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Abstract: This paper describes the spread of new work and pay practices in Danish private sector firms during the last two decades. The data source is two surveys directed at firms and carried out ten years apart. The descriptive analysis shows that large changes in the way work is organized in firms have occurred during both decades, whereas the progression of pay practices predominantly took place in the nineties. There is considerable firm heterogeneity in the frequency of adoption of the practices. In particular, the prevalence of both incentive pay and work practices is higher in multinational companies and firms engaged in exporting.

JEL Codes: J33, J53, M52

Keywords: High performance work practices, Pay practices, Performance pay

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1 Introduction

The aim of this short paper is to describe how the use and adoption of Human Resource Management practices have developed in Danish firms along two dimensions. I make use of two surveys designed to inform us about this topic, one carried out in 1999 and the other ten years later in 2009.

The first dimension is *time*, and this analysis makes up most part of the paper. More precisely, I will describe how firms' work organizations and pay practices have changed over the two last decades. The changes coincide with two more general changes in the Danish labour market and workplaces: a tendency away from the classical Fordist work organization and the simultaneous tendency towards a more decentralized wage setting.

The second dimension is *firm type*. Firm heterogeneity has attracted much interest in recent years. Even within narrowly defined industries, firms have been shown to differ substantially and with a high degree of persistency in several respects, not least their performance.¹ To what extent these differences reflect differences in how the firms are managed is an area which has attracted a lot of interest in recent economic research. In the current paper, I focus on foreign versus domestic firms, exporters versus non-exporters, and firms with different forms of ownership.

The next section gives a brief description of the surveys. Sections 3 and 4 are concerned with the changes in work and pay practices, respectively. In the fifth section I look at differences between different types of firms. Section 6 concludes.

2 Data description

The data used in the next sections come from two surveys carried out ten years apart, in 1999 and 2009, respectively. The surveys were directed at Danish private sector firms with more than 20 employees and contain a host of questions regarding the firms' work, compensation and other HR

¹ This literature is excellently summarized in Syverson (2011). For evidence from Denmark, see Fox and Smeets (2011).

practices like internal training and employee performance evaluations. For the work practices, the firms were asked to differentiate between salaried employees and those paid by the hour (typically, production workers). Correspondingly, for the pay practices respondents were asked to distinguish between four categories of employees: top managers, middle management, salaried employees and hourly paid workers.

Both surveys were administered by Statistics Denmark. The 1999 survey² was carried out as a mail questionnaire in May and June 1999 that was sent out 3,200 firms (in the private sector and with more than 20 employees). The 2009 survey was sent to 3,940 firms in April-May. In both years the questionnaire was sent out to the most relevant HR representative in each firm, according to a list maintained in Statistics Denmark. In 1999 the firms were chosen from a random sample, stratified according to size (as measured by the number of full time employees) and industry. The survey over-sampled large and medium-sized firms; all firms with 50 employees or more were included, and 35 per cent of the firms in the 20-49 employees range.

The sample for the 2009 survey consists of two parts. One is the 1,605 firms that had answered the survey ten years earlier, of which Statistics Denmark succeeded in identifying 1,144, but had to exclude some 260 firms because of lacking data or because the firms no longer matched the sample restrictions. The other part is a supplementary sample of 2,791 firms chosen in order to have a data structure corresponding to the one in 1999. The total sample in 2009 is larger (about 700 firms) than in 1999. Another difference is that in 2009 the firms were first asked to answer the questionnaire on the internet – 65 per cent of the respondents did so – and the remaining 35 per cent of the respondents were interviewed using telephone. The response rates were 51.0 and 49.4 per cent in 1999 and 2009, respectively, which is quite satisfactory given the rather long and detailed questionnaire that was used.

The questions regarding the firm's use of work and pay practices have a common structure. The respondents are given a list of practices and asked whether the firm has implemented them, and if so, when. Moreover, in 2009, the firms are also asked about the proportion of employees covered by the practice, and in case of the pay practices, they were furthermore asked about the typical

² Two examples of studies that have used data from the 1999 survey (merged with linked employer-employee data) are Eriksson and Ortega (2006) and Datta Gupta and Eriksson (2011).

share of an employee's total compensation that is due to the pay practice in question. In order to achieve as much as comparability as possible, the practices listed are predominantly the same in both surveys (and the wording of the questions are kept unchanged). However, the 2009 questionnaire includes some additional practices that were considered as too rare to be asked about ten years earlier.

3 Changes in work practices

The changes in how work is organised in the two recent decades are frequently described by terms like the introduction of High Performance Work Practices or High Involvement Work Practices. Common to them is that they imply less hierarchical organisations, decentralised decision rights ("worker empowerment"), broader ("enriched") jobs and that work is performed in teams rather than individually. Examples of such work practices are self-managed teams, quality circles, job rotation schemes, employee ownership programmes and information sharing systems.

