

Rigidities through flexibility: flexible labour and the rise of management bureaucracies

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Judging from organisation-level survey data, we find that organisations employing high shares of flexible workers have higher shares of managers in their personnel. This is in line with earlier findings that Anglo-Saxon countries with deregulated labour markets have thicker management bureaucracies than countries with more regulated labour markets of the ‘Rhineland’ style. We argue that flexibility in labour markets (i.e. easier firing and higher labour turnover) damages trust, loyalty and commitment. This requires more *management and control*. Related research suggests that easy *hire and fire* is at the cost of organisational learning, knowledge accumulation and knowledge sharing, thus damaging innovation and labour productivity growth.

Key words: Varieties of capitalism, Flexible labour, Corporate governance, Management and control
JEL classifications: J53, J82, M12, M54

1. Introduction

The literature on varieties of capitalism addressed differences between Anglo-Saxon *liberal market economies* (LME) versus Rhineland-type *coordinated market economies* (CME), paying particular attention to labour market institutions (Albert, 1993; Hall and Soskice, 2001).¹ Subsequent studies investigated the impact of ‘flexible’ versus ‘rigid’ labour relations on economic performance. Several firm-level studies found a *negative* relationship between Anglo-Saxon-style labour relations and innovation (see, e.g., Michie and Sheehan, 2001, 2003; Zhou *et al.*, 2011) and patenting (Pieroni and Pompei, 2008; Acharya *et al.*, 2010) or on the growth of labour productivity (see, e.g., Auer *et al.*, 2005; Huselid, 1995; Kleinknecht *et al.*, 2006; Lucidi and Kleinknecht, 2010). Recently, it has been argued that such findings do not hold for ‘garage business’

Manuscript received 21 June 2013; final version received 2 June 2015.

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* TU Delft, The Netherlands. This paper benefitted from talks with Ro Naastepad and Servaas Storm at TU Delft as well as from remarks by conference participants of the German Verein für Socialpolitik (Committee on Evolutionary Economics) at Stuttgart-Hohenheim, July 2014.

¹ Gooderham *et al.* (1999) suggest that the simple LME versus CME distinction should be refined, e.g. distinguishing also a ‘Latin’ version of HRM or a ‘corporatist’ versus a ‘social democratic’ model. This is clearly relevant for cross-country regressions, but is less relevant for the present paper as we concentrate on firm-level data within one country (i.e. the Netherlands).

innovators, but they do hold for firms that follow a ‘routine’ (or a ‘creative accumulation’) model of innovation (Kleinknecht *et al.*, 2014; Vergeer *et al.*, 2015). This may explain why some studies arrived at insignificant results (see, e.g., Arvanitis 2005) or even arrived at opposite conclusions (see, e.g., Bassanini *et al.*, 2009): they did not control for the type of innovation regime that is dominant in an industry.

This paper contributes to the sparse empirical work on the role of social capital on corporate governance, i.e. the role of trust, loyalty and commitment. Among the few contributions is the work by Gordon (1990, 1994, 1996), Naastepad and Storm (2006) and Storm and Naastepad (2012), who argue that ‘low road’ Human Resource Management (HRM) practices in the Anglo-Saxon style² reduce the loyalty and commitment of workers, thus increasing the need for *management and control* (see also Svensson, 2011, who shows empirically that flexible work practices reduce trust).

Using International Labour Organization data and definitions for the 1980s and 1990s, Naastepad and Storm (2006) and Storm and Naastepad (2012) show that in typical ‘Old Europe’ countries about 2–6% of the labour force are ‘managers’, while in deregulated Anglo-Saxon labour markets, these percentages are above 12% (for similar evidence see Gordon, 1994). Against such evidence one could object that the data may be influenced by an inflationary use of the term ‘manager’ in Anglo-Saxon countries or by unobserved national peculiarities. It is therefore important to test the same hypothesis with firm-level data within one country. Such research, however, meets the problem that micro data on shares of managers in the working population are scarce.

