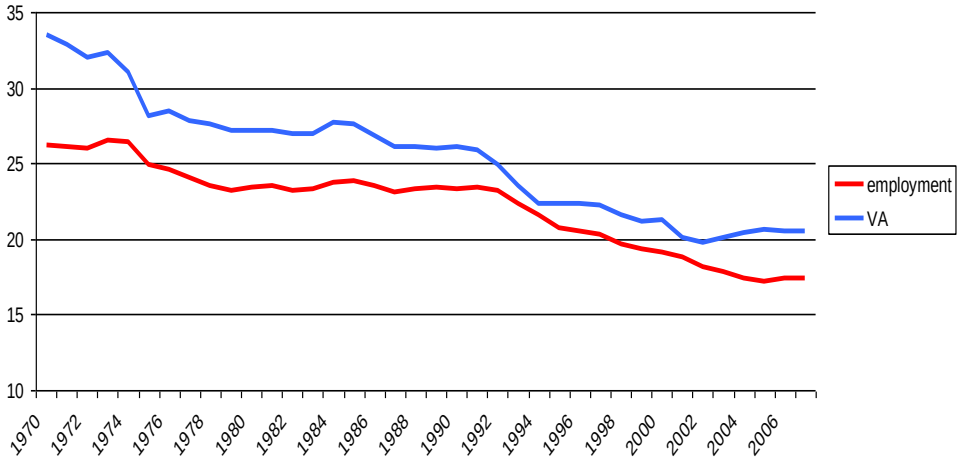
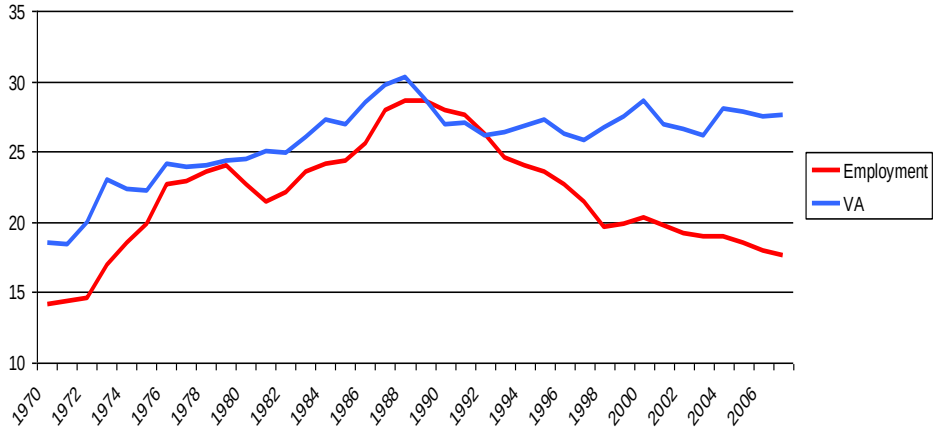


Comparing Japan and Korea: employment and VA perspectives

Evolution of the share of manufacturing in total production and employment in Japan (1970-2007)



Evolution of the share of manufacturing in total production and employment in Korea (1970-2007)



