The impact of performance related pay on an employee's life

By Hidde Veenstra

Abstract

In this paper, the associations between performance related pay and job fondness, health and the work-life balance of Dutch employees are examined. By using a questionnaire, which was conducted over Dutch employees in the years 2012 and 2014, the associations with performance related pay are examined through several ordinary least squares regressions. From these regressions, it follows that performance related pay is positively correlated with the fondness an employee has for their job, as well as that performance related pay is positively correlated with the health of an employee, and with the number of hours an employee works. Most of these results, however, are of little economic significance.

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I. Introduction

A central theme in economics consists of how people are motivated, and a big part in that theme is reserved for motivating employees through performance related pay. Many papers have examined how employees could become more or less productive through the use of performance related pay. These papers make clear that the response of employees depends on several aspects of the job and the pay scheme. A recent paper by Huffman & Bognanno (2018), for instance, shows that in their experiment, workers with performance related pay are more productive than workers without such pay for as long as they receive such pay, meaning that the productivity of the workers that received performance related pay decreased below the productivity of the control workers when the performance pay was removed. These findings are very interesting, but for all the light that has shined upon the productivity aspect of performance related pay, research on the impact on the life of the employees fell behind. Many authors have examined how performance related pay could make an employee more or less productive, but what the employee thinks of their job after receiving such pay, whether an employee starts working more hours due to this pay or how their health is impacted by this pay, has not been the main focus of many papers. The few papers that, partially, examine these effects, all examine countries other than the Netherlands, adding scientific relevance to the examination of Dutch employees that is done in this paper.

From a societal perspective, the examination of the impact of performance related pay on the life of employees is also important. In the Netherlands, it is estimated that about a third of all employees are paid according to a performance related pay scheme (Sociaal en Cultureel Planbureau, 2015). The objective of such a scheme is to increase productivity, but all consequences of that pay are relevant to evaluate its effectiveness. Since such a large portion of the Dutch society has a performance related pay scheme, it is important to establish how it impacts the life of these employees. The main question in this paper is therefore:

In what way is performance related pay associated with job fondness, health and the work-life balance of Dutch employees?

This question is examined through data obtained through a Dutch questionnaire which was conducted in 2012 and 2014. The subjects for this questionnaire are chosen in such a way that, combined with several weights, the total sample is as representative of the Dutch society as possible.

This paper contributes to research on performance related pay by highlighting the impact of such schemes on personal aspects of employees. It is found that, in the Netherlands, performance related pay is positively associated with the fondness an employee has for their job. A positive association is additionally found between performance related pay and the health of an employee, as well as between performance related pay and the number of hours an employee works. These associations are, except for the association regarding health, in line with other economic, psychologic and management literature.

The paper is organised as follows. In section II, a review of the existing literature on performance related pay is given. In section III, the dataset and relevant variables used for the analyses are discussed, as well as the strategy in these analyses. In section IV, the results and a discussion of these results follows. The paper will be concluded in section V.

II. Literature

Performance related pay (PRP) is used by a firm to influence the productivity of its workforce. By making the pay of employees depend on their performance, they are incentivised to perform better than if they were to receive a flat fee as wage, resulting in higher output if certain conditions are met (Groves, Hong, McMillan, & Naughton, 1994; Lazear, 1986; Lazear, 2000; Banker, Lee, & Potter, 1996; Paarsch & Shearer, 2000; Shearer, 2004). These conditions include the type and design of the scheme, the measurability of effort and performance, the type of work and the characteristics of the firm. In general, however, PRP is said to have a positive effect on the performance of employees. For example, it is found that PRP increases productivity with 9% in the Netherlands (Gielen, Kerkhofs, & Van Ours, 2010). Lazear (1986, 2000) found that the effect of PRP on the output per worker has two components. About half of the increase in output is due to the average worker performing better, whereas the other half of the increase is due to the attainment of highly able workers who are attracted by the piece rate pay.

The percentage of PRP, compared to their normal wage, is vital for whether the employee becomes less or more motivated in response to the stimulant. Gneezy & Rustichini (2000) reason that since contracts are incomplete, employees who receive a flat fee believe that it is expected of them to perform well for this fee, while employees who receive PRP perceive their piece rate as their reference point from which they decide how much effort to exert. If the piece rate is too low, employees will exert less effort than if they were to receive a flat fee. If the employee additionally were to have a high intrinsic motivation for performing well, then even a high piece rate would demotivate them. Moreover, using a model of Bénabou & Tirole (2006) that includes a utility function consisting of valuing extrinsic rewards, joy of doing an activity and caring about public image, Gneezy, Meier, & Rey-Biel (2011) reason that if an extrinsic reward is given for a job for which an employee has intrinsic motivation, they will be seen and feel as if they do their work for the extrinsic reward, which could make the employee exert less effort than if they were not to be paid and be intrinsically motivated to work. This crowding out of intrinsic motivation is also documented by Frey (1997) and by Fehr & Goette (2007), and more recently by Huffman & Bognanno (2018).

Besides motivating less or more, PRP also influences how well employees can do their job. Camerer, Loewenstein & Prelec (2005) find that through a higher PRP, employees who otherwise would conduct their work in an automated and practised manner, start to consciously think about their work, making them less effective and less productive. Moreover, when an employee is more motivated, their attention tends to narrow on a number of dimensions, one of which

being the scope of the solution set they consider (Easterbrook, 1959). When the job of the employee requires an open mind to enable them to examine different elements and make unusual connections between these elements, being more motivated could decrease the ability of the employee to perform well. This mechanism is supported by research conducted by McGraw & McCullers (1979), in which they found that the performance of subjects on tasks that involve problem solving decrease when monetary rewards are added. Both these mechanisms could explain the finding of Ariely, Gneezy, Loewenstein & Mazar (2009), which is that when subjects receive PRP in amounts varying from small to very large, in relation to their normal pay, the subjects who receive the highest pay perform worse than the subjects who receive a low or middle pay.