One of the few databases that happen to cover such data is the labour market survey of SCP (Netherlands Institute for Social Research). The SCP survey is available through the web site of the Royal Netherlands Academy of Sciences (www.dans.knaw.nl, date last accessed 14 August 2015) and covers all organisations in the Netherlands that employ labour. The survey includes one question that is of key relevance to this paper: what percentage of your employees occupies managerial positions in your organisation? In addition, the survey covers a broad range of labour market and HRM issues, including shares of flexible workers of various definitions.

The SCP data are particularly interesting for the purpose of this paper, as the labour market in the Netherlands is still of the ‘Rhineland’ (CME) type. Over the last decades, however, the country adopted various elements of Anglo-Saxon LME. For example, apart from a decrease in the concentration of firm ownership (De Jong *et al.*, 2010) and an increased orientation towards shareholder value (Bezemer, 2010), the number of flexible workers, i.e. people on temporary contracts, manpower agency workers or ‘self-employed’ freelancers, increased substantially. At the time of writing, the latter vary between 23% and almost 35% of the national workforce, depending on statistical definitions (Dekker *et al.*, 2012). We use the share of flexible workers in a firm’s total labour force as an indicator of ‘high road’ versus ‘low road’ HRM practices. The substantial variation in shares of flexible workers across firms allows analysing the impact of the latter on management ratios, controlling for a number of other influential factors.

² Others have used similar notions, e.g. ‘calculative’ HRM (aimed at serving shareholder value) versus ‘collaborative’ HRM (aimed at respecting employer and employee interests; see Gooderham *et al.*, 1999). Rizov and Croucher (2009) argue that ‘collaborative’ (other than ‘calculative’) HRM tends to be related to stronger firm performance. They add that the relationship between ‘cooperative HRM’ and firm performance is stronger if firm-level ‘collaborative’ policies are supported by national institutional and normative settings.

The paper is structured as follows. Section 2 describes the data and discusses our empirical model, Section 3 summarises our regressions and Section 4 rounds up with conclusions.

2. The data and our model

The biennial SCP labour demand survey samples all organisations in the Netherlands that employ labour, stratified by industries and firm size classes. The sample size is approximately 3,000 organisations. The data are collected by three subsequent telephone interviews plus a postal survey. We use the SCP database from the survey 2009–10, which covers 2,837 firms and organisations with five or more employees, coming from all sectors of manufacturing, services, agriculture and not-for-profit services, including government agencies. Since this has the highest number of responses and still covers the most important variables to be included in our model, we limit ourselves to the data from the first telephone interview.

Taking data from only one survey round has the advantage of high numbers of observations. We are aware of the disadvantage of having no time lag between dependent and independent variables, which implies that we have to be cautious about causal inferences. We also experimented with the linking of two subsequent surveys (with two years in between). This was, however, at the cost of a loss of about half of the observations due to bankruptcies, mergers and acquisitions, sampling variation and non-response rates. The coefficients (data not shown) appeared similar to the results presented below, although the significance levels of all coefficients tended to be lower.

Having no time lag may be less relevant as the key data of our model do not fluctuate heavily over time. Figure 1 illustrates that management ratios are fairly constant. The two indicators of flexibility show some fluctuation (notably a decline in manpower agency workers during the dotcom crisis), but fluctuate only little around our observation period (Figure 2).

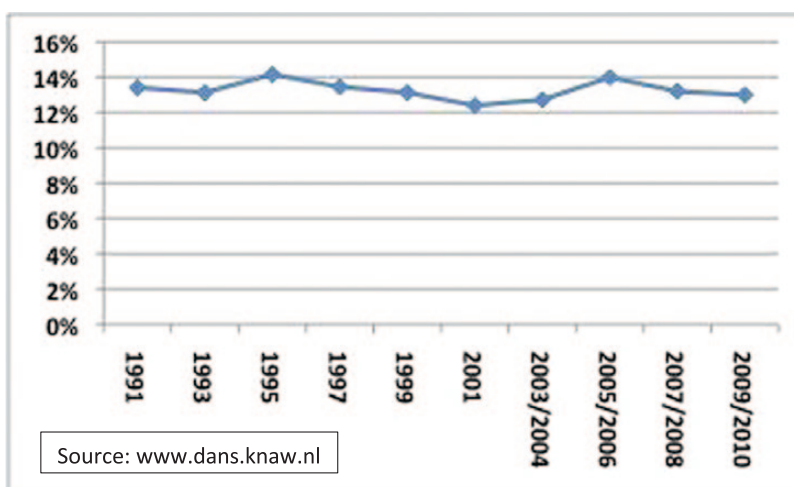


Fig. 1. Annual shares of managers in the Dutch working population, 1991–2010. Source: www.dans.knaw.nl (date last accessed 14 August 2015).