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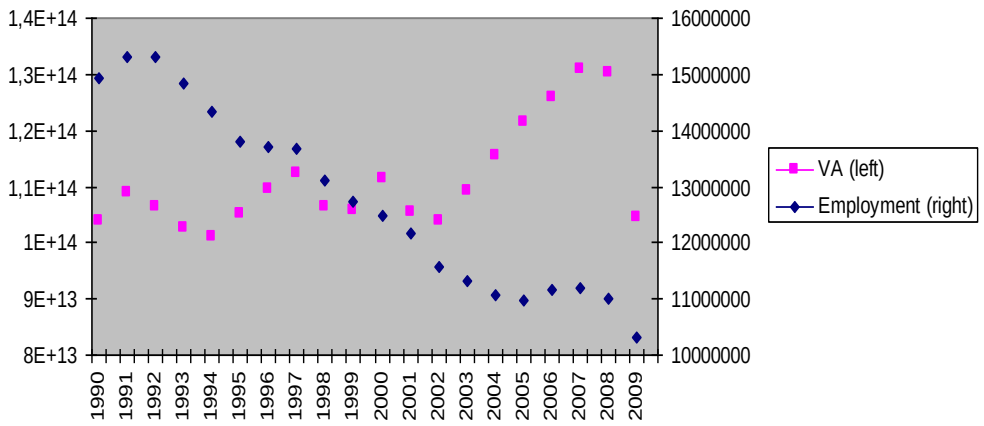
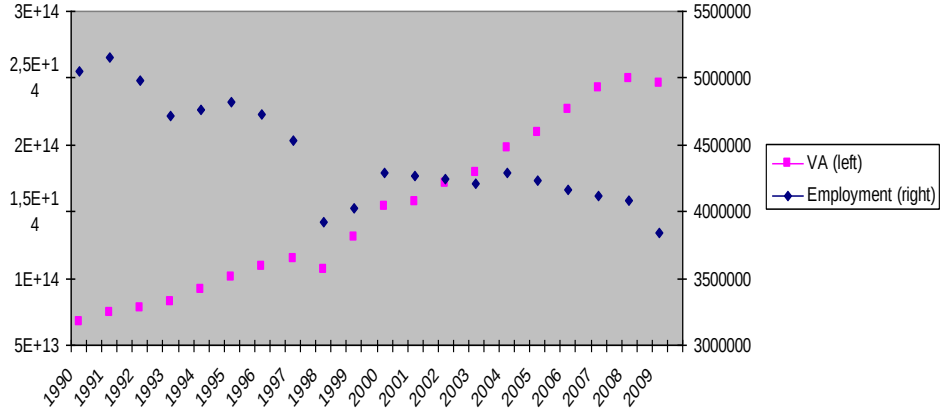
Evolution in absolute terms – VA & Employment (1990-2010)