Why have the practices mushroomed in recent decades and are there reasons to expect this change to continue in coming years? There are basically three reasons for their emergence. One is the general trend towards more marketisation (incentive systems) of firms; the introduction of some of the new practices can be seen as attempts to mimic key market characteristics like decentralised decision making. Another is the increased competition in product markets which generates a need for faster decision making in order to adapt more quickly to changes in demand (Rajan and Wulf, 2006). These changes have also been greatly facilitated by the new information and communication technologies. Notice, however, that these technologies can also be used to centralize, standardize and individualize work (Lazear and Gibbs, 2008).

The spread of the high performance work practices occurred first (in the eighties and nineties) in the United States (Osterman, 1994; 2000) and came to Europe about a decade later (OECD, 1999). Thus, according to the European Working Conditions Surveys (EWCS) from years 1995, 2000 and 2005, teamwork has become more prevalent and at the same time speed of work has increased, chiefly induced by colleagues. Job content seems to have been largely unchanged, though. The

European Company Survey (ECS) from 2009 documents that on average 23 per cent of the firms in the EU27 countries have teams performing mainly autonomous teamwork. Changes in work organisations are typically accompanied by a more extensive use of performance pay. According to the ECS in 2009, the shares of European establishments using individual and group performance based pay systems in 2009 were 33 and 18 per cent, respectively. During the previous decade, the new work practices have also increasingly been adopted by companies in some of the more advanced Asian countries like Japan and South Korea (Bae et al., 2010).

The new practices have of course spread because they are (or at least are believed to be) good for some firms. What do they do? Like in well functioning markets, they give employees opportunities to use local knowledge and to exert effort of their choice, share knowledge with others in teams, and to use it when local shocks occur. In addition, some employees may obtain intrinsic motivation from the new ways jobs are designed. At the same time, the employers try to align employees' interests with that of the firm by introducing employee share ownership plans, profit sharing schemes, and bonus and stock option schemes. Increased job security may serve the same purpose. The employers need more able employees to perform the broader, enriched jobs. Thus, they have to screen and recruit their new employees more carefully and invest more in training them than before.

These are normally costly activities. What is there in them for the firms? The new work organisations are associated with lower information transfer and communication costs, contribute to higher productivity³ and increased flexibility. However, they are also associated with a higher likelihood of mistakes, less gain from specialization, and as already mentioned, higher recruitment and training costs.

So, how does the picture look like in Denmark? As can be seen from *Tables 1a* and *1b*, at the end of the 1980s, the prevalence of the work practices listed in the 1999 questionnaire was quite low. That was, of course, the motivation for labelling them "new work practices" and to examine their spread in Danish firms by the end of the century. In fact, the only practice with a non-negligible

³ It should be pointed out that the evidence of high performance work practices as productivity enhancers is somewhat mixed; see e.g. Bloom and van Reenen (2011) for a recent survey.

adoption in the firms at the end of the eighties was self-managed teams which were used by 6-7 per cent of the respondent firms.

Ten years later, the landscape had changed substantially. During the nineties, the share of firms that implemented self-managed teams almost quadrupled, and job rotation schemes, which were in particular adopted for hourly paid workers, were present in about a sixth of the firms. Moreover, TQM and quality circles appeared, but the proportion of firms adopting them was rather low. Many of the companies that had adopted one new work practice had also implemented at least one more. About forty per cent of the firms had not introduced any of the new practices for any of the two categories of employees examined, and so, there was still scope additional change.

What did the first decade of the new millennium bring with respect to changes in the way work is organised? The adoption rates increased for all new practices; the smallest increase is observed for TQM, which together with quality circles are the least implemented work organisations, and the largest (relative) growth is found for benchmarking which is now used in one out of five firms for (some of) their salaried as well as hourly paid employees. One third of the companies make use of job rotation schemes for their hourly paid workers and the same share of firms have teams for the hourly paid.

The use of self-managed teams is even more widespread for salaried employees; a little below forty per cent of the firms have them. These are high numbers, given the rather strong requirements economic analysis would put on the tasks and employees, for team work for be profitable for the firm; see e.g., Lazear and Gibbs 2008, chapter 8.⁴ Another widely used practice is formalised knowledge sharing arrangements, which were only asked about in 2009. As many as 53 and 43 per cent of the firms have adopted them for their salaried and hourly paid workers, respectively. Again, these appear as high numbers, as one would expect to find these arrangements primarily in companies which are highly innovative or make use of advanced technologies. On the other hand, worker mobility is high in Denmark, in comparison to most other

⁴ The widespread use of teams was also observed by another firm questionnaire carried out in 2006. In a cross-sectional analysis of the data which include a large number of other management practices and a host of control variables, it was found that teams, *ceteris paribus*, were associated with lower profitability; see Eriksson and Smith (2007).