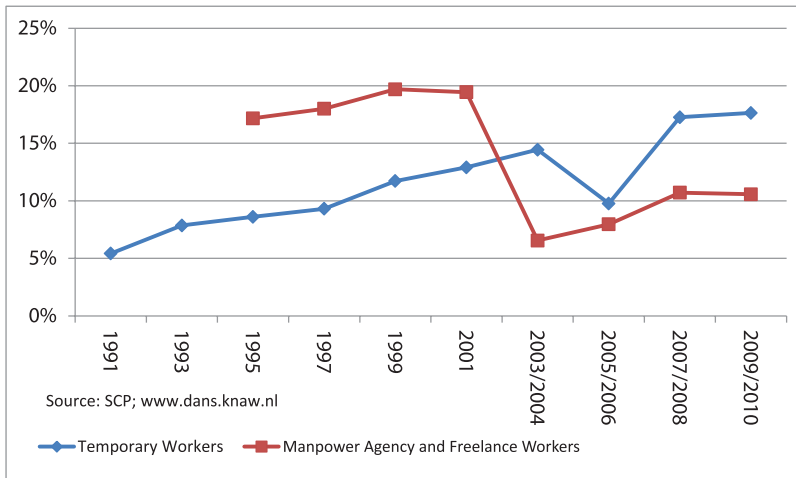


Fig. 2. Annual shares of flexible workers in the Netherlands. Source: SCP, www.dans.knaw.nl (date last accessed 14 August 2015).

Observers may note that management ratios in [Figure 1](#) are substantially higher than the above-quoted figures by [Naastepad and Storm \(2006\)](#) and [Storm and Naastepad \(2012\)](#). An explanation may be that the latter cover the 1980s and 1990s while we cover the year 2010; however differences in sector coverage and statistical definitions may also play a role. One should note that [de Beer \(2001, p. 335\)](#) reports an almost 3-fold rise of management ratios in the Netherlands since the late 1970s as the share of flexible workers in the country was growing substantially.

Explaining differences in management ratios between firms, our key variable is the extent to which a firm employs flexible labour. The database covers two indicators of flexible labour: (i) percentages of workers on temporary contracts and (ii) people hired from manpower agencies plus freelance ('self-employed') workers. In analysing these, we faced the problem of multicollinearity. In preliminary estimates (data not shown) we found that each of the two indicators was significantly positive (increasing management ratios) if the other was omitted. In order to use the full information in the survey, we merged the two variables into one using factor analysis.³

Our set of control variables includes firm size and firm age. It has often been argued that young, small and entrepreneurial firms have the advantage of low management complexity and short communication lines. [Table 1](#), however, suggests that firm age has no relation with management ratios and firm size even turns out *negatively*: smaller firms have higher shares of managers.

We estimate our model with and without sector dummies and include variables stepwise (see [Table 4](#)). [Table 2](#) appears somehow counterintuitive as it suggests that not-for-profit services and government agencies seem to have *lower* shares of managers than are observed in most manufacturing and commercial service industries. Should this hold once we control for other influential factors, it is a remarkable outcome.

³ We performed a principal component analysis with orthogonal rotation (varimax). The Kaiser–Meyer–Olkin measure equals 0.67, verifying a mediocre sampling adequacy for the analysis ([Field, 2009](#)). Bartlett's test of sphericity is significant (Sig. = 0.014 < 0.05). Hence the two tests pass the minimum standard to conduct the factor analysis. The diagonal elements of the anti-image correlation matrix have values of well above 0.5 (between 0.73 and 0.89) and the off-diagonal elements have small values, which indicate a good factor analysis. We then used the factor scores in our regression analysis ([Table 4](#)).