Evolution of manufacturing VA and employment in Japan



Evolution of manufacturing VA and employment in Korea



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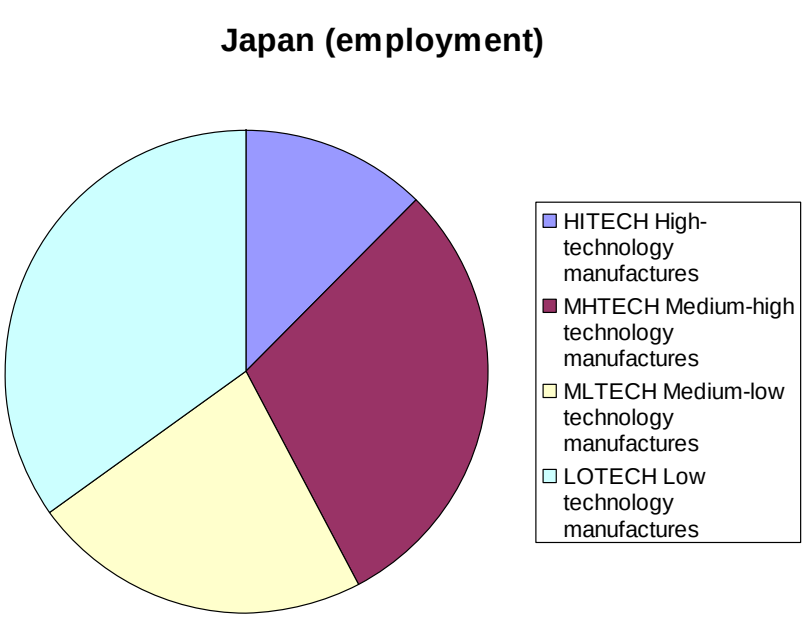
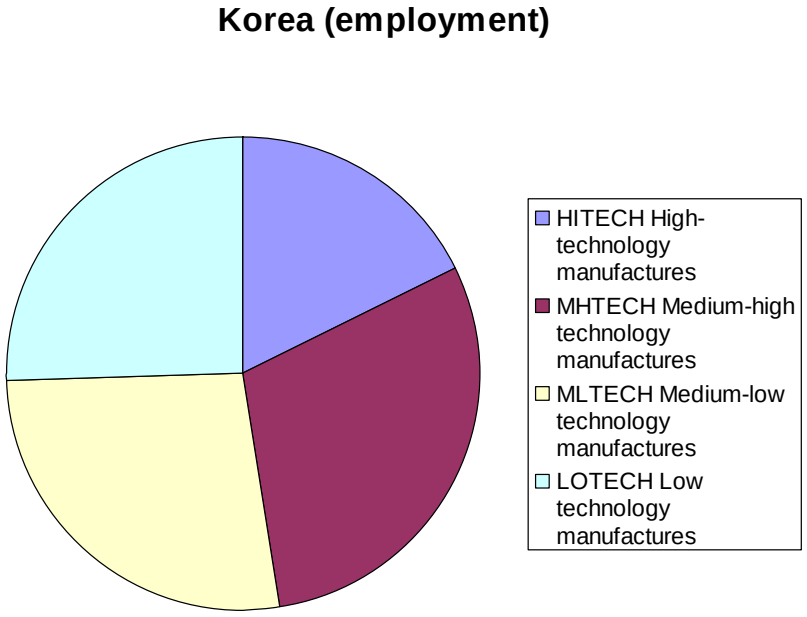
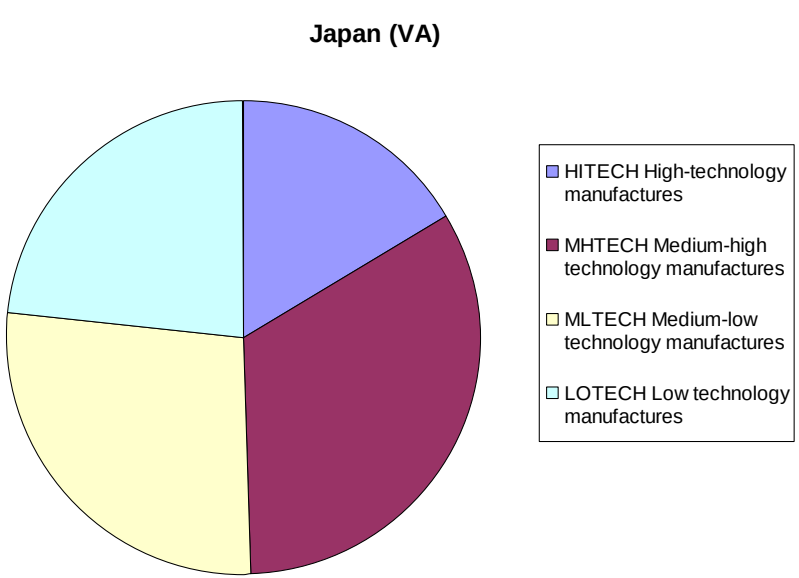
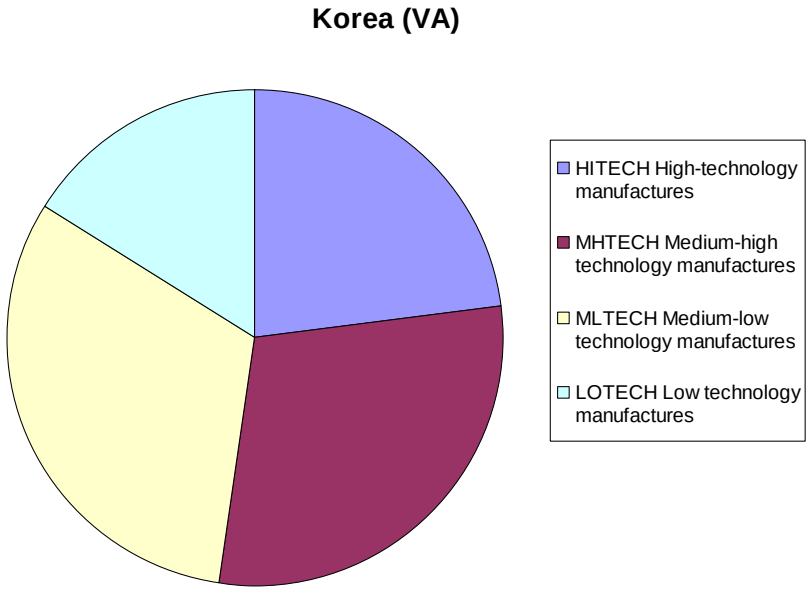
Which industrial structure (employment, 2006)?