European countries⁵, and knowledge sharing can also be an important tool for mitigating the negative consequences of high rates of employee turnover. In addition, we should account for the fact that not all employees are covered by these practices. In the 2009 survey the respondents were asked about the coverage of the individual practices and the answers are shown in *Tables 2a* and *2b*. From this it can be seen that except for job rotation, the proportion of firms for which the coverage exceeds 75 per cent of the employees is over forty per cent. The shares for both self-managed teams and knowledge sharing appear strikingly high also in this respect.

**Table 1a Work practices for hourly paid workers in private sector firms,
1989, 1999 and 2009**

	Proportion of firms 1989	Proportion of firms 1999	Proportion of firms 2009
Self-managed teams	5.9	21.8	32.3
Job rotation	3.9	17.4	33.0
TQM	0.4	4.1	9.9
Quality circles	0.8	3.4	8.9
Benchmarking	0.1	1.6	17.3
Knowledge sharing	n.a.	n.a.	42.5

**Table 1b Work practices for salaried employees in private sector firms,
1989, 1999 and 2009**

	Proportion of firms 1989	Proportion of firms 1999	Proportion of firms 2009
Self-managed teams	7.2	26.5	38.4
Job rotation	1.4	6.2	12.3
TQM	0.8	8.3	9.6
Quality circles	0.9	3.7	6.9
Benchmarking	0.6	7.9	21.0
Knowledge sharing	n.a.	n.a.	53.2

⁵ See Eriksson and Westergaard-Nielsen (2009).

The increase in the implementation of the new work practices during the last ten years is not solely due to the fact that firms that already had adopted one or more practices start using one or more new ones, but is also the outcome of an increase in the number of new adopters of the new practices. Consequently, the share of firms that do not use them has fallen from about forty per cent in 1999 to about 15 per cent in 2009.

Table 2a Share of firms by proportion of hourly paid workers covered, 2009

	Proportion of employees (2009) 1-10%	Proportion of employees (2009) 11-75%	Proportion of employees (2009) 76-100%
Self-managed teams	10.0	50.2	39.8
Job rotation	11.7	55.5	32.8
TQM	7.3	23.0	69.7
Quality circles	11.3	35.2	53.5
Benchmarking	11.6	37.4	51.0
Knowledge sharing	6.2	46.2	47.6

Table 2b Share of firms by proportion of salaried employees covered, 2009

	Proportion of employees (2009) 1-10%	Proportion of employees (2009) 11-75%	Proportion of employees (2009) 76-100%
Self-managed teams	7.7	47.3	45.0
Job rotation	31.1	45.6	23.3
TQM	4.5	32.1	63.4
Quality circles	2.0	53.6	44.4
Benchmarking	9.3	50.7	40.0
Knowledge sharing	6.2	43.6	50.2

4 Changes in pay practices

Unlike the survey in 2009, the 1999 survey did unfortunately not ask *when* particular pay practices were introduced in the firm. This means that I can only compare the situation in 2009 with the one ten years earlier. As the purpose of the earlier survey was to examine the spread of the new, performance based pay practices, individual bonuses, team bonuses, stock and stock options and profit sharing, these will also be in focus here.⁶ *Table 3* gives the shares of firms which use these payment schemes by four categories of employees: top management, middle management, salaried employees, and hourly paid workers.

Starting at the top of the echelon, we may note that individual bonuses were and continue to be the most implemented form of performance pay for top management employees. The share of companies using them has increased from 31 to 44 per cent during the ten-year period. Around ten per cent of the firms have team bonuses for managers, and this share has increased only little since 1999. Nor has the share with profit sharing schemes changed much. As for stock options and warrants, the share is also unchanged, but this is likely to mask a small increase as the 1999 survey included both stock and stock options in a single category, whereas the 2009 survey distinguishes between stock options and stock and employee stock ownership programmes.⁷

Turning next to the middle management employees, the levels of the proportions are lower, but with regard to changes a similar picture emerges. Except for a notable increase in the share of firms using individual bonuses, not much else has changed. The same holds for the salaried employees; the proportion of firms paying individual bonuses to salaried employees has risen from 14 to 20 per cent while the other forms of performance pay are considerably less prevalent and their use is unchanged. The growth in the use of individual bonus systems is not found for the hourly paid workers. Here, the only change that breaks the picture of stability is the decline in the share of companies that have team bonus schemes for their production workers. Consequently, it

⁶ In addition the respondents were in both surveys also asked about the use of so called the qualification based pay system, a formalised system developed by the employers' and trade union organisations, which links the employee's pay more closely to qualifications obtained both before and after joining the current employer. In 2009, the firms were also asked about their use of piece rate schemes for hourly paid workers.

⁷ Furthermore, it should be noted that the low adoption rates for these forms of compensation are in part due to the fact that many of the firms are not stock companies and an even smaller fraction are listed on the stock exchange.

