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How 'structural reforms' of labour markets harm innovation

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ABSTRACT

Structural reforms of labour markets frustrate the diffusion of labour-saving technologies. Moreover, they damage the functioning of the 'creative accumulation' innovation model that depends on the long-run accumulation of firm-specific knowledge. It is not by accident that the champions of 'structural reforms' of the 1980s (i.e. the US, the UK, Australia or New Zealand) show persistently lower rates of labour productivity growth when compared to countries in 'Old Europe' and have problems competing in classical industries.

HOW 'STRUCTURAL REFORMS' OF LABOUR MARKETS HARM INNOVATION

In the slipstream of austerity, simple micro-economic diagnoses of unemployment have once more gained momentum: if supply of labour is greater than demand, wages should go down. Labour market rigidities, however, such as high minimum wages, generous social benefits, insider power and the wage-cartel of trade unions prevent downward wage flexibility. Their removal would increase allocative efficiency and reduce unemployment. Such neoclassical arguments, as well as Keynesian purchasing power counter-arguments, are well known. Less well known are arguments from innovation theory.

The innovation literature distinguishes two innovation models (e.g. Breschi et al. 2000): (1) The 'entrepreneurial' (garage business) model, also named the 'Schumpeter Mark I' model; and (2) the 'creative accumulation' innovation model, also referred to as the 'routinized' or 'Schumpeter Mark II' model. This paper argues that easier *hire & fire* and higher labour turnover will, in various ways, damage learning and knowledge management in the 'creative accumulation' innovation model that is based on accumulation of firm-specific knowledge. Besides, lower wage cost pressure will lead to an ageing capital stock, owing to a slow adoption of labour-saving technologies.

BACKGROUND AND SOME STYLIZED FACTS

This paper is written against the background of a historically unique experience in the Netherlands. As an energy exporter, The Netherlands suffered from the *Dutch Disease* after the 1973 oil crisis when an overvalued Dutch Guilder led to loss of export market shares and high import penetration, followed by plant closures and massive job destruction. In the early 1980s, trade unions became so desperate that they voluntarily agreed to sacrifice wages in exchange for the promise of jobs. Keynesian concerns about lack of domestic demand were opposed by the argument that, in a small open economy, modest wages would create extra demand through export surpluses. This strategy worked: the collapse of jobs stopped and employment growth resumed quite strongly. Encouraged by this experience, trade unions continued making very modest wage claims again and again. Over a long period, The Netherlands had large current account surpluses, became the champion of job creation in Europe, and a broad national consensus emerged about the merits of modest wage claims ('*loonmatiging*').

EASIER *HIRE & FIRE* AND HIGHER LABOUR TURNOVER WILL, IN VARIOUS WAYS, DAMAGE LEARNING AND KNOWLEDGE MANAGEMENT IN THE 'CREATIVE ACCUMULATION' INNOVATION MODEL

In my various criticisms of the Dutch *loonmatiging*, I noted three stylized facts: (1) In spite of very modest wage increases, the growth of Dutch GDP differed little from the EU average. (2) Dutch labour productivity growth (i.e. growth of GDP per working hour) was far *below* the EU average. And (3) Dutch employment growth was far *above* the EU average. Note that the three observations have a tautological relation: with a given GDP growth, the growth of GDP per working hour determines numbers of working hours. By the way, job creation in the Netherlands was even more impressive as labour hours were distributed over large numbers of part-time workers, notably women.

My hypothesis that modest wage claims cause low labour productivity growth was heavily contested at the time (e.g. Janssen 2004). Meanwhile, it received support from panel data analyses by Vergeer & Kleinknecht (2011, 2014), covering 19 OECD countries (1960-2004). As the subject was highly controversial in the country, Vergeer & Kleinknecht tried out different estimation techniques and applied a whole battery of robustness tests. In the many versions of their estimates, it turned out that a one per cent change in wages causes a 0.3 - 0.5% change in the growth of GDP per working hour. Theoretical explanations relate to neoclassical factor substitution, vintage effects, induced innovation and (lack of) creative destruction (for detailed discussions see Vergeer & Kleinknecht 2011, 2014; Naastepad & Kleinknecht, 2004).

The variety of capitalism literature distinguishes two stylized models of capitalism: *Liberal Market Economies (LME)* and *Coordinated Market Economies (CME)* (Hall & Soskice, 2001). When comparing the LMEs (i.e. US, UK, Australia, New Zealand and Canada) in the sample to a group of CMEs of 'Old Europe' (i.e. EU-12), four stylized facts emerged: (1) Real wage growth in LMEs is much more modest than in the CMEs. Obviously, the deregulation of labour markets in Reagan and Thatcher style has disciplined labour, resulting in low wage claims. (2) Despite differences in wage growth, long run GDP growth differs only little between the two groups of countries, LMEs doing somewhat better during the build-up of financial bubbles before 2008. (3) Growth of GDP per working hour is substantially lower in LMEs compared to the CMEs of Old Europe. And (4), as a consequence of all this, LMEs create more jobs. In fact, this goes pretty in parallel to what we observed above when comparing the Netherlands with the EU.

