

Labour productivity growth and labour input:

Why shorter working times will (again) become
relevant

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Why shorter working times?

- 1. After the explosion of a major financial bubble in 2008, we may enter a longer period of poor growth**

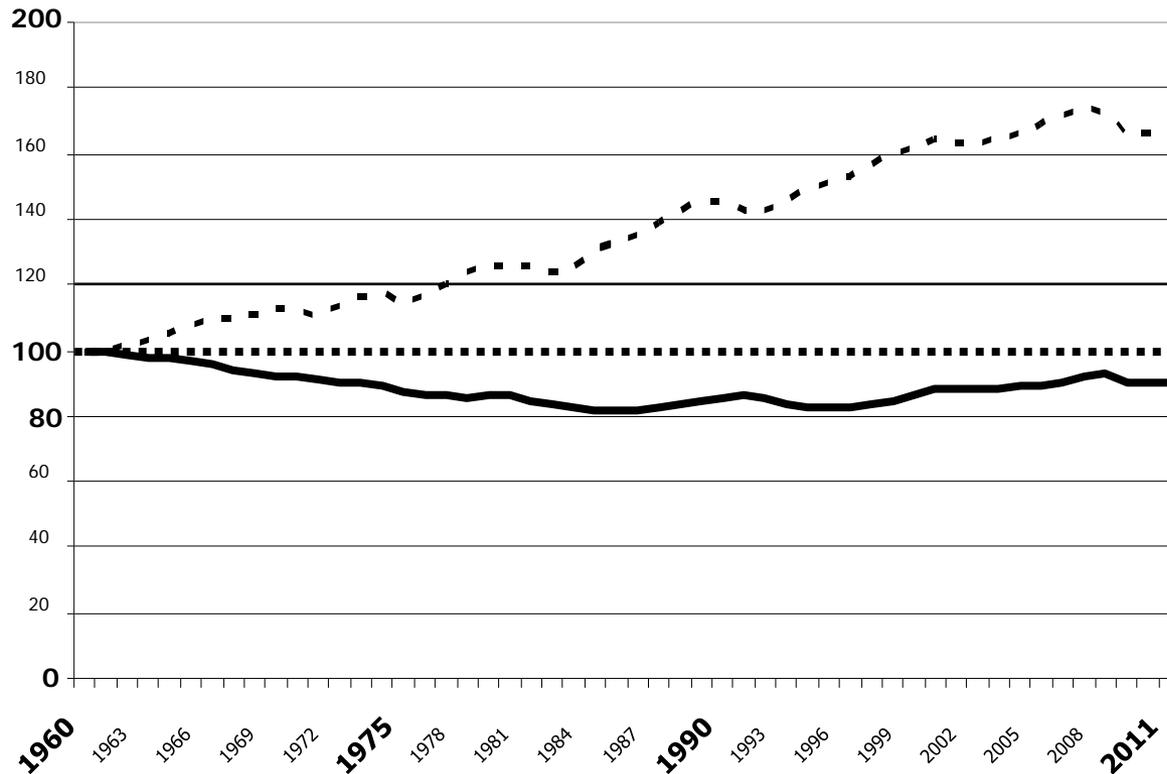
(see C.M. Reinhart & K.S. Rogoff: *This time is different*, Princeton Univ. Press 2011).

- 2. ... but even if we got higher growth, we have a real risk of jobless/job poor growth, thanks to the IT revolution**

(see: E. Brynjolfsson & A. McAfee: *The second machine age*, New York: Norton 2014).

Jobless growth in Europe and job-rich growth in Anglo-Saxon countries ...