Table 3 Share of firms (%) using different pay schemes for four different categories of employees, 1999 and 2009

	Team bonus 1999	Team bonus 2009	Individual bonus 1999	Individual bonus 2009	Stock options 1999	Stock options 2009	Stock, ESOP 1999	Stock, ESOP 2009	Profit sharing 1999	Profit sharing 2009
Top management	7	10	31	44	8	8	n.a.	10	14	14
Mid management	8	9	20	36	4	2.5	n.a.	6	9	8.5
Salaried employees	10	9	14	20	4	1.5	n.a.	5	8	7.5
Hourly paid workers	17	9.4	8	8	2	0.4	n.a.	3	6	5

can be noticed that whilst work organised in self-managed teams has become more widespread, pay systems rewarding teams with bonuses have not. Rather, the major change in the last ten years has been the growing number of firms that have adopted individual bonus schemes (alongside a most likely increased individualisation of pay in general)⁸. This is also consistent with the observed growth in the use of benchmarking employees' performance at work.

In 1999, the share of firms that did not make use of performance related pay systems (that is, individual or team bonuses, stock options and warrants, or stock and employee shares) for any of the four employee categories was 36.3 per cent (Eriksson, 2001). The shares for each category were 51.8, 65.0, 71.0, and 71.4 per cent for top managers, middle management, salaried and hourly paid employees, respectively. Ten years later the overall share of firms that do not have performance pay is slightly lower: 34.6 per cent. The shares of each category corresponding to those above are: 47.5, 57.6, 71.2 and 74.2 per cent. Thus, the small increase in the adoption of performance pay schemes in firms has occurred in the management jobs, in particular for middle management employees.

In the 2009 survey I also asked, similarly to work practices, for the coverage of the different pay practices. Some of this information is summarised in *Table 4*, in which the proportions of firms that have the pay practice in question for 1-25 per cent, 26-99 per cent and all of their employees are given. The shares of employees covered by the two bonus systems appear to vary across firms, but less so for the top management employees. And yet, for all four categories of employees, when bonus schemes are used, more than fifty per cent of the employees are covered in over half of the companies. As to the best of my knowledge there is no earlier source of information about the coverage of different payment schemes, and consequently, I cannot tell whether the current fairly high coverage rates were also present earlier.

⁸ This is due to increasing decentralisation of wage setting which began in the mid-nineties. In the 2009 survey, I asked the firms whether they provide employees with the possibility to agree on an individualised compensation package (that is, salary, other forms of pay, fringe benefits). The shares of firms answering affirmatively to this question were 38.5, 25.8, 19.1, and 9.5 per cent for top managers, middle management, salaried and hourly paid employees, respectively.

Table 4 Share (%) of firms with different coverage rates for forms of pay

Employee category/form of pay	1-25 % of employees	26-99% of employees	All employees
<u>Top management:</u>			
Individual bonus	22.0	19.0	59.0
Team bonus	16.7	14.3	69.0
Stock options	23.1	17.0	59.9
Stock	18.5	16.8	64.7
<u>Middle management:</u>			
Individual bonus	27.9	29.4	42.7
Team bonus	19.4	21.2	59.4
Stock options	39.5	11.7	48.8
Stock	22.4	12.2	65.4
<u>Salaried employees:</u>			
Individual bonus	36.2	26.4	37.4
Team bonus	24.3	31.6	44.1
Stock options	26.9	7.7	65.4
Stock	10.2	11.4	78.4
Profit sharing	5.3	12.1	82.6
<u>Hourly paid workers:</u>			
Individual bonus	24.6	31.0	44.4
Team bonus	13.2	24.3	62.5
Stock options	25.2	8.1	66.7
Stock	6.8	2.3	90.9
Profit sharing	3.9	3.9	92.2

Compensation in form of stock or stock options is for the managerial employees a question about providing them either to a few or to all employees in those categories, whereas for non-managerial employees, they are, in the clear majority of companies that use them, provided to all employees. Naturally, profit sharing schemes rarely exclude employees from them.

Another novelty in the 2009 questionnaire is that the firms are asked about the proportion of a typical employee's pay that is made up of the form of payment in question. Again, this is asked for the same four employee categories as before. The average proportions are shown in *Table 5*. A first thing worth noting is that for all forms of payment, the share of the employee's total pay is falling with rank. Thus, for instance, individual bonuses account for 14 per cent of a typical top manager's total pay, while the hourly paid worker's individual bonuses make up only 7 per cent of his total earnings. Another pattern standing out from the table is that the relative contributions of the different payment forms to an employee's total pay follows almost the same ordering for all

four categories: individual bonuses account for the highest share, followed by team bonuses, whereas next the order of stock options and stock differ between managerial and non-managerial employees. Perhaps somewhat surprisingly, stock options (and stock) attribute less to top managers' total compensation than individual bonuses; while the latter account on average for 10-14 per cent of total pay, stock options only make up 8 per cent of the employee's total pay. As seen above, stock and options are rarely used forms of compensation for non-managerial employees, and when they are, their share is quite small; on average in the 4-5 per cent range.