It is interesting to note that such observations from macro data are consistent with observations from firm-level data. In a sample of Dutch companies, it turned out that companies with typical Anglo-Saxon HRM practices (i.e. employing lots of people on externally flexible contracts) pay lower hourly wages, have the same sales growth, but have lower labour productivity growth (and hence more job growth) when compared to companies that employ more people on standard (tenured) contracts (Kleinknecht et al. 2006).

HOW CAN STRUCTURAL REFORMS DAMAGE INNOVATION?

How to explain that 'flexible' work practices (or hire and fire labour markets in LMEs) seem to damage innovation and productivity growth? There are four groups of arguments.

Less (firm-specific) training

Easier firing and shorter job durations make firm-sponsored training less attractive. Moreover, if there is no long-run commitment to the firm, employees themselves might be more interested in being trained in broad, general knowledge that improves their external employability, rather than in firm-specific training (Belot & Ours 2002).

Higher transaction costs and stronger Pigouvian externalities

Offering long-term jobs and a fair personnel policy can be interpreted as an investment in trust and loyalty of workers, which reduces transaction costs. For example, Naastepad & Storm (2005) show that firms in deregulated Anglo-Saxon labour markets have substantially thicker management bureaucracies than firms in 'Old Europe'. Less loyalty can also lead to an easier leaking of trade secrets and technological knowledge to competitors, thus increasing market failure through externalities.

In addition, higher labour turnover is, in itself, an important channel for externalities. Brouwer & Kleinknecht (1999), using micro-data from the

European Community Innovation Survey (CIS), find that innovative entrepreneurs in the Netherlands judge the 'keeping of qualified personnel in the firm' to be an important mechanism for protection of intellectual property against imitators. It ranks third on a Likert scale measure, behind 'lead time on competitors' and 'secrecy', while patent protection ranks only fourth. The high score of 'secrecy' underlines the importance of loyalty, while the 'keeping of qualified people' hints at the importance of (idiosyncratic) 'tacit knowledge' (Polanyi 1966) for protecting a competitive advantage from innovation from imitators.

Weak management

Under ease of firing, people will not so easily contradict their bosses. Lack of critical feedback may favour autocratic management practices that make poor use of knowledge from the shop floor. Moreover, people who are easy to fire have motives for hiding information about how their work could be done more efficiently. Lorenz (1999) argued in this context that the successful implementation of automation technology often requires the knowledge from experience of the people who still do the work that is to be automated. If they are easy to fire, they will not collaborate. Acharya et al. (2010) give empirical evidence from patent data for a similar argument: Ease of firing creates a culture of risk-aversion. Good protection against dismissal makes it difficult punishing those responsible for failed innovation projects. Hence, with better firing protection, people are ready to engage in more risky, but potentially more value-enhancing innovative solutions.[1]

Weak performance of the 'creative accumulation' innovation model

While the 'entrepreneurial' (garage business) model relies mainly on general and generally available knowledge, the 'creative accumulation' innovation model draws heavily on historically accumulated and firm-specific knowledge, amongst which tacit knowledge that is 'embodied' by workers (Polanyi 1966). In other words, firm performance depends not only on current R&D but also on what has been learned from (often incremental) product, process and systems development in previous years or even decades. Such knowledge accumulation is favoured by continuity of personnel. By the way, recent refinements of firm-level analyses show that the negative impact of flexible work on innovation and labour productivity holds for firms in sectors that tend towards a 'creative accumulation' (or 'Schumpeter Mark II') innovation model; it does not hold in sectors that tend more towards a garage business innovation model (Kleinknecht et al. 2014, Vergeer et al. 2015).

The above implies strong complementarities between labour market institutions and innovation models. It can explain why the US, in spite of a *hire & fire* labour market, performed quite well in the Garage Business-phase of IT during the 1980s and 1990s. It also explains why, after the Reagan Revolution, the US had great difficulties in competing against German and Japanese suppliers in mature industries such as automobiles or steel. It explains why Detroit, unlike Wolfsburg, is today a dying city. It may also have an impact on the new giants in Silicon Valley: as they gradually move towards a 'creative accumulation'-regime in which path-dependent learning and accumulation of firm-specific and tacit knowledge becomes more important, the *hire & fire* US labour market may no longer be a favourable environment for them.

Finally, progress in the (incremental) improvement of products, processes or systems in a 'creative accumulation' model requires an increasing division of labour between specialists. Thanks to Adam Smith's famous pin factory example, economists recognize the importance of specialization and division of labour for productivity. The latter makes workers more productive within the firm. In the case of firing,

however, narrow specialization can make them vulnerable on the external job market. Hence, if they have no well-protected insider position, employees have incentives for becoming broad generalists, rather than narrow specialists.

WALRAS VERSUS SCHUMPETER: THE BIG TRADE-OFF

In a Walrasian *General Equilibrium* perspective https://en.wikipedia.org/wiki/General_equilibrium_theory), every obstacle to the 'free' working of markets will reduce the market system's ability to achieve equilibrium and allocate scarce resources efficiently. This seems to support the removal of labour market rigidities through structural reforms.