Table 1. Average management ratios (MR) by firm size and firm age

Firm size classes	Mean MR	Firm age classes	Mean MR
1–9 employees	22.4%	5 years or less	13.9%
10–19 employees	14.8%	6–10 years old	14.2%
20–99 employees	11.1%	11–20 years old	14.1%
100–499 employees	8.2%	21–50 years old	13.7%
>500	8.3%	>50 years old	12.3%

Table 2. Average management ratios and shares of temporary workers and manpower agency workers by industry

Sectors	Percentage of managers	Percentage of temporary workers	Percentage of manpower workers + freelancers
Agriculture	21.60	18.31	15.31
Traditional manufacturing (wood, textiles, paper, etc.)	13.56	12.20	9.50
Chemicals	12.08	5.36	11.20
Metals	13.62	13.51	15.40
Mechanical engineering	13.60	11.14	10.27
Automobiles	14.54	15.22	18.56
Commercial services	13.27	12.61	8.61
Public services	8.44	23.85	12.53
Construction	16.63	11.03	16.30
Trade	15.78	23.01	10.59
Transportation	12.44	19.46	13.84
Knowledge-intensive services	14.22	19.23	11.74
Public administration	9.00	9.22	8.30
Education	8.40	16.95	4.95
Healthcare	10.60	15.79	5.45
Non-commercial services	14.47	24.65	9.01

Finally, we include controls for various properties of employers. For example, whether there was a major restructuring operation during the past two years (which may be a chance to reduce management layers) or whether the firm operates in a strongly competitive market or is sensitive to business cycle fluctuations (both may increase the need for management). [Table 3](#) shows the descriptive statistics and [Table 4](#) summarises our regressions.

3. Results from regressions

The descriptive data in [Table 2](#) suggest that sectors such as healthcare, education, public services or public administration have *smaller* management bureaucracies compared

Table 3. Descriptive statistics

Continuous variables	Mean	SD	Minimum	Maximum	No. of observations
Thickness of management layers (%)	13.2	9.52	0	100	2,828
Log firm size (no. of employees)	1.61	0.67	0	4.08	2,825
Log firm age	1.36	0.42	0	2.03	2,551
Log firm growth (log change in total numbers of employees)	1.97	0.12	0	3.11	2,443
Percentage of temporary workers	17.3	17.4	0	180	1,984
Percentage of manpower agency workers + freelancers	10.7	13.4	0	100	1,458
Dummies					
Restructuring during last two years	Yes: 30.5%	–	–	–	2,861
Operates in a competitive market	Yes: 76.3%				2,854
Is sensitive to business cycles	Yes: 63.1%				2,861

with private business firms. Possible explanations are higher trust and loyalty due to possibly lower rates of job turnover, the latter being favoured by typically high rates of trade unionisation in such sectors. Table 4 shows that, after controlling for other factors, this indeed holds. Only the coefficient for public services fails to be significant.

Further we see that firm age does *not* matter for the relative size of management bureaucracies. Popular arguments about young and entrepreneurial firms suggest that they have the advantage of thin management layers and short communication lines compared with large conglomerates. It is remarkable that this is not supported by our data. In fact for small firms the opposite seems to hold: firm size is significantly *negative*. In other words, larger firms have relatively lower management ratios than their smaller counterparts. Seemingly, smaller firms are unable exploiting managerial economies of scale.

Above we hypothesised that firms that underwent a major restructuring operation during the past two years had the chance of reducing unnecessary management functions. The coefficient for restructuring, however, has a significantly *positive* sign. An alternative hypothesis might be that restructuring operations, besides requiring more management during a transition period, might unleash a process of ‘adverse selection’: during the restructuring process, many people fear for their job and apply for jobs elsewhere. The best people might succeed in doing so. After the restructuring, the firm has to operate with those who were unable to leave. This might be one explanation of why many mergers and acquisitions are followed by weaker firm performance (see, e.g., Schenk, 2006). A classical reaction to weaker performance might be that *management and control* will be tightened.