Development of total hours worked
1960-2004 (1960 = 100)



US, UK,
Canada, New
Zeeland,
Australia

EU-12 excl.
Luxemburg

Long-run growth of GDP, of GDP/labor hour (=labor productivity) and of labor hours (per 1% GDP growth)

	Average Annual GDP growth			
	Old Europe	Anglo-Saxon countries		
1950-60	5.5	3.3		
1960-73	5.1	4.1		
1973-80	2.7	2.4		
1981-90	2.6	3.2		
1990-00	2.4	3.1		
2000-04	1.3	2.5		

Old Europe: EU-12 (excl. Luxemburg)

Anglo-Saxon: Australia, Canada, New Zealand, US and UK

Long-run growth of GDP, of GDP/labor hour (=labor productivity) and of labor hours (per 1% GDP growth)

	Average Annual GDP growth		Average annual GDP growth per hour worked		
	Old Europe	Anglo-Saxon countries	Old Europe	Anglo-Saxon countries	
1950-60	5.5	3.3	4.2	3.6	
1960-73	5.1	4.1	5.2	2.7	
1973-80	2.7	2.4	3.0	1.1	
1981-90	2.6	3.2	2.4	1.4	
1990-00	2.4	3.1	1.9	1.9	
2000-04	1.3	2.5	1.1	1.6	

Old Europe: EU-12 (excl. Luxemburg)

Anglo-Saxon: Australia, Canada, New Zealand, US and UK

Long-run growth of GDP, of GDP/labor hour (=labor productivity) and of labor hours (per 1% GDP growth)

	Average Annual GDP growth		Average annual GDP growth per hour worked		Growth of labor hours per 1% GDP growth	
	Old Europe	Anglo-Saxon countries	Old Europe	Anglo-Saxon countries	Old Europe	Anglo-Saxon countries
1950-60	5.5	3.3	4.2	3.6	0.23	-0.09
1960-73	5.1	4.1	5.2	2.7	-0.03	0.34
1973-80	 2.7	 2.4	 3.0	 1.1	 -0.14	 0.55
1981-90	2.6	3.2	2.4	1.4	0.07	0.55
1990-00	2.4	3.1	1.9	1.9	0.21	0.40
2000-04	1.3	2.5	1.1	1.6	0.15	0.35

Old Europe: EU-12 (excl. Luxemburg)

Anglo-Saxon: Australia, Canada, New Zealand, US and UK

Preliminary conclusions:

- **It is most likely an illusion that, in the nearer future, high growth will drastically reduce unemployment in the Eurozone, notably in Southern Europe**
- **Persistently high unemployment will erode the European Social Model:**
 - ✓ **Strong competition for jobs is destructive to solidarity, thus weakening trade unions**
 - ✓ **Pressure on wages and social standards**
 - ✓ **Pressure towards 'Structural Reforms' ... easier firing and more 'flexible' labour markets**

Europe at a cross road:

Rates of unemployment will decisively influence which road we enter!

Either turn towards supply-side economics ...

Through “Structural Reforms” → “free” labor markets: easy firing; poor welfare state, marginalized trade unions:

- **Overall poor labor productivity growth (→ many jobs for working poor!)**
- **A much more unequal income distribution (Piketty scenario)**

Or, maintain a European Social Model ...

Rigid labor markets + strong welfare state + tough investments in education and research:

- **High speed of labor-saving technical change → Highly productive jobs for protected insiders, but:**
- ***Poor* overall job growth, and therefore ...**
- **Reduce labor supply! (shorter working times rather than wage claims)**

Will shorter working times help against unemployment?

Judging from a survey of econometric studies, we find two points of agreement:

1. ***Formal* reduction of working hours leads to a *real* reduction (coefficients vary from 0.8-1.0); i.e.: formal reduction is *not* compensated by extra over-hours.**
2. **Reduction of working hours → short-run reduction of unemployment → improved bargaining position of labour → higher wage claims ...**

Disagreement:

What are the **employment effects** of shorter working hours?

Many (not all) studies find no (long-run) positive effect of shorter working times on employment

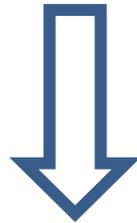
Theoretical arguments from neoclassical theory:

- 1. Negative scale effects: in a static perspective, higher wages reduce production.**
- 2. Substitution of capital for labour → higher productivity gains rather than extra jobs**
- 3. Discrepancies between supply and demand of qualifications (labour market segmentation)**
- 4. Theory of household labour allocation (not quite conclusive)**

Key conclusion from supply-side views: Adherents of worksharing make a "*Lump-of-labour* fallacy!"