Table 5 Average proportions of different forms of payment of a typical employee's total pay (%)

Employee category	Individual bonuses	Team bonuses	Stock options	Stock, ESOP
Top management	14.2	9.1	8.2	7.2
Middle management	10.2	8.3	8.0	5.2
Salaried employees	8.8	6.9	3.7	5.1
Hourly paid workers	6.7	6.9	3.3	4.5

So, all in all, we can see that the share of firms that use performance pay systems has not increased much during the preceding decade. This does not, however, mean that the use and importance of performance pay has not grown. The coverage rate of the schemes is in many firms quite high, but unfortunately we cannot know whether the coverage rates have changed. The same holds for the share of performance pay in total pay, which is relatively high for especially managerial employees.

5 Firm differences in the adoption of work and pay practices

Let us next consider differences in the adoption of work and pay practices by firm type. The new work organisations together with the performance related pay practices are expected to enhance the performance of the firm, and a fairly large literature has provided empirical evidence in support of this conjecture. At the same time, the fast growing new empirical trade literature has

convincingly demonstrated that the selection of companies to become exporters is strongly determined by their superior productivity performance; see Bernard et al (2007).⁹ The new trade literature is, however, rather silent as to what makes the exporters more productive than non-exporters.

Another significant difference between firms that has been documented by recent empirical IO and trade studies is the superior performance, like productivity, of the multinational firms; see e.g., Conyon et al. (2002). Obviously, one candidate for why we observe these differences is that the exporting and multinational companies have adopted better HRM practices, and better management practices in general (Bloom and van Reenen, 2009).

Table 6 Work practices by firm type, 2009

	Danish non-exporters	Danish exporters	Danish owned MNFs	Foreign owned MNFs
<u>Hourly paid workers:</u>				
Teams	28.8	33.1	42.7	28.7
Job rotation	19.1	43.0	44.0	36.8
TQM	4.7	10.8	14.5	14.6
Quality circles	7.2	10.3	11.9	7.7
Benchmarking	10.6	12.7	24.9	30.7
Knowledge sharing	38.1	44.6	47.4	45.5
<u>Salaried employees:</u>				
Teams	39.9	40.1	40.3	31.5
Job rotation	11.5	10.8	13.7	14.5
TQM	5.9	9.5	14.4	12.6
Quality circles	6.4	6.5	8.4	5.1
Benchmarking	17.6	11.9	28.1	33.1
Knowledge sharing	42.8	40.6	57.7	57.7

⁹ For the Danish evidence, see Eriksson et al. (2009).

My aim is next to shed some light on two questions in a Danish context. First, to what extent do exporting firms' HR practices differ from those of non-exporters? Second, are there differences in work and pay practices between multinational and local firms? *Tables 6 and 7* show the proportions of Danish firms with exclusively domestic operations, divided into non-exporters and exporters, respectively, and multinational companies divided into Danish and foreign owned multinationals that have adopted different work and pay practices.

Beginning with the work practices implemented for hourly paid workers, three things are worth pointing out. First, the non-exporting firms have adopted the new work practices to a lesser extent. Second, exporting and multinational firms use job rotation schemes and TQM¹⁰ considerably more often than the non-exporters, and the multinational firms, not surprisingly, make use of benchmarking much more frequently than the firms with operations only in Denmark. Third, Danish and foreign owned multinational companies do not differ notably regarding their adoption of work practices, save teams which are used more by the former. The same is in the main true also for work practices for salaried employees. Here too, teams seem to be more common among the Danish owned firms than in the foreign owned companies. Knowledge sharing is also more prevalent among multinationals, irrespective of ownership.

All in all, there are some differences between exporting and non-exporting firms with respect their work practices, and these are primarily found for the hourly paid workers. Thus, what matters for whether a firm has managed to pass the performance threshold for entering international markets is how frontline workers' work is organised. Except for TQM and benchmarking for hourly paid as well as salaried employees, and knowledge sharing for salaried workers, the differences between the multinational companies and the other companies are rather small.

Moving now to consider how payment systems differ across the four firm types, we expect to find more differences here as this was already the case (between foreign and domestically firms) in 1999; see Eriksson (2001). As can be seen from *Table 7*, these expectations are indeed confirmed.

There is a particularly large difference between the multinational firms and firms with operations only in Denmark in the share of companies that have adopted individual bonus schemes for their

¹⁰ This is expected as TQM accreditations are a "must" for firms to be able to export to many countries.

non-production workers. Bonus schemes are about twice as more common in the multinational companies. Moreover, the multinationals are also considerably more likely to have team bonus and stock ownership schemes for their non-production employees. The proportion of multinationals utilizing stock options as a compensation form for their top and middle level managers is about twice as big¹¹ as for the other firms. Foreign owned multinationals make use of bonus systems markedly more frequently than the Danish owned multinational companies do.