In a Schumpeterian innovation perspective, however, labour market rigidities can be useful. The rationale is that, in the field of innovation, market failure is the rule rather than the exception. Innovation itself might be defined as a deliberate effort at creating an imperfect market with entry barriers: A new product that is hard to imitate is a source of monopoly profits. The perspective of high (and fairly persistent) monopoly profits gives strong incentives for investment in risky and uncertain innovation projects. In a Walrasian perspective, however, monopolies are undesirable as they lead to welfare losses.

INNOVATION ITSELF MIGHT BE DEFINED AS A DELIBERATE EFFORT AT CREATING AN IMPERFECT MARKET WITH ENTRY BARRIERS

In innovation policy, often one sort of market failure needs to be introduced in order to cure another one. The most important source of market failure lies in the public goods character of knowledge. We try to repair the latter through patents, copyrights or trademark systems while such systems are far from perfect. Moreover, artificial monopolies are undesirable from a (static) Walrasian viewpoint as they lead to welfare losses. Similar arguments hold for labour market institutions. For example, Walrasian economists might wish to abolish the wage cartel of trade unions and achieve downward wage flexibility. From a Schumpeterian view, however, one can argue that rising wages (being imposed on everyone in a sector) force technological laggards to either modernize their equipment or go out of business. In other words, thanks to the labour market rigidity of centralized wage bargaining, strong trade unions can enforce a more rapid adoption of productivity enhancing equipment.

Or we can interpret strong protection against firing and lengthy job durations as an investment in trust and loyalty. The latter reduce transaction costs for monitoring and control; they reduce the leaking of knowledge to competitors and make the accumulation of (tacit) knowledge easier. All of this allows innovative market leaders to better defend their monopoly profits from innovation against imitators, thus making their innovative efforts more rewarding.

In conclusion, what is 'good' in a Walrasian perspective ('how can we allocate scarce resources efficiently?') can be 'bad' in a Schumpeterian view ('how can we make resources less scarce through innovation?'). Structural reforms of labour markets abolish useful rigidities. In so far as such reforms took place, they were successful in reducing labour productivity growth (i.e. growth of GDP per hour) and, in doing so, they increased labour input at a given rate of GDP growth.

The latter not only holds for the champions of deregulation of the 1980s (i.e. US, UK, New Zealand, Australia, see Vergeer & Kleinknecht 2011),

but also for an increasing number of European countries. For example, the Italian labour market was made more flexible through reforms at the end of the 1990s. During the 2001-13 period, aggregate Italian labour productivity growth was zero. Analyses of Italian firm-level data show that the slowdown of labour productivity growth was significantly related to the use of the new flexible options (Lucidi & Kleinknecht, 2010). Something similar, though less pronounced, happened in Germany. Germany still achieved a 2.2 per cent annual growth of GDP per working hour during its 'sick man of Europe' period (1991-2001). But during 2006-13, i.e. after the German labour market reforms (known as the Hartz-Reforms), this growth rate went down to 0.9 per cent (calculations from www.ggdc.net/Total Economy Database). Of course, this downside has an upside: thanks to low labour productivity growth, Germany has now, at a given rate of GDP growth, a higher growth of labour input, and many are happy about this.

What is wrong about the latter? First, low labour productivity growth means that there is less extra income to be distributed per hour worked, making the financing of welfare state arrangements more difficult. This is a severe problem as many OECD countries face a shrinking working population and a growing proportion of pensioners. With higher labour productivity growth, negative consequences for income growth from demographic change could be compensated more easily. Second, in spite of low labour productivity growth, people at the top of the income distribution still achieve high income growth; the almost unavoidable consequence is the creation of a growing class of working poor with precarious jobs at the bottom of the labour market.

To conclude: it would have been a more intelligent solution if we maintained labour markets with good insider protection and high wage cost pressures. This would have triggered a quick diffusion of labour saving technology, thus exploiting more fully the potential of the IT-revolution. Moreover, high wage cost pressure would have supported the Schumpeterian process of 'creative destruction' in which innovative market leaders see off technological laggards competitively, thus increasing the average quality of entrepreneurship (Kleinknecht 1998). If all this leads to a slow (or more likely: negative) growth of labour input, trade unions can still reduce labour supply by going for shorter working weeks, thus absorbing high labour productivity gains. Economists know that leisure time has positive utility. Instead, the supply-side labour market reforms create a growing number of people who have to work harder and longer for less money. Ironically, this reminds us of the centrally planned economies of former Eastern Europe: everybody had work, but many were trapped in low-productive and low-paid jobs.

NOTES

1. Acharya et al. conclude that 'innovation and growth are fostered by stringent laws governing dismissal of employees, especially in the more innovation-intensive sectors. Firm-level tests within the United States that exploit a discontinuity generated by the passage of the federal *Worker Adjustment and Retraining Notification Act* confirm the cross-country evidence.' (2010, p. 1).

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