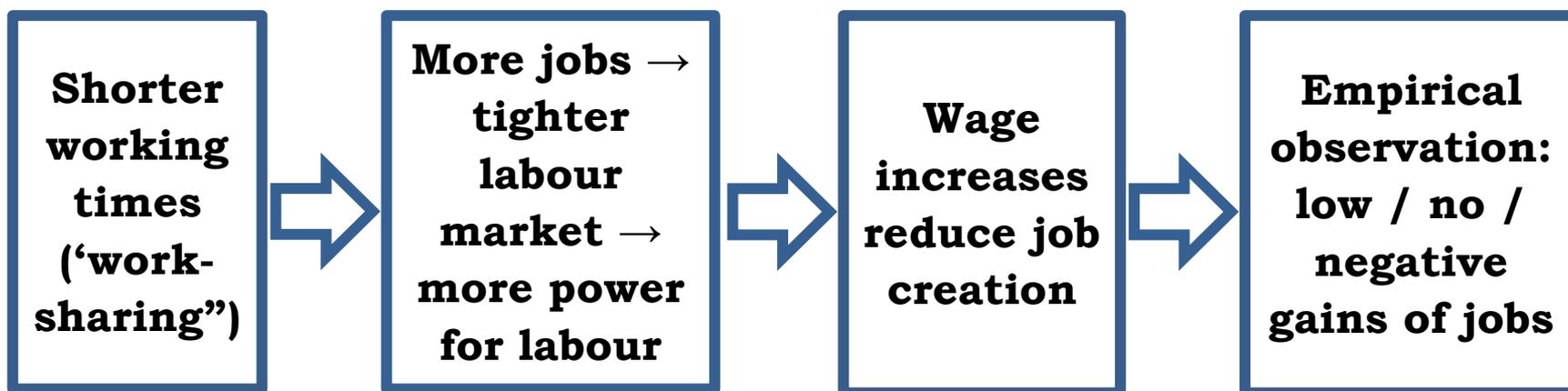
One more argument (not relevant these days):

**The European Central Bank believes in NAIRU theory:
There needs to be a sufficiently high (“natural”) level of
unemployment, high enough to prevent an inflationary
wage-price spiral**



**A substantial reduction of unemployment through
shorter working times may trigger restrictive monetary
policies by the ECB**

Typical line of argument in supply-side studies:



**Overall conclusion by supply-side authors:
Worksharing does not help the unemployed ...
Unemployment can only be reduced through '*Structural Reforms*' of labour markets!**

Our line of argument:

Through more capital/labour substitution, vintage effects, creative destruction etc.

Higher wages lead to higher labour productivity growth

Vergeer & Kleinknecht (2001, 2014) find: a 1% higher wage leads to $\approx 0,4\%$ higher growth of GDP/labour hour



Shorter working times ('work-sharing')



More jobs \rightarrow tighter labour market \rightarrow more power for labour \rightarrow higher wages

**Empirical observation: Only (modest?) job gains?
To be analysed, avoiding three fallacies ... (next pages)**

**Hypothesis: The main merit of worksharing are higher labour productivity gains
... (modest?) job gains may be a (useful) by-product**

Fallacies in past empirical studies (1):

Is there a Heckman self-selection problem?

Policies for shorter working times are typically undertaken in times/regions/countries with high/rising unemployment

→ is there a pseudo-correlation between working time reduction and poor growth and hence poor employment figures?

Note: many studies do not control for business cycle effects (e.g. Hunt, QJE 1999)

Implication for research design:

Include growth rates of GDP as a control variable!