Finally, our main variable of interest (flexible labour) is highly significantly positive. We conclude that using higher shares of temporary workers, manpower agency workers and self-employed (freelance) workers is related to heavier management bureaucracies.

Table 4. Summary of regressions explaining size of management bureaucracies

	Model 1		Model 2		Model 3		Model 4	
Controls	Coefficients	t-values	Coefficients	t-values	Coefficients	t-values	Coefficients	t-values
Constant	21.92	6.35***	21.21	6.16***	23.45	8.85**	27.26	10.19***
Log firm size	-7.48	-26.02***	-6.83	-17.68***	-7.01	-15.04**	-6.97	-25.15***
Log firm growth	-0.94	-0.65	-0.69	-0.61	-0.76	-0.59	-0.50	-0.39
Log firm age	-0.17	-0.38	-0.22	-0.37	-0.04	-0.61	-0.01	-1.51
Major restructuring activities (dummy)			1.07	2.43**	0.92	2.29**	0.89	2.24**
Operates in a competitive market (dummy)					1.37	3.07***	0.67	1.49
Is sensitive to business cycles (dummy)					1.87	5.02***	1.39	3.71***
Variable of interest: flexible labour (factor score: % manpower agency workers and freelancers + % temporary workers)	0.73	2.89**	1.76	3.42***	1.75	3.62***	1.68	4.58***
Industry dummies (ref. group: agriculture)	No	No	No	No	No	No	Yes	Yes
Traditional manufacturing (textiles, wood, etc.)							-2.06	-1.27
Chemicals							-2.18	-0.98
Metals							-3.24	-1.47
Mechanical engineering							-2.98	-1.25
Automobiles							-2.85	-1.01
Commercial services							-4.17	-1.58
Public services							-3.69	-1.32
Construction							-1.34	-0.75
Wholesale and retail trade							-1.97	-0.98
Transportation services							-4.88	-1.67
Knowledge-intensive services							-2.07	-1.11
Public administration							-4.78	-2.18**
Education							-6.58	-3.86***
Healthcare							-6.64	-3.97***
Non-commercial services sector							-5.26	-2.09**
R ²		0.207		0.216		0.254		0.291
Number of observations		2,861		2,775		2,155		2,155

Note: *** significant at 1% level; ** significant at 5% level; * significant at 10% level.

4. Discussion and conclusions

Advocates of ‘structural reforms’ of labour markets believe that every obstacle to the ‘free’ working of markets reduces the market system’s capacity to automatically find equilibrium and allocate scarce resources efficiently. Of course this also holds for labour markets. In this view, a trade union is an anti-competitive cartel organisation, preventing downward wage flexibility and keeping people unemployed. The same holds for generous social benefits and high minimum wages that cut off access to low-paid work. This line of reasoning would plea for removal of firing restrictions in order to make labour markets ‘more dynamic’ and change power relations in firms. All this seems to support ‘structural reforms’ of labour markets, which are now widely propagated as a response to the financial crisis. This view, however, neglects an important downside of structural reforms: the introduction of ‘free’ labour markets may also enhance market failure with respect to innovation and productivity. For example, [Vergeer and Kleinknecht \(2011, 2014\)](#) report that downward wage flexibility has a price: a 1% decline of wages causes an 0.3–0.5 percentage point decline in growth rates of value added per labour hour, due to factors such as lower capital–labour substitution, lower incentives for induced innovation, vintage effects and lack of creative destruction (for a detailed discussion see [Vergeer and Kleinknecht, 2014](#)).

At a first look, adherents of structural reforms may be comfortable with our results: as Dutch labour laws protect insiders, firms have to use more outsiders on flexible contracts in order to satisfy their need for flexibility. If we were to reduce the protection of insiders, firms might hire fewer outsiders. According to our model, this would actually reduce management bureaucracies! This argument, however, overlooks the principal aim of labour market deregulation: it is not about helping outsiders; it is about achieving a more ‘dynamic’ labour market, i.e. higher rates of job turnover. Easy firing is often praised for allowing an easier termination of inefficient job matches.⁴ And easier firing allows shifting part of the entrepreneurial risk to employees, which makes risk-taking more attractive. Moreover, it gives more power to management taking actions against shirking. Besides, a shift in power relations between capital and labour may also lead to more moderate wage claims that, in a static Walrasian view, enhance employment.