For the firms with operations exclusively in Denmark, one significant difference can be observed: a higher share of exporting firms make use of performance related pay schemes for their production workers than the non-exporters. As for the other employee categories there are no clear differences; in fact, individual bonuses for non-production employees seem to have been somewhat more often implemented by the non-exporting companies.

Summing up, Table 7 shows that there are large differences between the multinational firms and the local firms with respect to their use of performance pay schemes for their non-production workers. A relatively large literature has demonstrated that multinational companies are not only more productive than local firms and that they are also paying higher wages. This is often considered to be the result of multinationals having recruited higher quality employees than the local firms; see e.g., Heyman et al. (2007) for empirical evidence. As has been emphasized in a series of papers by Edward Lazear (see e.g., Lazear, 2000), implementing performance related pay does not only create incentives for workers to put forth more effort but also acts as a sorting device attracting more productive employees to join the firm. The numbers in Table 7 indicate that this is indeed what the multinationals are doing.

¹¹ Note, however, that stock and listed companies are overrepresented among the multinationals.

Table 7 Pay practices by firm type, 2009

	Danish non-exporters	Danish exporters	Danish owned MNFs	Foreign owned MNFS
<u>Top management:</u>				
Individual bonus	36.4	30.5	50.5	70.4
Team bonus	6.3	8.1	10.6	16.6
Stock options, warrants	4.2	4.6	16.0	15.3
Stock, ESOP	7.1	7.1	16.5	13.3
Profit sharing	13.6	16.8	10.5	10.5
<u>Mid-management:</u>				
Individual bonus	29.1	24.1	45.4	55.1
Team bonus	7.6	5.0	10.3	14.3
Stock options, warrants	1.2	1.1	5.0	4.9
Stock, ESOP	4.7	4.4	8.7	8.5
Profit sharing	5.8	9.6	12.4	9.1
<u>Salaried employees:</u>				
Individual bonus	15.4	12.5	26.4	31.0
Team bonus	6.8	5.5	8.8	15.3
Stock options, warrants	1.2	0.5	1.8	3.0
Stock, ESOP	3.3	3.5	7.4	7.9
Profit sharing	5.4	8.8	10.6	7.4
Qualification pay	25.5	23.1	22.3	28.2
<u>Production workers:</u>				
Individual bonus	6.7	8.7	8.5	8.6
Team bonus	5.0	9.6	12.6	14.6
Stock options, warrants	0.4	0.0	0.0	0.0
Stock, ESOP	1.3	2.4	5.2	3.7
Profit sharing	3.2	6.2	7.0	3.7
Qualification pay	14.6	21.6	18.5	18.5
Piece rates	12.4	7.0	3.5	4.4

One would also expect that the local exporting firms would more often have adopted performance pay systems for their employees for the same reasons as the multinationals. We know that labour and total factor productivity is higher in the exporting firms. From Table 7, we can see that for production workers exporting firms do more often use bonus schemes, stock compensation and

profit sharing (but less piece rate systems), whereas for non-production employees, the use of pay systems does not differ between exporting and non-exporting firms.¹² Note, that this is the same pattern as the one that was observed for the new work practices.¹³

Finally, in *Table 8*, I collect some additional information regarding differences in other HR policies between the four types of firms. From this it can be seen that there are no differences in wherefrom the CEO is recruited; in all four firm categories, a little over 60 per cent of the chief executives are promoted from within the company. In the questionnaire the firms were asked about the proportion of their workforces that was taking part in formal internal training during the preceding year. Here some notable differences surface. For both salaried and hourly paid workers the proportion of the multinational firms that did not provide internal training is more than twice as high as that for the local firms. Likewise, the share of firms that trained less than 50 per cent of their personnel is also considerably lower among the multinationals. The differences between Danish exporting and non-exporting firms are less clear, but overall the numbers suggest that exporters do not seem to train their employees more than non-exporting firms do.

The fact that the multinational firms are much less frequently training their employees is consistent with the notion that they employ more skilled workers, and maybe also spend more time and resources on selecting the right employees for the job.¹⁴ The answers to the question how long it takes before a new production worker can carry out her job do not fit this story, however, as it takes roughly the same (not less) time for those employed in the multinational firms. Nor does it for the salaried employees, for whom it actually takes longer time to learn to perform the job in the multinational (and Danish exporting) firms.

At the bottom of the table we find the proportions of firms that have formal and regular (typically annual) employee evaluations. Most of the firms have employee evaluations and the differences between types of firms and between categories of employees are relatively small. Foreign owned multinationals have them more frequently than other firms (for all employee categories), while

¹² When I further divide the exporting firms (in tables available from the author) into three categories according to the proportion of their turnover that is exported (1-25, 26-75, and 76-100%), I do find that the firms that exports more than three fourths of their turnover use more individual bonus schemes and stock options for their managerial employees than non-exporters, but the differences are not large.