Fallacies in past empirical studies (2):

As soon as unemployment goes down (through worksharing or other reasons) the labor market will attract immigrants + women + discouraged workers → higher labor supply will *ceteris paribus* increase unemployment rates

Implication for research design:

The dependent variable should be absolute numbers of persons at work, rather than unemployment rates

Fallacies in past empirical studies (3):

Many studies neglect that higher wage pressure leads to higher labor productivity gains (elasticity: ≈ 0.40)**

Implication for research design:

Include labor productivity growth (e.g. GDP/hour) as a control variable!

**** Source:**

Vergeer, R. & Kleinknecht, A. (2011): 'The impact of labor market deregulation on productivity: A panel data analysis of 19 OECD countries (1960-2004)', *Journal of Post-Keynesian Economics*, Vol. 33 (No. 2), p. 369-404.

Vergeer, R. & A. Kleinknecht (2014): 'Does labor market deregulation reduce labor productivity growth? A panel data analysis of 20 OECD countries (1960-2004)' *International Labor Review*, Vol. 153(3): 397-427.

Why can a *European Social Model* outperform “free” labor markets in labor productivity growth?

Hire & fire → higher labor turnover →

- **Lower loyalty of workers → leaking of knowledge to competitors → need for tougher monitoring & control (Anglo-Saxon countries have substantially thicker management bureaucracies!)**
- **Lower investment in training**
- **Weaker organizational memories: unlearning organizations!**
- **Change of power relations (favoring autocratic management and poor use of expertise from the shop floor)**
- **‘Culture of fear’: Employees become risk-averse in searching for innovative solutions → lack of progress**
- **Poor functioning of the ‘Routine model of innovation’ (next page)**

For a more detailed discussion:

Kleinknecht et al. (2014): ‘Is flexible labour good for innovation?’, *Cambridge Journal of Economics*, Vol. 38(5): 1207-1219.

The “Silicon Valley” model:

The “Made in Germany” model

Schumpeter I Model
(“garage business”):

Low tech firms; starters in high tech (e.g. IT)

Many SME/young firms

Turbulence (many new entrants; high failure rates)

Schumpeter II Model
(“routinized innovation”):

Larger medium-tech and high tech firms with professional R&D labs

Stable oligopolies

Stable hierarchy of (dominant) innovators

Properties of knowledge base...

Spontaneously available, general knowledge → low entry barriers

Dependence on historically accumulated and often firm-specific (tacit) knowledge → high entry barriers!

... and appropriate labour market institutions:

Recruitment through external labour market

Internal labour markets → well-protected “insiders”

This table is inspired by: Breschi et al.: ‘Technological regimes and Schumpeterian patterns of innovation’, in: *Economic Journal*, Vol. 110 (2000): 288-410.

Conclusion:

Deregulation of labor markets (i.e. weak trade unions, poor social benefits, downwardly flexible wages etc.) brings down labor productivity growth.