Which industrial structure (VA, 2006)?





Preliminary conclusion: is deindustrialization an accurate concept to describe industrial dynamics in Japan and Korea??

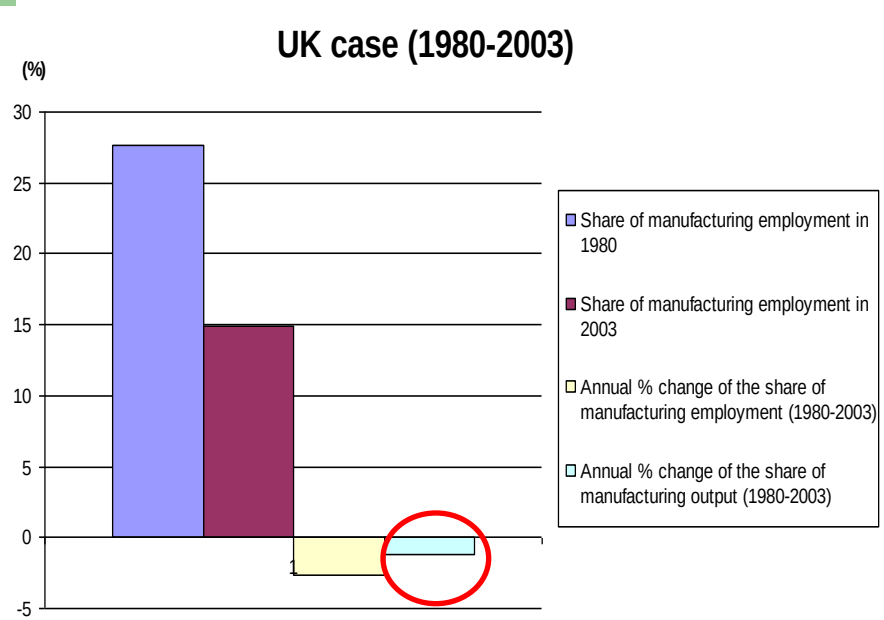
- Yes!
- Two different cases of deindustrialization:

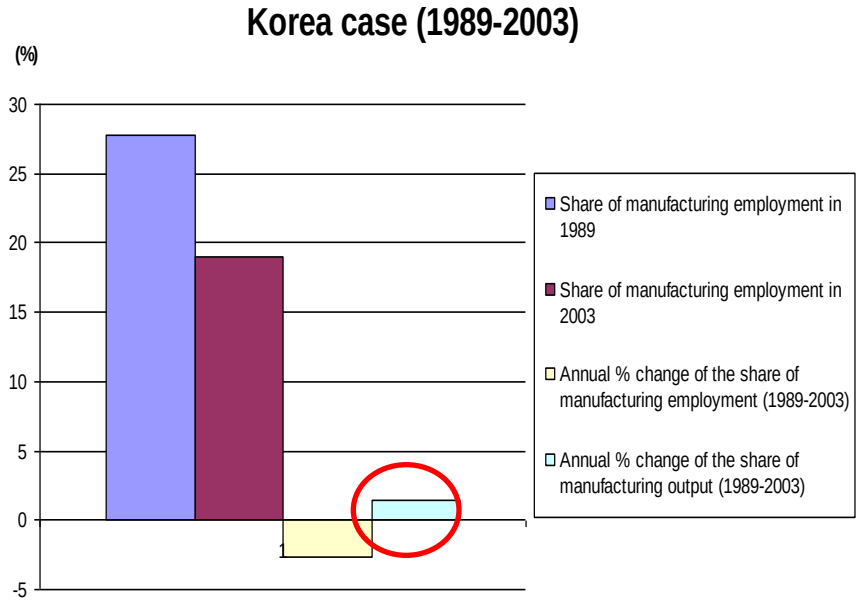
1. Japan (deindustrialization in terms of employment and production) ≠ Korea (deindustrialization in terms of employment only but more dramatically)
2. ≠ timing certainly because of ≠ levels of development
3. K is catching up fastly…although in terms of deindustrialization (from late industrialization to rapid deindustrialization?)
4. J's deindustrialization seems to be correlated to business cycles
5. In terms of absolute numbers, ≠ are less remarkable
6. Diverging industrial specialization

Comparing deindustrialization in Japan and Korea – to do list…

- Comparing the contribution of “domestic” (demand and productivity differentials between manufacturing and services) and “international” (“hollowing out”)
- In particular, assessing the differences in terms of industrial specialization, the impact of China’s rise, and the strategies of J and K multinationals (FDI, fragmentation of the production, etc.) in various sectors
- Analyzing the counterpart of the evolution of manufacturing on the service sector side (K≠J)

Additional note: comparing deindustrialization in the UK and in Korea (Tregenna, 2009)





Do we have to worry about it?

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Some principles

- Going beyond citizens or politicians' views…

- What can we learn from economics?

1. Analyzing the causes of deindustrialization
2. Analyzing its various consequences

Do we have to worry about deindustrialization? (1/2)

- It fundamentally depends on the **causes** at work:

1. **No worry** if the driving force is domestic (very success of a growth strategy: high productivity gains in manufacturing)
2. **Worry** if it is the consequence of a lack of competitiveness

➔ **Analyzing the causes of deindustrialization and the contribution of each of them is of crucial importanc**

Do we have to worry about deindustrialization? (2/2)

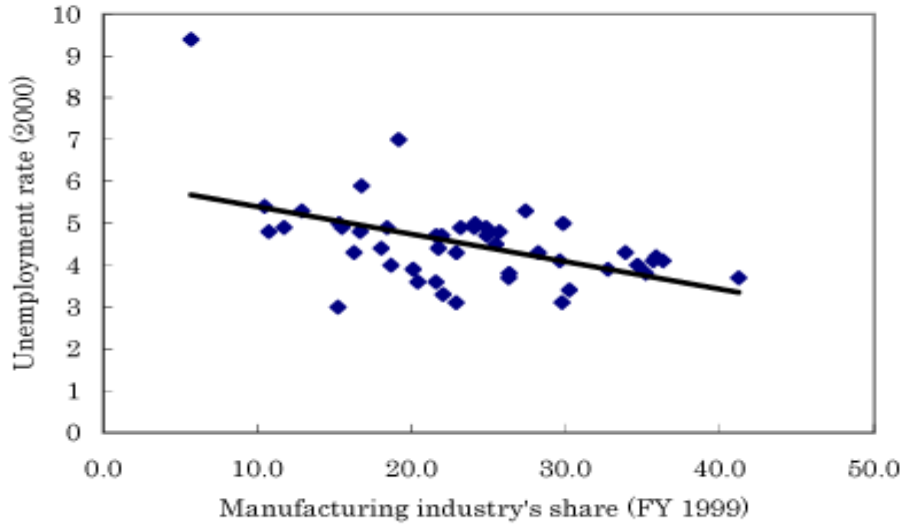
- Whatever the causes, another concern is the impact of deindustrialization at the macro and regional levels:

1. Potential growth of post-industrial economies
2. Labor market and welfare issues (see for example Palier B. et al. (2012), *The Age of Dualization: The Changing Face of Inequality in Deindustrializing Societies*, Oxford University Press): employment (can the growth of the service sector counterbalance the effects of deindustrialization?), type of labor contracts, and wages (level and inequalities)
3. Loss of skills and “savoir-faire”
4. Unbalanced regional development

Correlation between the share of manufacturing in total employment and unemployment rate in Japan

Source: Annual Report on the Japanese economy and public finance 2001-2002

Figure 3-1-15 Manufacturing Industry's Share and Unemployment Rate



Sources: "Prefectural Accounts," Cabinet Office; "National Census," Ministry of Public Management, Home Affairs, Posts and Telecommunications

Why the analysis of the csq of deindustrialization matters the US-UK revisited (Rowthorn & Coutts, 2004)

- Similarities: in both countries good economic performance from the 1990s has been accompanied by a prolonged and massive fall in the employment share of manufacturing.

- Differences:

1. Strength of the US manufacturing sector ≠ perennial difficulty in the UK;
2. Despite this, UK external position taken as a whole (balance of payment) is stronger;
3. General comment: a worsening in the manufacturing trade balance is not so important; what matters is the overall balance of payments (manufactures + all currents expenditures and receipts for food, material, fuel, services, transfers and property income, etc.) Any loss of net revenue in manufacturing trade can in principle be compensated by additional net revenue from these other items (=British case ≠ the USA that has not yet developed new sources of income to offset its worsening trade balance in manufactures ➔ This situation is not sustainable in the long run);
4. Until the early 2000 recession, productivity growth in American manufacturing served mainly to increase output, whereas in Britain it served mainly to reduce employ

Transition – the reverse view: can innovation help to reverse the trend? (1/3)

- Is innovation always the solution? Does innovation promote employment growth? Not sure:

1. R&D expenditures are largely concentrated in the manufacturing sector (e.g. 76,3% in OECD countries, 93,1% in Korea, 2004 data) ➔ innovation *de facto* reinforces the productivity differentials between manufacturing and services
2. A recent trend (e.g. in the US) : jobless growth or “do not expect too much from innovation in terms of employment creation” (Berger, 2005; Baily & Lawrence, 2004)

Transition – the reverse view: can innovation help to reverse the trend? (2/3)

- However, other analytical studies give a more positive picture:

1. Distinguishing various types of innovation (process/product; labour/capital saving, SKBTC…)
2. At the sectoral and micro levels (Vivarelli): R&D expenditures have a job-creating effect…which is concentrated in the high-tech sectors only
3. Harrison et al. (2005):

* In manufacturing, correlation between employment growth and innovation (product: +; process: -)
* In services, only correlation in the case of product innovation (+)
* Similarities across countries (F, G, S, UK) but some interesting differences (e.g. product innovation plays a larger role in G for within firm employment growth)

Transition – the reverse view: can innovation help to reverse the trend? (3/3)

- Ultimately, can innovation lead to the creation of new industries (technology + market)?

Yes

- Is there an innovation system that promotes the emergence of new industries?

