Labour productivity growth and labour input:
Why shorter working times will (again) become relevant

Dr Alfred Kleinknecht
Emeritus Professor of Economics, Vrije Universiteit, Amsterdam (1994-97) & Technische Universiteit, Delft (1997-2013);
Fellow of WSI, Hans-Böckler-Stiftung, Düsseldorf
alfred.kleinknecht@gmail.com
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 
Jobless growth in Europe and job-rich growth in Anglo-Saxon countries …
Long-run growth of GDP, of GDP/labor hour (=labor productivity) and of labor hours (per 1% GDP growth)

<table>
<thead>
<tr>
<th>Average Annual GDP growth</th>
<th>Old Europe</th>
<th>Anglo-Saxon countries</th>
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<tbody>
<tr>
<td>1950-60</td>
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Old Europe: EU-12 (excl. Luxemburg)
Anglo-Saxon: Australia, Canada, New Zealand, US and UK
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<td>3.3</td>
<td>3.6</td>
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<td>1960-73</td>
<td>5.1</td>
<td>5.2</td>
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<td>4.1</td>
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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:

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)

Rates of unemployment will decisively influence which road we enter!
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:

- Shorter working times ("work-sharing")
- More jobs → tighter labour market → more power for labour
- Wage increases reduce job creation
- Empirical observation: low / no / negative gains of jobs

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:

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

Through more capital/labour substitution, vintage effects, creative destruction etc.
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: $\approx 0.40$)**

Implication for research design:
Include labor productivity growth (e.g. GDP/hour) as a control variable!

** Source:
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:

<table>
<thead>
<tr>
<th>Schumpeter I Model (<em>garage business</em>):</th>
<th>Schumpeter II Model (<em>routinized innovation</em>):</th>
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<tbody>
<tr>
<td>Low tech firms; starters in high tech (e.g. IT)</td>
<td>Larger medium-tech and high tech firms with professional R&amp;D labs</td>
</tr>
<tr>
<td>Many SME/ young firms</td>
<td>Stable oligopolies</td>
</tr>
<tr>
<td>Turbulence (many new entrants; high failure rates)</td>
<td>Stable hierarchy of (dominant) innovators</td>
</tr>
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**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”

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
Germany:
Low labor input through high labor productivity growth, compensated by shorter working hours
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