The aforementioned literature is only a small sample of the total examination on the connection between PRP and productivity, but it brings across the main findings that, most of the time, PRP increases productivity, but that in certain situations, it could also lower productivity. Besides the effect on productivity, it is also very relevant how employees perceive PRP and how it changes their lives. Not much research has been done regarding these effects. For one, it is found that when employees are offered a piece rate, they work more hours than employees who work for a flat fee (Fehr & Goette, 2007). Whether this is a positive or negative effect for an employee depends on their fondness of their job and their ability to fit their job in their personal life. Moreover, the risk component of PRP, in which employees have to bear the variability in the output as a risk with regards to their income, is a part which is often neglected, but nevertheless could lead to work intensification and psychological stress for employees (Lucifora, 2015). In line with this line of thought, Green (2004) showed that in Britain, work has intensified due to the use of PRP. Additionally, since most employees are risk averse,[1] the addition of risk is a negative effect on the utility of these employees. However, since not everyone is risk averse, the addition of risk could be a positive utility effect for employees who like the risk or do not mind it very much. This is in line with the finding of Grund & Sliwka (2010), namely that employees who do not mind bearing risk, are more likely to pick jobs which have a PRP component than employees who are more averse to risk.

According to McCausland, Pouliakas & Theodossiou (2005), the effect of PRP on the job satisfaction of employees depends on how the employee perceives the incentives. If the employee sees the piece rate as a supportive measure taken by their employer, they will feel more autonomous and have a higher self-esteem, thereby increasing their job satisfaction. However, when the employee sees the piece rate as a controlling measure taken by their

[1] Holt & Laury (2002) show that most people are risk averse even when losses and wins are small, where more people become risk averse when the stakes get higher.

employer, the employee will feel less internally driven to perform and also gain less utility from working, thereby decreasing job satisfaction. In their examination, McCausland, Pouliakas & Theodossiou (2005) found that PRP decreased job satisfaction on average, but also that it increased the satisfaction of high-paid workers. Additionally, Green & Heywood (2008) examined five elements of job satisfaction, and found that in the United Kingdom, employees who receive PRP are more satisfied about their hours, their pay and their job security than other employees. Lastly, Brown (2001) found that employees are more satisfied with their pay when they believe that their pay is fair. Since the pay of employees is linked to their performance in a PRP scheme, it would not be surprising for employees to be more satisfied with their pay, and therefore their job, when they receive PRP.

As is also the case with productivity, the effect of PRP on personal aspects of employees depends on several characteristics of the employee and their work. This paper tries to establish a general idea regarding the effects of PRP on the personal life of Dutch employees, and therefore does not incorporate all the different characteristics of every employee and every line of work. Since not much research has been done regarding this effect, especially regarding Dutch employees, a general understanding of it is a useful insight for Dutch employees and Dutch policy makers.

III. Data and Strategy

III.I Data

The dataset used in the following analyses is the Labour Supply Panel from The Netherlands Institute for Social Research.[2] This is a biennial survey, conducted among Dutch citizens regarding different aspects of their life, centralised around the supply of labour and labour conditions. The objective of this survey is to construct a dataset which is a representative sample of the Dutch society. Subjects between the age of 16 and 66 are included in the set, and the examination is done at household level. The survey is constructed as an unbalanced panel dataset, in which it is attempted to follow subjects as long as possible. This means that generally around 25% of the subjects of each survey year is composed of new subjects who did not participate in the survey before. Of the dataset used in this paper, a total of 6560 observations are included, which include 4225 unique subjects and 2335 observations belonging to subjects who have filled in the questionnaire in multiple years.

The years 2012 and 2014 are the years used in the following analyses. These years were chosen, because only in these years the question regarding performance related pay was included. Since for each of these years it was attempted to make the survey a representative sample of the Dutch society, a complementary sample was picked by Statistics Netherlands on the basis of information from the municipal personal records database (GBA). For this complementary sample, 39 layers were developed by considering subjects' age, household situation, primary source of income and whether they lived in The Hague, Amsterdam or somewhere else. Taking these layers into account, a different complementary sample was built for each survey year, making the total survey, from a household perspective, representative again.[3] Additionally, weights were added to the 39 different layers to make the survey representative on an individual level. For each year, the respondents filled in the survey via the internet or via a paper version. After finishing their survey, each respondent received 10 EUR for a filled in internet survey or 7.50 EUR for a filled in paper survey. Every respondent could choose to receive this amount on their bank account, or they could donate it to a charity.

[2] The context provided in this chapter regarding the dataset and survey, is based upon official information provided by The Netherlands Institute for Social Research: https://www.scp.nl/Onderzoek/Bronnen/Beknopte_onderzoeksbeschrijvingen/Arbeidsaanbodpanel_AAP.

[3] Due to the specific attributes of this system of attempting to make the survey a representative sample, it is suspected that too many high-education people are included in the set, and therefore too little low-educated people are included. However, since there was no sufficiently detailed information, on an individual level, regarding the educational levels of the Dutch population available, Statistics Netherlands did not have the ability to take this into account.

