

CHEAP FOSSIL FUELS OR ENERGY EFFICIENCY AS COMPARATIVE ADVANTAGES? - COMPARATIVE VIEWS ON “RE-INDUSTRIALISATION” AND ENERGY IN EUROPE AND USA

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BACKGROUND for a study project

Some comeback for the importance of manufacturing and industrial activities:

Especially because of

- better **performance** for countries with a bigger industrial sector **during the financial crisis**
- increased deindustrialisation in **southern and south eastern European countries** (during crisis)
- the dimensions of **China's industrialisation** and its implications



Basics of dimension are: share of manufacturing 2012:

% GDP

Germany 22,3 %

Greece: 9,7

Spain 13,3

Italy 15,5

France 10,1 (2011)

Austria 18,7

Portugal 14,3

UK 10,7

EU-15 14,9

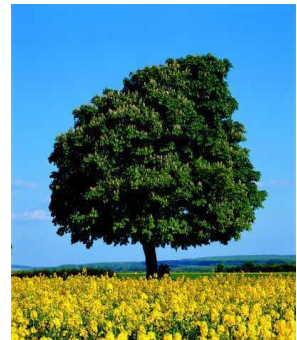
Euro area (17) 15,8

EU27 15,3

trends since 2000 are similar in USA and Europe:

- decreasing shares of industrial activities,
- sharp decreasing 2008/9
- then some recovery

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STARTING POINT for a study project

For the Lower Austria chamber of Labour

2 Questions:

- 1. Defensive: Decreasing energy prices and ecological and social deregulation to hold industries?**
- 2. Positive: conditions for a reindustrialisation**

The case of the Voestalpine* investment in Texas – cheap energy....

*biggest industrial company in Austria with about 46000 employees

Officially three main reasons for this investment:

- **low energy prices,**
- **lower wages** - $\frac{3}{4}$ of Austrian wage cost allegedly at same productivities
- **lower prices for land.**



But what's new about those three arguments in a longer view?

Not much:

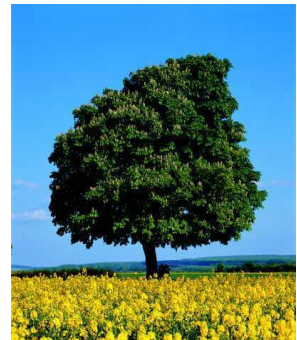
- **Energy prices**, especially oil and oil products have been significantly lower in the USA for a long time. Industrial **wage rates** per hour are significantly lower in the USA in relation to a lot of EU-countries like Germany at least since the nineties.
- And because of much more available **land** per pc in the USA basically land for industry uses basically is cheaper.
- And the burden by climate policy induced payments for the company are almost peanuts in relation to the **high profit rates** of the company



The case of the Voestalpine investment in Texas

Real background:

- **austerity policy** in the EU restricted the demand
- 2008 company interrupted an enormous investment process at the Black Sea
- **direction of internationalization changed:**
 - “strategy is characterized by strong internationalization efforts focusing on increased growth in both North America and Asia“
 - orientated to the **automotive industry** (29 %)
 - In the 1980s it was privatized and downsized, and **changed the paradigm of accumulation.**



The case of the Voestalpine investment in Texas

So the case is used for challenging to

- decrease energy prices,
- decrease wages and
- environmental regulation,

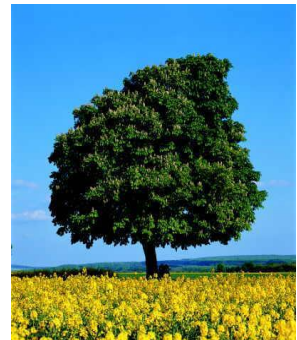
- **threatening with no further investments in Europe**
- **and evoking a deindustrialisation of Europe**

can be put into the comprehensive perspective of

- ❖ **further deregulation and**
- ❖ **redistribution to capital,**

And more generally of

- ✓ **global capital accumulation and**
- ✓ **a campaign for deregulation**

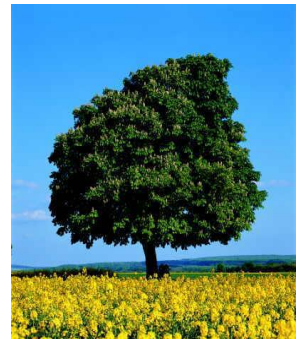


Re-industrialisation in the USA on the basis of cheap energy and lower wages ?

a changing situation: E.g. after the crisis there has been a

- **restructuring of American auto manufacturing and**
- a relocation to southern (US)states

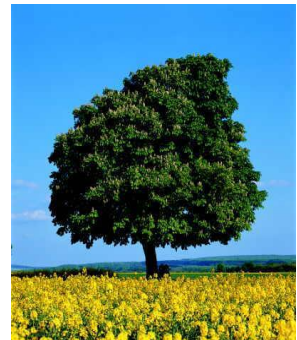
Background: → Willy Shih (Harvard Business School) 2012 book together with G. P. Pisano “**Producing Prosperity: Why America Needs a Manufacturing Renaissance**”



Re-industrialisation in the USA on the basis of cheap energy and lower wages ?