Structural reforms are closely related to the concept of the *non-accelerating inflation rate of unemployment* (NAIRU), claiming that the only way to reduce unemployment is to remove labour market rigidities. An important line of reasoning against NAIRU theory relates to findings at the macro and at the firm level, that deregulation of labour markets is damaging to innovation and labour productivity growth (see also [Storm and Naastepad, 2012](#)). In fact, such findings corroborate an earlier statement by Joseph Schumpeter:

Perfect competition ... is a condition for optimal allocation of resources ... But ... introduction of new methods of production and new commodities is hardly conceivable with perfect ... competition ... And this means that the bulk of ... economic progress is incompatible with it. As a matter of fact, perfect competition is and always has been temporarily suspended whenever anything new is being introduced. ([Schumpeter, 1943](#), pp. 104–5)

⁴ In evaluating political party programmes for the 2012 national elections, the Netherlands Bureau for Policy Analysis (CPB) even attributed *positive* productivity effects to proposals for easier firing that allow for a higher labour turnover. What a pity for the empirical studies cited above that their findings are almost exactly opposite to the theoretical assumptions in CPB’s econometric models!

Much of the above-quoted research seems to underline Schumpeter's view that perfect competition is a poor milieu for innovation. It seems there is a serious trade-off: institutional structures that are favourable to the efficient allocation of scarce resources in a static 'Walrasian' perspective may be damaging to innovation in a dynamic Schumpeterian perspective. The rationale may relate to sources of market failure that surround the innovative process. Among the latter, the most important are weak property rights due to the public goods character of knowledge, various sources of information asymmetry and lock-in due to the sunk costs character of innovative investments, the role of ill-documented and idiosyncratic 'tacit' knowledge (Polanyi, 1966), which is 'owned' by workers rather than by firms, or the finding that personnel turnover may be an important source of knowledge leaking, causing underinvestment in innovation due to externalities.⁵ We therefore suggest that when dealing with innovation, we should accept market failure as the rule rather than the rare exception. Policy makers may then sometimes repair one market imperfection by introducing another one. Examples are the granting of patents, trademarks or copyrights that give monopoly power to creative people. Such monopolies prevent the efficient allocation of scarce resources, but are useful for innovation that makes resources less scarce.

This paper adds one more point: structural reforms of labour markets may lead to higher rates of job turnover that are destructive to mutual trust, loyalty and commitment. This will create a greater need for monitoring and control. More managers are then needed for reorganisation of work processes in order to better monitor and curb shirking or to prevent leaking of knowledge or other forms of disloyal behaviour.

Once thicker management bureaucracies exist, they may lead to more complex and bureaucratic decision-making. This may be detrimental to creative and entrepreneurial people within the firm. It is tempting to speculate that the high rates of people leaving and creating their own firms in Anglo-Saxon countries might have something to do with rigid and overmanaged structures in existing firms that frustrate creative minds. From this perspective, lower rates of new firm foundations in 'Old Europe' are not necessarily a disadvantage: they may simply indicate that existing (large) firms in Europe are more flexible in giving room to creative people. Clearly, this deserves further research.

The deregulation and privatisation campaign of the 1980s and 1990s often suggested that we could choose between two opposite allocation principles: markets or bureaucracies. At least in the case of the labour market, our above results suggest we get both: thicker management bureaucracies and higher transaction costs within firms as a response to deregulation of protective labour market institutions.

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⁵ Judging from a survey of innovators in the Netherlands, Brouwer and Kleinknecht (1999) report that firms gave 'keeping qualified personnel in the firm' a third rank among factors that are most efficient in protecting their innovation against imitators. While 'time lead on competitors' and 'secrecy' ranked first and second, patent protection ranked only fourth.

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