Several questions of the survey are used in the following analyses. The main variable of interest, performance related pay, is measured by the responses to the question: 'Have you, in your current job, received a bonus that depended on your performance / an individual bonus in the last year?'. The response is measured by either an affirmative or denying answer. Due to the phrasing of the question, the question also measures whether an employee has high performance. It is therefore necessary to assume that when employees are offered such a bonus, all employees are offered the bonus and that also employees with a lower performance receive at least part of the bonus. Multiple variables are used to construct an overview of how PRP is distributed over Dutch workers. These variables are gender, age, whether one could choose their own workplace, tenure, education, whether one has to perform repetitive simple tasks and firm sector. The variables gender and age do not require any further explanations, while a short description follows in this chapter for the other variables. The variable whether one could choose their own workplace is measured by the responses to the question: 'For your job, can you determine yourself where you work (at home, at an office provided for by your employer, somewhere else)?'. The response is measured by either an affirmative or denying answer and all subjects gave a response to this question. The variable tenure is constructed for each subject by deducting the first year of employment with their current employer from the year of the survey. A total of 5788 subjects provided sufficient information for this construction. The variable education is constructed through responses to the question: 'What is the highest education for which you obtained a diploma?'. A total of 6532 subjects answered this question. The variable whether one has to perform repetitive simple tasks is measured by the responses to the question: 'For your job, do you repeatedly have to perform the same simple duties?'. The response is measured by either an affirmative or denying answer and all subjects gave a response to this question. Lastly, firm sector is constructed through responses to the question: 'What industry does the company where you currently work operate in?'. The response is measured via ten predetermined answer possibilities, where a total of 6510 subjects provided an answer for this question.

Other variables are used to examine the correlations between PRP and employee job fondness, health and personal life. For employee job fondness, the variables used are how fun an employee thinks their job is, whether an employee is searching for a different job and how satisfied an employee is with their job. The first variable, how fun an employee rates their job, is constructed through the responses to the statement: 'My job is fun on a substantive level'. The response is measured on a five-point scale ranging from 'complete disagreement' to 'complete agreement'. The second variable, whether an employee is searching for a different job, is measured by the responses to the question: 'Are you currently actively searching for a different job?'. The response

is measured by either an affirmative or denying answer. The third variable, how satisfied an employee is with their job, is constructed through the responses to the statement: 'How satisfied are you, taking everything into consideration, with your job?'. The response is measured on a four-point scale ranging from 'not satisfied at all' to 'very satisfied'.

For the examination of employee health, the health and weariness of employees is used as relevant variables. The main interesting variable is the health variable, but the weariness variable is added to provide a possible insight in how health and PRP could be correlated. The health variable is measured by the responses to the question: 'How, in general, is your health?'. The response is measured on a five-point scale ranging from 'very bad' to 'very good'. The weariness variable is constructed through the responses to the question: 'To what extent can it be said that you feel weary after getting out of bed on a workday?'. The response is measured on a five-point scale ranging from 'complete disagreement' to 'complete agreement'.

Three variables are used for the examination of the work-life balance of an employee, namely how many hours an employee in general actually works, how satisfied an employee is about his workhours and how able an employee thinks they are in fitting their workhours in their home environment. The first variable, how many hours an employee in general actually works, is measured by the responses to the question: 'How many hours do you actually generally work per week?'. The respondent is free to answer any number between 0 and 90. The second variable, how satisfied an employee is about his workhours, is constructed through the responses to the question: 'Are you satisfied with the number of hours you work?'. The response is measured by either an affirmative or denying answer. The third variable, how able an employee thinks they are in fitting their workhours in their home environment, is measured by the responses to the statement: 'I am able to fit my workhours well in my home environment'. The response is measured on a five-point scale ranging from 'complete disagreement' to 'complete agreement'.

III.II Strategy

In the first part of the following chapter, an overview of how PRP is distributed over Dutch workers is constructed through several figures. For every figure, a characteristic is chosen for which the differences in percentages of employees who receive PRP is shown. The characters chosen for these figures are gender, age, tenure, education, firm sector, whether one could choose their own workplace and whether one has to perform repetitive simple tasks. The characteristics gender, age and education are included as to give a general overview of the workers who have PRP. The characteristic tenure is added since it can be expected that workers who have PRP stay longer with their firm than workers who do not have this, because PRP tends

to increase the loyalty of workers for their firm (Lucifora, 2015). The characteristic firm sector is included since employees in different sectors might react differently to PRP. Certain industries are prone to have workers who are very intrinsically motivated to work, for example the nursing and teaching sector, and since monetary incentives tend to crowd out intrinsic motivation, it could be expected that PRP is used less in these sectors in comparison to other sectors (Frey, 1997; Frey & Oberholzer-Gee, 1997). The characteristic whether an employee has to perform repetitive simple tasks is added since the nature of the tasks of the job are relevant for the effectiveness of PRP. More difficult tasks could be too difficult to observe or could involve some kind of multitasking, making them unsuitable for PRP (Prendergast, 1999). On the other hand, when the effort put into these simple tasks is very easy to monitor by the employer and many workers might be suitable for doing this kind of job, the employer could just monitor the progress of the employee and fire them when they do not perform well, making PRP not suitable for jobs with simple tasks. The last characteristic, whether an employee could choose their own workplace, is included since an employee who does not work at a place at which the employer could easily monitor the effort of the employee, could be less motivated to put much effort into their job. As a way of motivation, it could therefore be expected that workers who can choose their own workplace, are more likely to have PRP than workers who have a fixed workplace.

After these figures, the characteristics used in these figures will come together as independent variables in two ordinary least squares regressions on PRP. The first regression will show how age, gender, firm industry, education and tenure are correlated with PRP, whereas the second regression adds whether one could choose their own workplace and whether one has to perform repetitive simple tasks to these variables. This distinction has been made since this way the first regression only considers characteristics of the person,[4] whereas the second regression also adds characteristics of the job. Robust standard errors are reported in the regressions to correct for heteroskedasticity, since the variability of the mentioned variables across the two values of PRP is likely to be unequal.