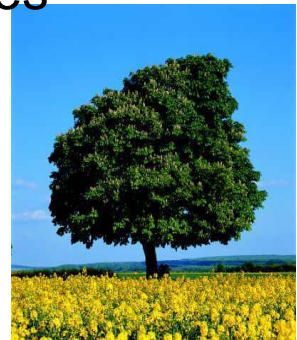
Willy Shih stresses

- the **relation of the ability for real innovation and a manufacturing sector,**
- and for the USA high **losses of “industrial commons”** (infrastructure, trustful relations to suppliers and customers, webs of human resources, specialized skills and experience and education facilities)
- complete supply chains were outsourced and can hardly be brought back selectively



Willy Shih analyses

- **the fast increase of wages in China** in the last ten years (some tripling)
- **re-automation and re-capitalization** of production in China but also the **“flexibility” of the labour force in China to produce huge quantities** within a short time
- **appreciation of the Chinese currency**
- increase of **transportation costs**
- **the changes of many parameters for capital in the USA.** (It accomplished far-reaching “cost saving” programmes and deepened **“lean production”**).
- New investments in the USA preferably made in southern **“low cost states”**
- The closing down of plants on the north and starting new ones (in the south of the USA) with much lower wage rates.
- In the remaining auto industry → new labour wage tier **roughly half that of veteran workers**



Re-industrialisation in the USA on the basis of cheap energy and lower wages ?

Willy Shih **concludes** generally

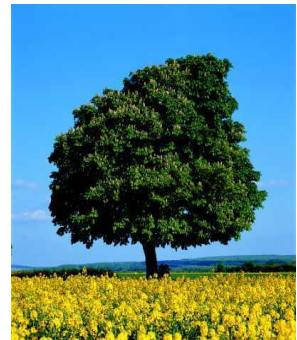
- **“increasing coordination costs of offshore manufacturing”**
- **“end of labor arbitrage”**

And so

• **re-localisation** and

• **stabilization** of the industry share in the USA

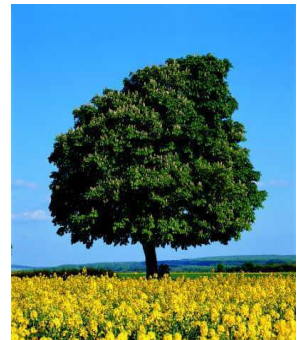
“US-growth is more a story of labour flexibility and increasing productivity, some improvement in factor costs and a selective return of demand” + “significant productivity increases”- and revenue (and profit) growth