No

Varieties of industry emergence

entrepreneurship vs “intrapreneurship”

(Lechevalier, Nishimura & Storz, 2013)

Any relevant public policies? Revisiting industrial policies

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Starting with a personal impression (1/2)

- After an increasing general mistrust towards industrial policy in the 1980s-1990s, one observed a relative revival during the last decade (Rodrik, 2008; Aghion, 2009; Stiglitz…)
- From this viewpoint, Japan and France have experienced a similar trajectory but with a different background:

1. Similar increasing trust in market mechanisms and emphasis on competition policy in the 1980s-1990s
2. More systematic effort to evaluate industrial policy in J, although maybe not enough quantitative (e.g. Komiya et al., 1988)
3. Industrial policy ➔ innovation policy in J
4. More idealized approach in F (e.g. Beffa, 2005) without any convincing effort to evaluate past policies or framework (true also at the European level: towards a “new new” Lisbon strategy??)
5. “Planification” ➔ firms’ subsidies in various uncoordinated and sometimes contradictory frameworks in F
6. Typical gap between the ambition (“reindustrializing France”) and the means

Starting with a personal impression (2/2)

- The revival of the interest in industrial policy has to be noticed but leaves me a little dubitative at this stage:

1. Basically a tentative synthesis between analyses of market failures and government failures
2. Very conventional statements

   Example 1: “nurturing entrepreneurship”. Problem: systematic failures of attempts to create Silicon Valley in F, J or K

   Example 2: “reconciling competition and industrial policies”: preparing for market environment from which a national champion emerges through natural selection process. Problem: no guarantee that the selection process effectively functions

Towards more substantial development of industrial policy? (1/4)

- **Towards new requirements in the design of industrial policies**:

1. Defining broad objectives (balancing economic growth and economic structure, searching for new sources of growth, promoting the transition to green growth) and criteria (employment, trade balance, etc.)
2. Well identifying the nature of the problem before implementing any policy
3. Better integrating various types of policies: innovation, trade, institutional and business-environment type
4. Evaluating systematically with different methodologies (e.g. in using patent data: Lechevalier et al., 2010)

Towards more substantial development of industrial policy? (2/4)

- **Rethinking industrial policy in a globalized world** = defining the position of a national economy in the evolving international division of labor:

1. Beyond “made in” policies in a era of global value chains…
2. …but globalization does not necessarily mean the absence of degree of liberty for industrial policy
3. Towards a new definition of comparative advantage based on the social and institutional environments
4. Efforts to specialize in products with specific-investment inputs (less fragmentation, less off shoring is expected)

Towards more substantial development of industrial policy? (3/4)

- **Learning from the past and exploring new practices**:

1. Orientating capital towards specific technology because it is better to focus than to diversify (Aghion)
2. Towards a better integration of manufacturing and service, for example in promoting manufacturing industries with a higher content of services = source of VA and of differentiation (Korean case: Jang, 2012)

Towards more substantial development of industrial policy? (4/4)

- **Rediscovering the necessity of (private and public) coordination** :

1. In order to reduce the gap among firms (increasing heterogeneity of firms: Dosi et al., 2010) and between the micro and the macro level (increasing gap between multinational companies and national economies: e.g. most productive firms move abroad)
2. In order to define a common vision among (private and public) players

Conclusions

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To sum-up

- Deindustrialization: a useful concept…that requires clarification
- Japan & Korea's experiences
- The future of manufacturing…in China…in other emerging economies…and in OECD countries

Deindustrialization, revisited

- A revival of the analysis of deindustrialization is required to discuss:

1. The varieties of experiences (and the similarities within a global trend), including developing economies
2. A potentially new trend since the early 2000s (e.g., former studies did not find any large North-South trade impact, but it may have changed more recently with the rise of China)
3. Other mechanisms than the ones “traditionally” analyzed (e.g. the extent of outsourcing and fragmentation of production, the role of innovation)
4. The potential role of public policies, in interaction with private strategies in a globalized environment

Deindustrialization, revisited

- Methodological requirements:

1. Beyond aggregate perspective and accounting (e.g. micro level, emergence of new industries)
2. Better connecting various fields of economics (e.g. industrial economics, international economics, labor economics)
3. Taking into account the results from other social sciences (geography, sociology, history, etc.)
4. Implementing a same methodology with similar data for a valuable comparison

Thank you for your attention

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Some major references

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