In the second part of the following chapter, the correlations between PRP and employee job fondness, health and personal life are examined through different ordinary least squares regressions. When subjected to PRP, employees either perceive the incentives as supportive or controlling. This perception makes the difference in whether the employee will value the PRP as negative or positive (McCausland, Pouliakas, & Theodossiou, 2005). However, combined with the finding that employees are more satisfied about their pay when they believe their pay is fair and the findings of higher job satisfaction in the UK due to PRP, and that employees might like

[4] The industry of the firm could be seen as the characteristic of the firm, but since the employee is working for this firm, it is also the industry in which the employee works, and therefore it is also a characteristic of the person.

the challenge to perform better, the first hypothesis is that an employee with performance related pay likes their job more, searches less for a different job and has a higher job satisfaction than other employees. On the other hand, when employees have a PRP scheme, their payoff depends on their effort, making it uncertain for them how much they will earn. Due to the uncertainty, an employee will feel more stress (Lucifora, 2015).[5] The second hypothesis is therefore that an employee with PRP is more fatigued and has worse health than an employee without such pay. Regarding the work-life balance of an employee, it is found that employees with PRP tend to work more hours (Fehr & Goette, 2007). Since employees choose to work more hours, it can also be expected that they will be more satisfied about their hours. Additionally, due to the higher number of workhours, the workhours take up a larger part of the life of an employee and it is therefore expected that the fit between workhours and the personal life of an employee will worsen. The third hypothesis therefore is that an employee with performance related pay will work more hours, be more satisfied about their workhours and have a worse fit between their workhours and their personal environment than other employees.

In every regression, controls are added for gender, age, tenure, education, firm sector, whether one could choose their own workplace and whether one has to perform repetitive simple tasks. Additionally, for every regression, robust standard errors are reported to correct for heteroskedasticity. The original data is slightly altered to centre it around the relevant population and make it usable for the analyses. This means that only employees, both in the private and public sector, were included in the dataset, whereas for instance students and unemployed persons were removed. For every variable, all values that were equivalent to 'no opinion' or 'I do not know' were replaced by missing values. Table 1 shows the descriptive statistics of all variables of the dataset, after they were slightly altered.

[5] For this to be the case, it is assumed that the employee is risk averse, which is not unexpected.

Table 1

Descriptive statistics

	Number of observations	Mean	Standard Deviation	Minimal value	Maximal value
Age	6560	41.67	13.650	16	66
Female	6560	0.52	0.500	0	1
Firm industry	6510	6.00	2.409	1	10
Education	6532	4.28	0.983	2	6
Tenure	5778	11.69	10.537	0	45
Simple work	6558	0.40	0.489	0	1
Workplace choice	6560	0.21	0.407	0	1
Pay for performance	5437	0.15	0.360	0	1
Fun job	5806	4.18	0.806	1	5
Job searching	5345	0.13	0.331	0	1
Job satisfaction	6556	2.27	0.639	0	3
Weary	5793	2.20	1.046	1	5
Health	5811	3.97	0.687	1	5
Actual hours	6544	30.62	12.212	0	90
Satisfied about hours	5813	0.85	0.361	0	1
Home-work fit	5794	3.86	1.000	1	5

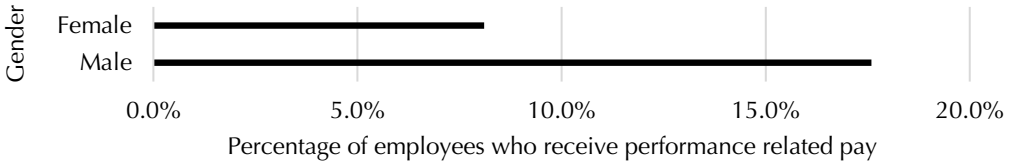
Notes: The variable *fun job* is constructed by answers to the question whether one thinks their job, on a substantive level, is fun. The variable *job searching* is constructed by answers to the question whether one has been searching for a different job in the last 12 months. The variable *job satisfaction* is constructed by answers to the question how satisfied one is with their job. The variable health is constructed by answers to the question how one rates their general health, where a rating of 5 corresponds to a very good health, and a rating of 1 to a very bad health. The variable *weary* is constructed by answers to the question whether one feels weary after getting out of bed on a workday. The variable *actual hours* is constructed by answers to the question how much one actually works. The variable *satisfied about hours* is constructed by answers to the question whether one is satisfied with the number of hours they work. The variable *work-home fit* is constructed by answers to the question whether one thinks that their work hours fit well with their home environment. The industries included in the firm industry controls are agriculture, industrial, construction, trade/repair/catering, transport, business services, care and wellbeing, government, teaching and other services. The *simple work* controls include whether an employee has to perform repetitive simple tasks. The *workplace choice* controls include whether an employee can choose their own workplace.

IV. Results and Discussion

IV.I Distribution over Dutch workers

In figures 1 to 7, different characteristics of employees are examined to provide an overview of how performance related pay is distributed over Dutch workers. These figures show the percentages of workers of that characteristic who have PRP. As is discussed in the previous chapter, the characteristics that are included in these analyses are gender, age, whether one could choose their own workplace, tenure, education, whether one has to perform repetitive simple tasks and firm sector. In figure 1, the employees are divided by gender. From this figure, it follows that the concentration of male employees with PRP is almost twice as high as the concentration for female employees.

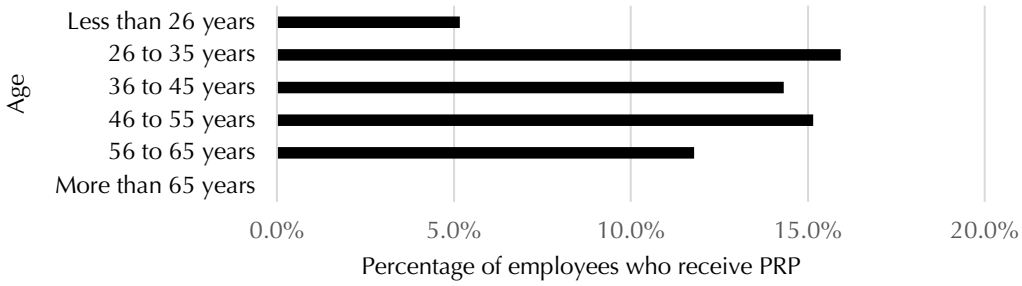
Figure 1
Performance related pay differences in gender



A total of 6560 Dutch employees are included in this figure, of which 3381 are female and 3179 are male. For each gender, the number of employees who receive performance related pay is divided by the number of employees of that gender.