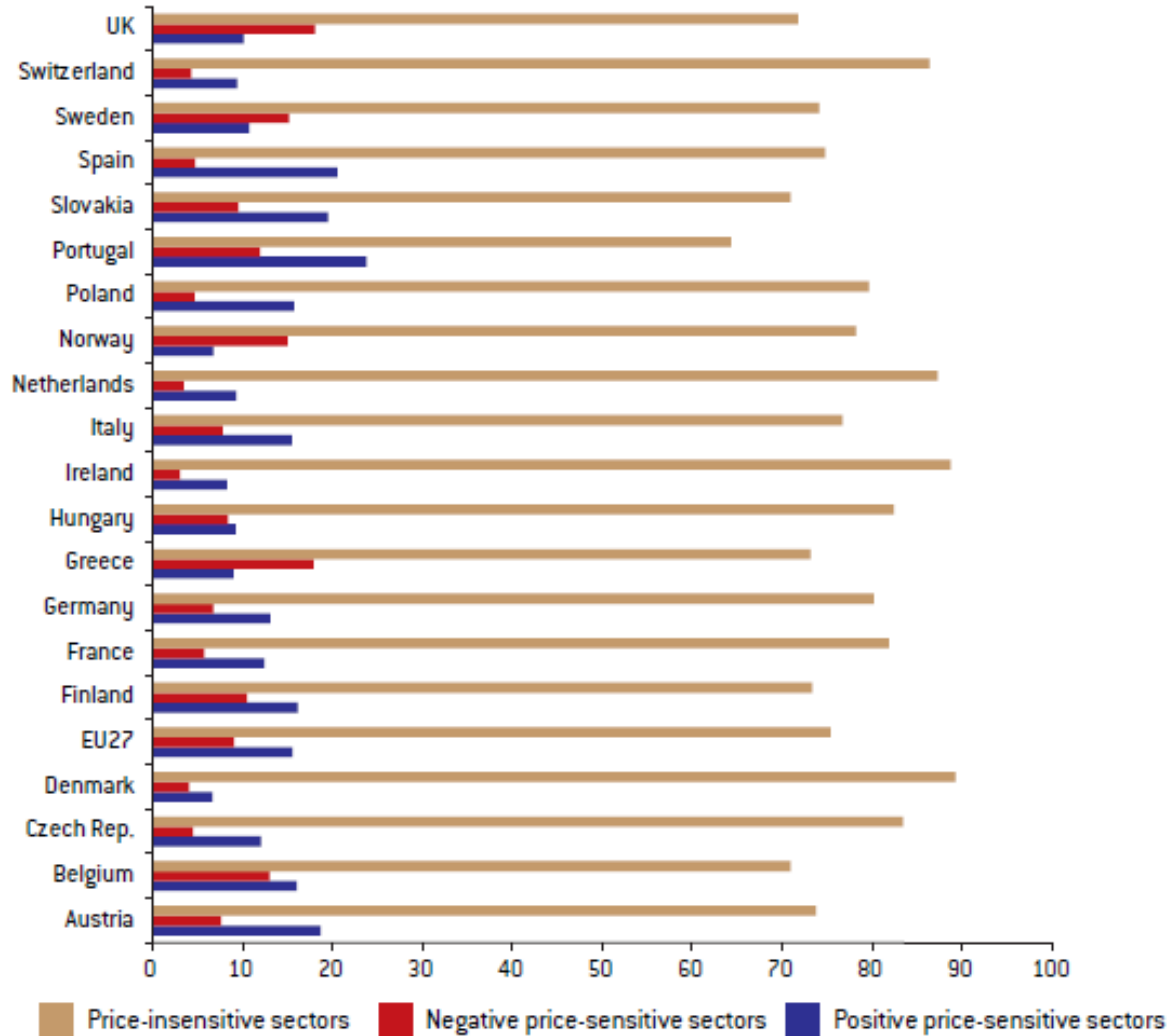
Shih concludes that in contrast to USA for Europe there is *still significant potential for outsourcing to China. But this is not conclusive* because not the wage rates but the total costs are relevant.

Hourly compensation (costs) in manufacturing for 2011

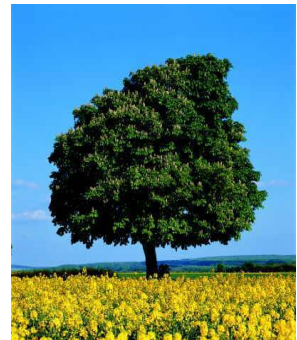
➤ Euro-area:	\$ 43.2
➤ USA	\$ 35.5
➤ Germany	\$47.4
➤ Austria	\$43.2
➤ France	\$42.1
➤ Portugal	\$12.9
➤ Spain	\$28.4
➤ Switzerland	\$60.4



The relevance of energy costs



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The relevance of energy costs

Only four industries basically have energy costs of >10% of total costs, for the majority of industries the energy costs are between 1% and 2% of total costs

Only Greece, Norway, Sweden and UK have higher shares in energy intensive industries

- In Austrian industries : 18 % „positive energy price sensitive“
- 7 % „negativ energy price sensitive“

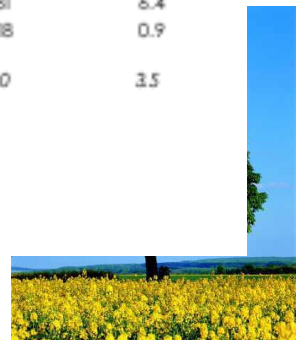
Energy intensive industries are very capital intensive too and **do not relocate quickly** (Aiginger 2013)