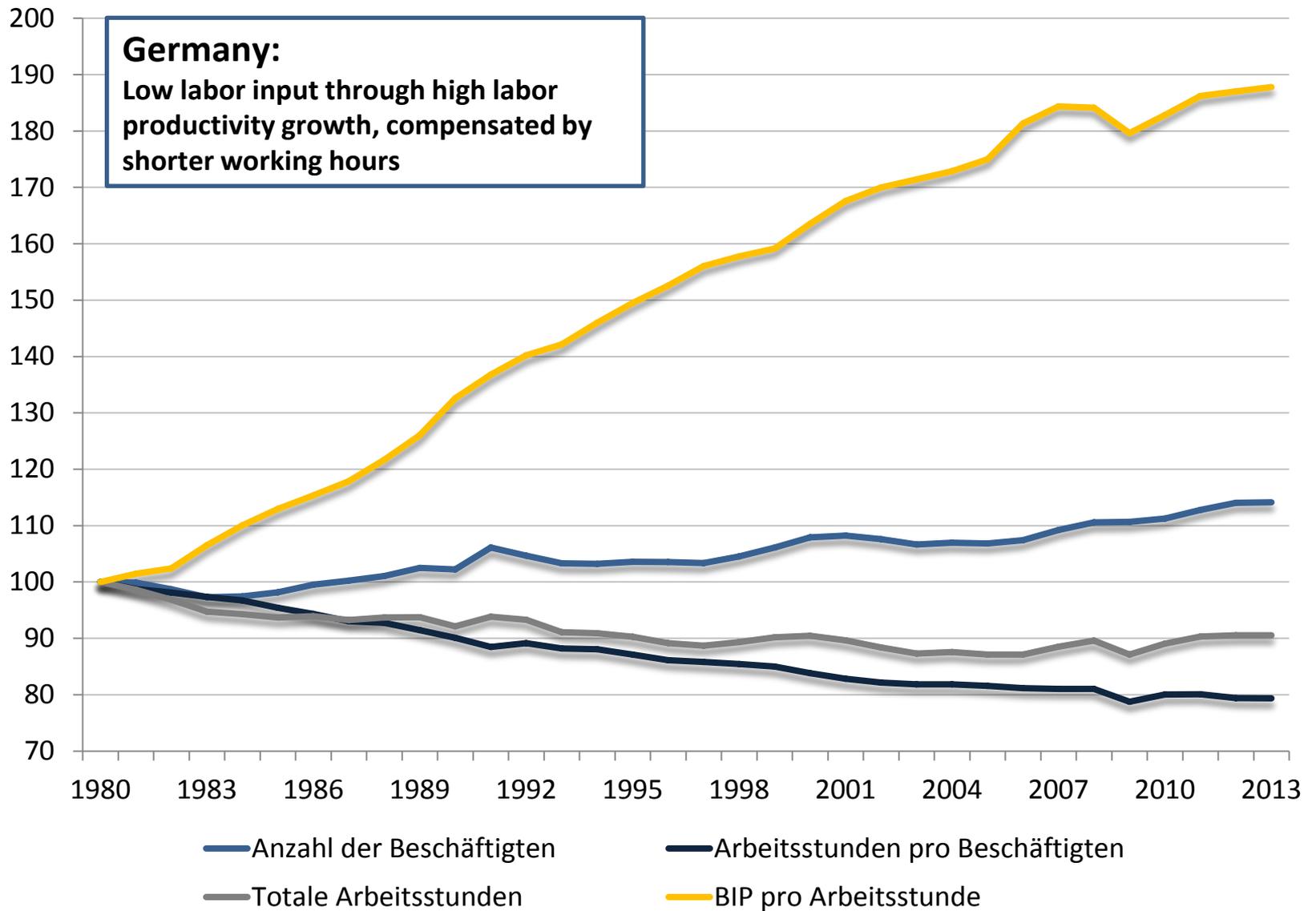
Implication:

- **We need to work longer for realizing a given rate of GDP growth**
- **With lower labor productivity growth, somebody needs to sacrifice income**
- **... in practical life we get a growing class of working poor with precarious jobs**