In figure 2, the employees are categorised by different age groups. This figure shows that, in comparison to the other age groups, relatively few employees at the age below 26 have a PRP scheme. It also shows that employees in the age group of 26 to 35 years old, are relatively the largest group of employees who receive PRP.

Figure 2
Performance related pay differences in age



A total of 6560 Dutch employees are included in this figure, of which 1179 are 25 years old or younger, 1042 are between 26 and 35 years old, 1305 are between 36 and 45 years old, 1855 are between 46 and 55 years old, 1170 are between 56 and 65 years old and 9 are 66 years old or older. None of the employees of 66 years old or older received performance related pay. For each age, the number of employees who receive performance related pay is divided by the number of employees of that age.

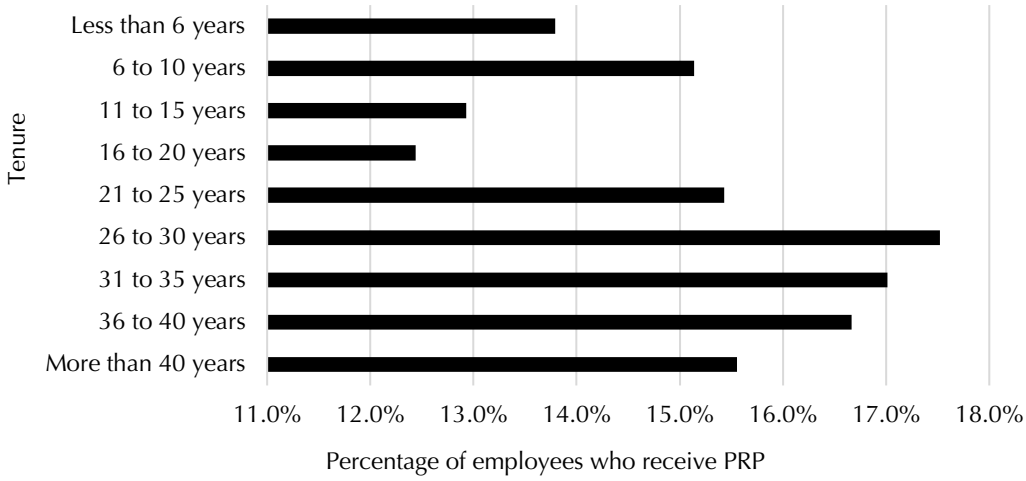
Whether employees have the freedom to choose their own workplace, is the relevant categorisation in figure 3. This figure shows that when employees can choose their own workplace, the concentration of employees with PRP is almost three times higher than when employees cannot pick their workplace.

Figure 3
Performance related pay differences in workplace choice

For this figure, it is examined how the use of performance related pay differs for employees who can choose at which place they want to perform their work. A total of 6560 Dutch employees are included in this figure, of which 1370 employees have the ability to choose their own workplace, and 5190 employees did not. For each group, the number of employees who receive performance related pay is divided by the number of employees of that group.

In figure 4, the workers are divided by their tenure. No linear line is visible for tenure, but it is clear that the lowest concentration of workers with PRP is observed for workers with a tenure of 16 to 20 years. On the other hand, for workers with a tenure of 26 to 30 years, the highest concentration of workers with PRP is observed. After this peak, the concentration of workers with PRP keeps declining.

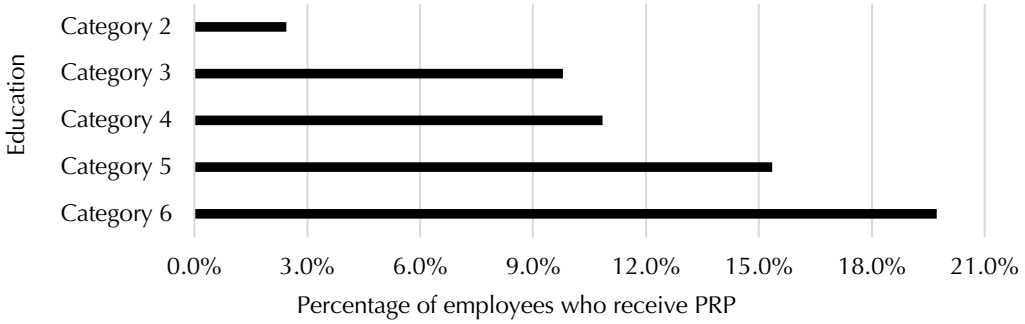
Figure 4
Performance related pay differences in tenure



A total of 5788 Dutch employees are included in this figure, of which 2168 had a tenure of less than 5 years, 1057 had a tenure of 6 to 10 years, 897 had a tenure of 11 to 15 years, 426 had a tenure of 16 to 20 years, 473 had a tenure of 21 to 25 years, 331 had a tenure of 26 to 30 years, 241 had a tenure of 31 to 35 years, 150 had a tenure of 36 to 40 years and 45 had a tenure of more than 40 years. For each group, the number of employees who receive performance related pay is divided by the number of employees of that group.

In figure 5, the employees are categorised by their education. The five education categories which are used, are the same as the ones discussed in the previous chapter. From this figure, it follows that the higher the education level, the higher the percentage of employees with PRP is. At its lowest point of 2.4%, the employees have an education corresponding to primary school, whereas on its highest point of 19.7%, the employees have had an education at a university.