¹³ In fact, the share of exporting firms that have adopted new work practices for their production workers is strongly increasing in the proportion of exports of the firm's turnover.

¹⁴ The survey does not contain questions regarding the firms' hiring behaviour.

the differences between the other types of firms are small. Notably, the Danish owned multinationals as well as exporters appear to evaluate their top managers to a lesser extent than other groups of employees.

Table 8 Other HR differences by firm type, 2009

	Danish non-exporters	Danish exporters	Danish owned MNEs	Foreign owned MNEs
Internally recruited CEO	62.8	63.6	61.2	62.0
Proportion of workforce participating in formal internal training in last year				
<u>Hourly paid workers:</u>				
None	21.6	21.0	59.3	53.2
1-50%	43.3	57.0	24.0	28.2
51-100%	35.1	22.0	16.7	18.6
<u>Salaried employees:</u>				
None	31.9	24.6	53.6	44.5
1-50%	44.5	53.9	33.0	31.4
51-100%	23.6	21.5	13.4	24.1
Time it takes before a new employee can carry out her job				
<u>Hourly paid workers:</u>				
Less than two months	79.3	64.7	71.8	69.7
More than one year	1.5	2.6	1.0	1.7
<u>Salaried employees:</u>				
Less than two months	34.5	24.4	22.1	21.2
More than one year	5.4	6.0	3.3	5.8
Firm has formal, regular evaluations of:				
Top management	86.6	81.7	82.5	91.3
Middle management	86.0	85.4	88.1	94.3
Salaried employees	86.0	86.1	89.5	93.7
Hourly paid workers	77.5	82.9	82.2	85.9

In *Table 9*, I have cut the data in yet another way by distinguishing between five different *ownership types*: stock companies with/out dominating owner(s), co-operatives, limited liability companies (called “anpartsselskaber” in Danish) and family owned firms. An inspection of the table does not reveal clear systematic differences in the adoption rates of different work practices between the types of firms. Thus, family firms do not appear to be lagging behind the other firms with regard to implementation of high performance work practices. As a matter fact, for hourly paid workers, the share of family firms that have adopted them is highest for all practices, save knowledge sharing. The limited liability firms appear somewhat slower than the rest in the introduction of the latest practices: benchmarking and knowledge sharing.

Table 9 Use of work practices by firm ownership type (% of firm type)

Hourly paid workers

	Stock companies Dominating owner(s)	Stock companies Dispersed ownership	Co- operatives	Limited liability firms APS	Family owned firms
Teams	33.1	31.4	21.4	31.1	34.0
Job rotation	32.9	34.0	31.0	30.8	37.2
TQM	9.6	8.0	7.7	11.7	14.5
Quality circles	9.1	5.5	7.7	7.2	12.6
Benchmarking	18.7	13.8	14.6	10.2	19.5
Knowledge sharing	42.8	43.2	63.4	32.7	44.3

Salaried employees

	Stock companies Dominating owner(s)	Stock companies Dispersed ownership	Co- operatives	Limited liability firms APS	Family owned firms
Teams	37.0	39.6	48.0	43.4	38.5
Job rotation	11.6	14.3	11.8	12.1	16.7
TQM	9.5	8.3	7.2	8.5	15.7
Quality circles	6.7	5.9	5.6	6.4	10.7
Benchmarking	21.0	28.6	28.8	11.2	18.3
Knowledge sharing	53.0	61.4	68.1	40.5	52.8

Turning next to pay practices for which the results are set out in *Table 10*, a few things are worth noting. First, the share of stock companies that use performance pay schemes for their non-production workers is higher than for the three other types of firms.¹⁵ Second, among stock companies the absence of dominating owners is accompanied by a considerably more frequent use of stock-based compensation schemes for their employees.¹⁶ This is consistent with the fact that principal-agent problems are likely more severe in widely held stock companies. Third, and unsurprisingly, co-operatives make least use of performance pay systems. Fourth, family owned firms, which are from an international perspective quite common in Denmark (as are co-operatives), use somewhat less bonus schemes than the other firms (save co-operatives). However, the differences seem rather small in view of the oft made claims that family owned firms are particularly poorly managed; see e.g., Bennedsen et al. (2007) and Bloom and van Reenen (2009).

Table 10 Use of pay systems by firm ownership type

Top management

	Stock companies Dominating owner(s)	Stock companies Dispersed ownership	Co- operatives	Limited liability firms APS	Family owned firms
Individual bonus	46.2	48.3	24.7	61.6	40.9
Team bonus	10.2	13.1	2.6	5.6	8.7
Stock options	8.0	21.3	0	8.4	1.6
Stock, ESOP	9.6	21.3	3.8	9.8	2.4

¹⁵ There is one exception, individual bonuses for top managers in limited liability companies.