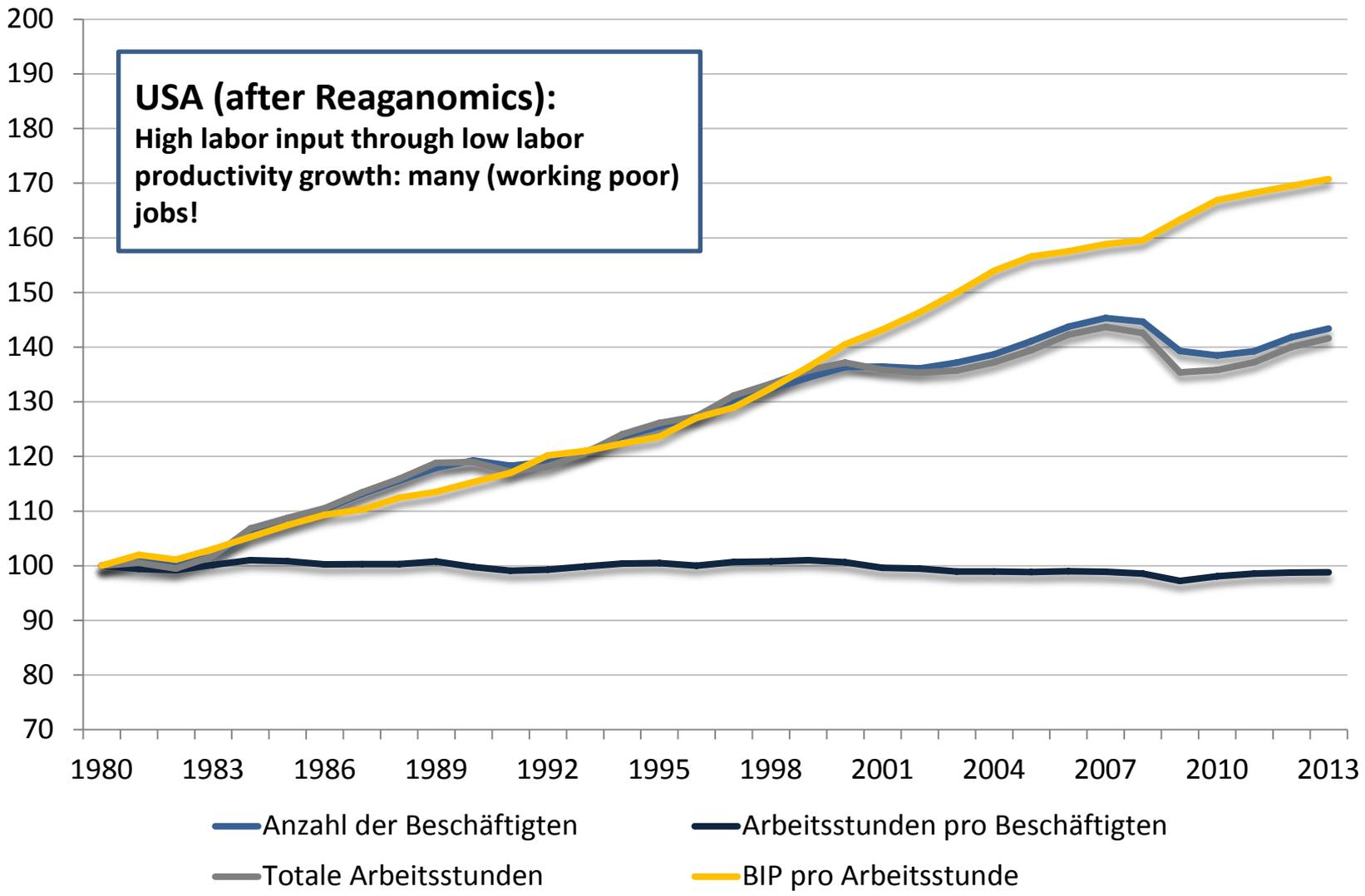
Rounding up:

Comparing a rigid, high wage ('Old Europe') economy (Germany) to a 'flexible' and 'liberalized' economy (USA), we observe:

- **A higher growth of GDP per labor hour in Germany compared to the US (in spite of the US IT revolution and in spite of German Hartz Reforms!)**
- **An overall stagnation/slight reduction of total labor hours in Germany versus a substantial rise in the US**
- **In Germany: A modest growth of employment, thanks to a reduction of labor hours per employee**
- **In the US: A strong growth of employment with almost constant working hours per employee thanks to low labor productivity growth**



USA (after Reaganomics):
High labor input through low labor
productivity growth: many (working poor)
jobs!



Rounding up:

**Work sharing can prevent massive unemployment:
More chance to maintain the European Social Model,
with high wage pressure and hence high labor
productivity gains.**

Other benefits of shorter working times:

- **More leisure time**
- **More time for education and training in order to master structural change**
- **Chance for more gender equality (more women can take full-time jobs)**
- **Some relieve of psychical work pressure (from IT use)**
- **More time for unpaid engagement in social organizations**
- **An environmentally more friendly way of achieving full employment**