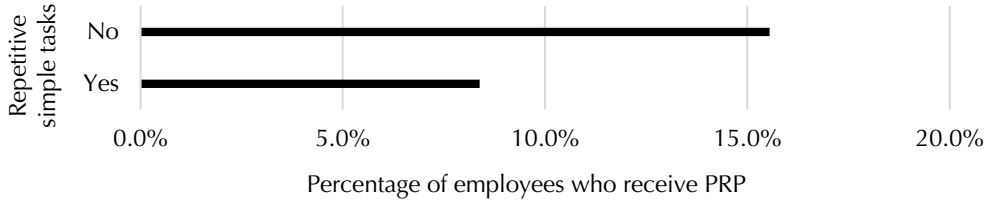
Figure 5
Performance related pay differences in education



A total of 6532 Dutch employees are included in this figure, of which 205 have an education of category 2, 1093 have an education of category 3, 2691 have an education of category 4, 1752 have an education of category 5 and 791 have an education of category 6. For each category, the number of employees who receive performance related pay is divided by the number of employees of that category. Each category corresponds with a certain level of the Dutch education system: category 2 corresponds with primary school, category 3 with "vmbo/lbo/mavo", category 4 with "mbo/havo/vwo", category 5 with an education at a university of applied sciences and category 6 with an education at a university.

Whether employees have to perform repetitive simple tasks during their job, is the relevant categorisation in figure 6. This figure shows that the concentration of employees with PRP for employees who do not have to perform repetitive simple tasks is almost twice as high as the concentration for employees who do have to perform these tasks.

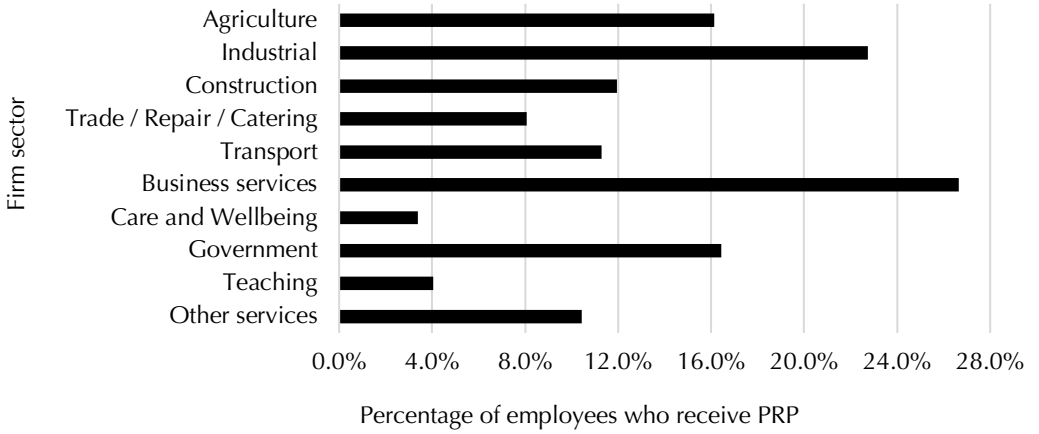
Figure 6
Performance related pay differences in repetitive simple tasks.



For this figure, it is examined how the use of performance related pay differs for employees who have to perform repetitive simple tasks during their job. A total of 6560 Dutch employees are included in this figure, of which 2603 have to perform repetitive simple tasks, and 3957 do not. For each group, the number of employees who receive performance related pay is divided by the number of employees of that group.

The categorisation in figure 7 is by firm sector. From this figure, it follows that in the business services and industrial sector the highest concentration of workers with PRP is observed, whereas the lowest concentration is seen in the teaching and care & wellbeing sector.

Figure 7
Performance related pay differences in firm sectors



A total of 6510 Dutch employees are included in this figure, of which 62 work in agriculture, 686 work in the industrial sector, 251 work in construction, 1102 work in trade/repair/catering, 372 work in transport, 1114 work in business services, 1392 work in the care and wellbeing sector, 590 work for the government, 644 work as a teacher and 297 work in a different sector. For each group, the number of employees who receive performance related pay is divided by the number of employees of that group.

In table 2, the results of a linear probability regression with the aforementioned variables is presented. Following the second column, a statistically significant negative correlation is found between age and PRP. This correlation is very small, but still significant at the 0.05 level. Figure 2 shows that when age is singularly considered, there is a distinct difference between the different age groups regarding the percentage of employees who receive PRP. Since the different age groups have different levels of PRP, the exact relationship between age and PRP cannot be found through a linear model, but both the table and the figure show that age has a significant correlation with PRP. Additionally, the second column shows a highly statistically significant negative correlation between female and PRP, which is in line with figure 1. Moreover, following the second column, in comparison to the Agricultural sector, a highly statistically significant negative correlation is found between PRP and the Care and Wellbeing sector, as well as PRP and the Teaching sector. This also follows from figure 7.[6] Furthermore, column 1 shows highly

[6] The Government sector has a highly statistically significant negative correlation with PRP in the first column of table 2, but this significance weakens to a weak significance in the second column due to the addition of two highly statistically significant variables. This change could be explained if more governmental workers who receive PRP also have to perform simple repetitive work than workers with PRP in the Agriculture sector. Since the effect of simple work is incorporated into the relationship between the Government sector and PRP in column 1, this relationship in column 1 paints a different picture than figure 7.

statistically significant positive correlations between the education at a University of applied sciences and PRP, and between the education at a University and PRP. These significance levels, however, become weaker in column 2, where only a weakly statistically significance is found between the education at a University and PRP. Additionally, column 2 shows a highly statistically significant positive correlation between tenure and PRP. Figure 4 shows that when tenure is individually considered, there is a distinct difference between the different tenure groups regarding the percentage of employees who receive PRP, making it difficult to find the exact relationship between tenure and PRP through a linear model. However, both the table and the figure show a significant relationship between tenure and PRP. Column 2 also shows that a highly statistically significant negative correlation is found between whether employees have to perform repetitive simple tasks during their job and PRP, which is in line with figure 6. Lastly, following column 2, a highly statistically significant positive correlation is found between whether employees have the freedom to choose their own workplace and PRP, which is in line with figure 3. From the combination of table 2 with the figures above, it is likely that the aforementioned variables have some relevance to the examination of PRP, and that therefore all these variables should be included as control variables in the analyses in part II.