¹⁶ Limited liability companies' use of pay systems differs little from that of stock companies with dominating owners.

Mid-managers

	Stock companies Dominating owner(s)	Stock companies Dispersed ownership	Co- operatives	Limited liability firms APS	Family owned firms
Individual bonus	37.5	38.1	19.2	29.4	33.9
Team bonus	9.2	12.5	0	9.1	3.9
Stock options	2.1	9.7	0	2.8	0
Stock, ESOP	5.5	15.9	3.8	5.6	0.8

Salaried employees

	Stock companies Dominating owner(s)	Stock companies Dispersed ownership	Co- operatives	Limited liability firms APS	Family owned firms
Individual bonus	20.1	22.7	14.1	18.2	18.9
Team bonus	9.3	10.2	2.6	10.5	3.1
Stock, ESOP	11.5	5.1	0	2.1	0.8
Profit sharing	4.6	13.6	3.8	3.5	0.8

Hourly paid workers

	Stock companies Dominating owner(s)	Stock companies Dispersed ownership	Co- operatives	Limited liability firms APS	Family owned firms
Individual bonus	8.8	6.2	8.0	4.1	5.7
Team bonus	10.2	8.2	5.3	11.5	5.7
Stock, ESOP	2.5	8.2	1.3	1.6	0.8
Profit sharing	5.4	2.7	1.3	1.6	5.5
Piece rates	8.3	6.2	4.0	8.2	8.1

But it should also be noticed that a number studies have shown that family owned firms, especially founder-managed or with professional chief executives, outperform non-family firms; see e.g., Anderson and Reeb (2003), Amit and Villalonga (2006), and Sraer and Thesmar (2007).¹⁷ Finally, family owned firms make clearly less use of stock-based compensation, which is as expected since many of them are not stock companies.

All in all, Tables 6 to 10 paint a somewhat mixed picture of differences in the adoption of work and pay practices across different types of firms. Multinationals stand out as different, especially in their more extensive use of bonus schemes and stock based compensation to non-production employees. Non-exporting firms differ from exporters with respect to the implementation of work and pay practices for production workers but not for other categories of employees. Especially noteworthy is the finding that exporters differ from non-exporters in their use of performance based pay and innovative work practices for their production workers. The exporting firms and the multinationals train their production workers less often than non-exporters do. Taken together these observations suggest that if the differences between exporting and non-exporting firms with respect to productivity and wages – the exporter premium – are related to different work organisations or pay schemes, these are mainly to be found among employees in the production work.

Naturally, the differences observed in the tables above, may be due to differences in the composition of the firms' workforces, their size distribution, industry affiliation, etc. In order to enter these controls in a multivariate analysis, I need to have access to data on firms and their employees from the registers in Statistics Denmark and link them to the questionnaire(s). This is on my research agenda, but at the time of writing this paper the data are not yet available.

¹⁷Sraer and Thesmar (2007) also examine how family firms pay their employees. This has also been done in two recent papers by Bassanini et al. (2011) and Siebert et al. (2011), in which some other aspect family firms' personnel policies are studied as well.

6 Concluding remarks

In this paper, I have made use of data from two surveys to explore empirically the progression of human resource management policies of firms in the Danish private sector during the last two decades. Summing up, I find that the way Danish private sector workplaces are organised has changed appreciably. The introduction of teams, job rotation schemes, TQM and quality circles took off quite strongly in the nineties and have continued to progress in the last ten years. At the same time, benchmarking and knowledge sharing have spread remarkably fast in Danish firms. As a consequence, the share of firms that have implemented some of the new practices has increased substantially.

Alongside changes in work organisation, changes in wage setting, and in particular the adoption of elements of performance related pay in compensation schemes, spread quite rapidly in the nineties, but after that, the share of firms adopting them has grown at a much slower pace. When firms have implemented performance related pay, it seems that in many firms most of the employees are affected. However, information about the proportion of employees covered exists only from recent years and so, we do not know if there has been a change on this margin. The portion it makes up of a typical employee's total pay is mostly below ten per cent.

There are some clear differences between different types of firms with respect to their use of the new work and pay practices. Firms, subject to international competition, that is, multinational companies and Danish exporters have adopted the new work practices for their production workers more often than non-exporters. As for pay practices, Danish as well as foreign owned multinational companies make considerably more use of performance related pay for their managerial employees, and also for other non-production workers. Among firms with operations in Denmark only, exporters have implemented performance pay for their production (but not non-production) workers to a higher extent than the non-exporters.

Among different ownership types, I find, unsurprisingly, clear differences between stock companies that have dominating owners and those that are widely held. Non-production employees in the latter have more often performance pay as part of their compensation. Although

family owned firms make somewhat less use of bonus pay schemes, they do not in general stand out as clear laggards regarding the introduction of the new compensation systems, nor do they when it comes to the adoption of new work practices.

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