	1,000 €	1,000 €	Share of total costs in %
Top 10 Energyintensive industries	25175184	2500279	11.0
23.3 Manufacture of claybuilding materials	76274	16104	21.1
23.5 Manufacture of cement, lime and plaster	395046	76998	19.5
24.1 Manufacture of basic iron and steel and of ferro-alloys	8021441	1152796	14.4
20.1 Manufacture of basic chemicals, fertilisers and nitrogen compounds, plastics and synthetic rubber in primary forms	2219224	279681	12.6
23.2 Manufacture of refractory products	327702	32119	9.8
17.1 Manufacture of pulp, paper and paperboard	3995564	381406	9.5
23.6 Manufacture of articles of concrete, cement and plaster	1468092	93134	6.3
23.1 Manufacture of glass and glass products	1107602	67132	6.1
13.1 Preparation and spinning of textile fibres	221043	11708	5.3
19.1+19.2 Manufacture of coke oven products and of refined petroleum products	7343196	389201	5.3
Low 10 Energyintensive industries	17352894	112862	0.5
27.1 Manufacture of electric motors, generators, transformers and electricity distribution and control apparatus	5034615	34222	0.7
28.3 Manufacture of agricultural and forestry machinery	1294086	8986	0.7
28.4 Manufacture of metal farming machinery and machine tools	988306	6679	0.7
29.1 Manufacture of motor vehicles	7282520	52690	0.7
26.2 Manufacture of computers and peripheral equipment	71314	406	0.6
26.3 Manufacture of communication equipment	260017	1540	0.6
30.9 Manufacture of transport equipment n.e.c.	514166	2589	0.5
15.2 Manufacture of footwear	271963	1015	0.4
30.2 Manufacture of railway locomotives and rolling stock	1115951	3440	0.3
26.6 Manufacture of irradiation, electromedical and electrotherapeutic equipment	519756	1295	0.2
Resource intensive industries ²⁾	38549372	2460481	6.4
Engineering industries ³⁾	34071129	302218	0.9
Total industries	114987493	4012040	3.5

1) Share as percentage of total production. - 2) NACE 16, 17, 18, 19, 24, 32, 38. - 3) NACE 27, 28, 29.

S: Statistik Austria.

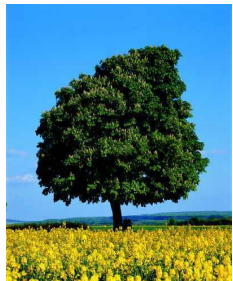


Different perspectives of the economic relevance of fracking - “unconventional“ fossil fuels

US prices for gas have fallen to one third of their peak whereas staying high in Europe. So 2012 there was a spread of about 1:4.

There are different evaluations about the perspectives of fracking

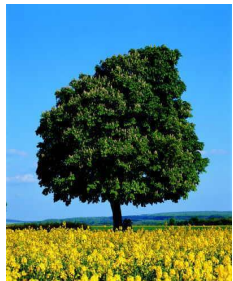
- huge environmental implications
- current low gas prices in the USA will increase because of substitution and higher gas demand.
- Shih doubts that the **“price spreads we see today can endure market forces forever”**.
- Another strand of arguments stresses increasing costs after having exploited best available shale gas.
- From a climate policy view fracking is an extension of the fossil era – better to invest directly in renewable energy.
- perspectives of fracking outside the USA still more disputed.



Is cheap fossil fuel or energy efficiency and the development of renewable energy an advantage for “reindustrialisation”?

In the following **one** main useful thread of argumentation from the current EU-funded project “WWWforEurope” (the project all in all is based on limited tenets of competitiveness, Green growth and ecological modernization)

“It makes sense for the US to close its current account deficit by ‘re-inventing manufacturing’. But it may even be problematic for a resource-rich country like the US to base the rejuvenating of its industry on low energy costs. For resource scarce Europe this holds even more.” (Aiginger)



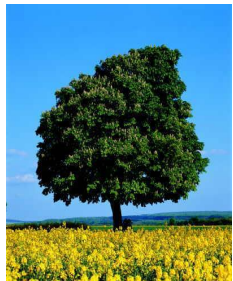
Is cheap fossil fuel or energy efficiency and the development of renewable energy an advantage for “industrialisation”?

“Low energy prices do not help a country to focus its exports on manufacturing sectors that promise high value added”.