Table 2

OLS regression regarding performance related pay

	Dependent variable: Performance related pay	
	(1)	(2)
Age	-0.001 (0.000)	-0.001** (0.000)
Female	-0.046*** (0.011)	-0.039*** (0.011)
Firm industry		
Industrial	0.008 (0.070)	-0.010 (0.070)
Construction	-0.122* (0.071)	-0.129* (0.072)
Trade / repair / catering	0.085 (0.069)	-0.083 (0.070)
Transport	-0.112 (0.070)	-0.109 (0.070)
Business services	0.038 (0.069)	0.012 (0.070)
Care and wellbeing	-0.197*** (0.068)	-0.192*** (0.069)
Government	-0.227*** (0.069)	-0.117* (0.071)
Teaching	-0.094 (0.070)	-0.220*** (0.070)
Other services	-0.122* (0.071)	-0.138* (0.072)
Education		
Vmbo/lbo/mavo	0.038 (0.036)	0.029 (0.036)
Mbo/havo/vwo	0.066* (0.036)	0.040 (0.036)
University of applied sciences	0.116*** (0.036)	0.059 (0.037)
University	0.146*** (0.038)	0.068* (0.038)
Tenure	0.002*** (0.001)	0.002*** (0.001)
Simple work		-0.036*** (0.010)
Workplace choice		0.124*** (0.014)
Number of observations	5,355	5,353
R^2	0.0878	0.1086

Notes: Robust standard errors, which control for heteroskedasticity, are included between parentheses. In the first regression, only characteristics of the employee and firm are included. In the second regression, two job characteristics are added. The *simple work* variable includes whether an employee has to perform repetitive simple tasks. The *workplace choice* variable includes whether an employee can choose their own workplace. The industries included in the firm industry variable are agriculture, industrial, construction, trade/repair/catering, transport, business services, care and wellbeing, government, teaching and other services.

*** Indicates statistical significance at the 0.01 level.

** Indicates statistical significance at the 0.05 level.

* Indicates statistical significance at the 0.10 level.

IV.II Employees' job fondness, health and personal life

In tables 3 to 5, correlations between PRP and employees' job fondness, health and personal life are examined through ordinary least squares regressions. In each analysis, controls are added for the characteristics examined in the first part, which are gender, age, education, firm sector, tenure, whether the employee needs to perform repetitive simple tasks and whether the employee can choose their own workplace. Since in the previous part, for each of these variables different connections with PRP were observed, the possibility exists that these controls have an effect on the dependent as well as the independent variable, making it relevant to control for them in the analysis.

In table 3, job fondness of employees is examined through three different variables, namely how fun an employee thinks their job is, whether an employee is searching for a different job and how satisfied an employee is with their job. Following the first analysis in table 3, a highly statistically significant positive correlation is found between PRP and how fun an employee thinks their job is. This correlation shows that when an employee receives PRP, they think their job is 3% more fun. Following the second analysis, a weakly statistically significant negative correlation is found between PRP and whether an employee is searching for a new job. This analysis shows that when an employee receives PRP, they are 2.3% less likely to search for a new job. Lastly, the third analysis shows a statistically significant positive correlation between PRP and how satisfied an employee is with their job. Following this correlation, an employee who receives PRP is 2.7% more satisfied about his job than an employee who does not receive PRP.

These three analyses combined show that performance related pay is positively correlated with job fondness of employees. These results provide correlated proof to accept the first hypothesis. Furthermore, the correlations of fun job, job searching, and job satisfaction are in line with other theoretical and empirical research by Brown (2001) and Green & Heywood (2008). These correlations are, however, of little economic significance. The standard deviations of the log of fun job, job searching, and the log of job satisfaction are 0.242, 0.331 and 0.301 respectively. In light of these standard deviations, the correlations of these variables are particularly small and therefore of little economic significance.

Reverse causality could further impose a problem for the interpretation of this correlation, since it could be possible that because employees are more fond of these jobs, the employer starts introducing PRP schemes into these jobs. However, this is less likely than a PRP scheme leading to an increase in job fondness, since it is unlikely that employees who like their job need the additional motivation provided through PRP to perform well. Workers who are fond of their job

are motivated to perform well because they like what they are doing, making it unlikely that especially in those jobs, employers start to introduce PRP. Furthermore, following the aforementioned literature, PRP can make an employee feel more autonomous and give them a higher self-esteem. Additionally, the employees might like the challenge to perform better, and they could believe their pay is fairer. Since it is not clear what the underlying mechanism would be for employees introducing PRP schemes into jobs where employees have a higher job fondness, it is most likely that the correlation found between PRP and job fondness functions through PRP positively influencing job fondness, albeit a small influence.

Table 3

OLS regressions regarding employee job fondness.