Veugelers R. (ed) (2013): Manufacturing Europe’s Future. Bruegel Blueprint Series. Volume

“There is no evidence that energy prices above the global average undermine in the long-term the productivity of export sectors”

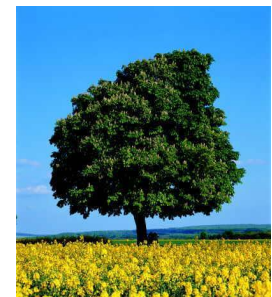
Veugelers R. (ed) (2013): Manufacturing Europe’s Future. Bruegel Blueprint Series. Volume



“Sectors in which **countries with high energy prices** are more likely to specialise have **significantly higher employment** relative to their production value than sectors in which countries with low energy prices specialise. This indicates that countries with high energy prices **tend to specialise in sectors with higher employment** per production value than countries with low energy prices.”

“The competitiveness of the German car industry has not suffered from the increase in energy prices”.

Veugelers R. (ed) (2013): Manufacturing Europe's Future. Bruegel Blueprint Series. Volume



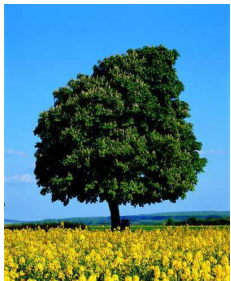
A different effective approach for a (re)industrialisation

An alternative in decreasing energy costs:

“to increase investment into **innovation and education and specifically to increase energy efficiency and innovations in ultra low carbon technology.**”

So «closing the technology deficit, improving skills and going for excellence in energy efficiency and clean technologies”. Then the **dynamics** would be that “**energy can be more expensive in Europe, if at the same time innovations in energy efficiency and innovation and education in general become cheaper and more efficient.**”.

(Aiginger 2013)



External positions of Europe and the USA

	EU				US			
	1999		2011		1999		2011	
	Trade in bn €		Shares of exports		Trade in bn €		Shares of exports	
Energy intensive industries								
Exports	77.7	247.4	11.3	15.5	57.3	123.1	9.7	16.0
Imports	64.1	216.9	9.3	13.6	79.0	106.0	13.3	13.8
Trade balance	13.6	30.5	2.0	1.9	-21.7	17.1	-3.7	2.2
Technology driven industries								
Exports	252.1	530.9	36.6	33.2	280.0	246.3	47.2	32.0
Imports	250.1	436.8	36.3	27.3	371.1	424.3	62.5	55.1
Trade balance	2.1	94.1	0.3	5.9	-91.1	-178.0	-15.3	-23.1
Resource intensive industries								
Exports	76.1	192.2	11.1	12.0	50.2	76.0	8.5	9.9
Imports	72.0	198.1	10.5	12.4	121.6	116.2	20.5	15.1
Trade balance	4.1	-5.8	0.6	-0.4	-71.4	-40.1	-12.0	-5.2
Engineering industries								
Exports	365.1	767.8	53.1	48.1	379.7	367.9	64.0	47.7
Imports	328.5	580.8	47.7	36.3	490.7	576.3	82.7	74.8
Trade balance	36.6	187.0	5.3	11.7	-111.0	-208.5	-18.7	-27.1

S: Eurostat (AMECO), WIFO database.



“New “ or “old” industrial policy?

Instead of „old selective and interventionist one“ the "new industrial policy" in a self-definition does „(i) support market forces instead of counteracting them, (ii) increase competition instead of favouring individual large firms”

But Europe should think on China: Although the Chinese policy is somehow more free market orientated in the sense of less oligopoly power in the markets and more real equal opportunities for SME than in the west industry policy is also “old fashioned interventionist“ and in China industry policy stresses on public governance for selected big companies.



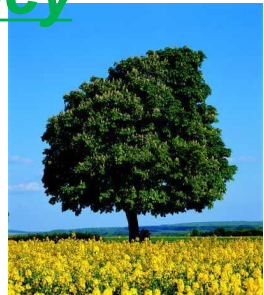
Is a „reindustrialisation“ (Target EU: from 16 % to 20 % industrial share) possible?

No in mainstream policy

- Productivity above average
- → Industrial prices below average
- High income elasticity for traditional industrial products (smaller than for services)
- The 20-% target cannot be achieved by some more of the same industrial policy

Yes with the focus on energy and resource efficiency

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Is a „reindustrialisation“ (Target EU: from 16 % to 20 % industrial share) possible?

Yes with the focus on energy and resource efficiency

Why: In a long term historical view there has been an enormous increase in labour productivity: since 1850 globally 20-fold

Now it's the turn of energy and resource efficiency!

The driving force was the increasing price for labour (wage)

Weizsäcker E. U. v. (2009)



Energy and material efficiency as the basic innovation for a new Kondratieff cycle

But full participation and mobilisation of ideas, mental energy of all employees necessary

Fundamental institutional and regulatory changes necessary