	Dependent variable: log (Fun job)	*Dependent variable: Job searching*	*Dependent variable: log (Job satisfaction)*
	(1)	(2)	(3)
Performance related pay	0.030*** (0.008)	-0.023* (0.013)	0.027** (0.012)
Gender controls	Yes	Yes	Yes
Age controls	Yes	Yes	Yes
Education controls	Yes	Yes	Yes
Firm industry controls	Yes	Yes	Yes
Tenure controls	Yes	Yes	Yes
Simple work controls	Yes	Yes	Yes
Workplace choice controls	Yes	Yes	Yes
Number of observations	5,346	4,911	5,301
R^2	0.0816	0.0563	0.0402

Notes: Robust standard errors, which control for heteroskedasticity, are included between parentheses. The dependent variable in regression 1, fun job, is constructed by Dutch employees giving a rating on how fun they think their job, on a substantive level, is. A higher grade in this case corresponds to a more fun job. The dependent variable in regression 2, job searching, is constructed by Dutch employees answering the question whether they are searching for a different job. The dependent variable in regression 3, job satisfaction, is constructed by Dutch employees answering the question how satisfied they are with their job. A higher grade in this case corresponds to being more satisfied. The *simple work* controls include whether an employee has to perform repetitive simple tasks. The *workplace choice* controls include whether an employee can choose their own workplace. The industries included in the firm industry controls are agriculture, industrial, construction, trade/repair/catering, transport, business services, care and wellbeing, government, teaching and other services.

*** Indicates statistical significance at the 0.01 level.

** Indicates statistical significance at the 0.05 level.

* Indicates statistical significance at the 0.10 level.

In table 4, the health of an employee is examined through two different variables, namely how well an employee rates their health and how weary an employee feels after getting out of bed on a workday. The main interesting variable is the health variable, but the weary variable is added to provide a possible insight in how PRP and health could be correlated. Following the first analysis in table 4, a highly statistically significant positive correlation is found between PRP and the health of an employee. This analysis shows that, when an employee receives PRP, they rate their health 2% higher than an employee who does not receive PRP. Following the second analysis, a weakly statistically significant negative correlation is found between PRP and whether an employee feels weary after getting out of bed on a workday. This correlation shows that when an employee receives PRP, they feel 3.3% less weary at the beginning of their workday than an employee who does not receive PRP. The results of table 4 are not very large, and when compared to the standard deviations of the log of health and the log of weariness, which are 0.192 and 0.492 respectively, it shows that these results are not particularly economically significant either.

Since it is presumable that weariness has a negative effect on the health of a person, the 2% increase in health could be explained by the 3.3% decrease in weariness. However, since weariness is only one of the determinants of health, it is more likely that the health of a person is influenced by PRP in more ways than only weariness. Nonetheless, weariness still provides a way through which PRP and health are connected. These results reject the second hypothesis and contradict the notion that, on average, employees were to have worse health due to the increase in stress. The increase in job security found by Green & Heywood (2008) as well as the increase in job fondness mentioned previously, could partially explain the positive effect of PRP on health. Additionally, since employees who do not mind bearing risk are more likely to pick jobs which have a PRP component than other employees, the predicted increase in stress due to the added risk might be less applicable than expected.

Since it could be possible that because employees who have a better health or are less weary, are quicker to be introduced to a PRP scheme by their employer, the interpretation of these correlations could by obstructed by reverse causality. However, this is less likely than a PRP scheme leading to the decrease in weariness and increase in health. Following the aforementioned research, due to PRP, employees feel a higher security of their job, which decreases their stress and could increase their health. Additionally, employees are more fond of their job and this could make them less weary to go to work and increase their health. Since it is not clear what the underlying mechanism would be for employers introducing PRP schemes into jobs where employees are less weary or have a better health, it is most likely that PRP has a positive influence on the weariness and health of employees.

Table 4

OLS regressions regarding employee health.

	Dependent variable: log (Health)	*Dependent variable: log (Weary)*
	(1)	(2)
Performance related pay	0.020*** (0.007)	-0.033* (0.019)
Gender controls	Yes	Yes
Age controls	Yes	Yes
Education controls	Yes	Yes
Firm industry controls	Yes	Yes
Tenure controls	Yes	Yes
Simple work controls	Yes	Yes
Workplace choice controls	Yes	Yes
Number of observations	5,351	5,337
R^2	0.0423	0.0247

Notes: Robust standard errors, which control for heteroskedasticity, are included between parentheses. The dependent variable in regression 1, health, is constructed by Dutch employees answering the question how they rate their general health, whereby a 5 corresponds to a very good health, and a 1 to a very bad health. The dependent variable in regression 2, weary, is constructed by Dutch employees answering the question how weary they feel after getting out of bed on a workday, whereby a 5 corresponds to being very weary, whereas a 1 to not weary at all. The *simple work* controls include whether an employee has to perform repetitive simple tasks. The *workplace choice* controls include whether an employee can choose their own workplace. The industries included in the firm industry controls are agriculture, industrial, construction, trade/repair/catering, transport, business services, care and wellbeing, government, teaching and other services.

*** Indicates statistical significance at the 0.01 level.

** Indicates statistical significance at the 0.05 level.

* Indicates statistical significance at the 0.10 level.

In table 5, the work-life balance an employee is examined through three different variables, namely how many hours an employee actually generally works, how satisfied an employee is about his workhours and how able employees thinks they are in fitting their workhours in their home environment. Following the first analysis in table 5, a highly statistically significant positive correlation is found between PRP and the number of hours an employee actually works. This correlation shows that when an employee has a PRP scheme, they tend to work almost two hours more a week than an employee who does not have such a scheme. The standard deviation of the variable actual hours is 12.212, making the correlation particularly small. However, since two hours is a meaningful part of a workweek for most people, this result is still of some economic significance.

Following the second analysis, a statistically insignificant positive correlation is found between PRP and whether an employee is satisfied about their work hours. Following the third analysis, a weakly statistically significant positive correlation is found between PRP and whether an employee thinks they are able to fit their workhours well in their home environment, indicating that an employee with PRP thinks his workhours fit 2.3% better with their home environment than an employee without PRP. Since 2.3% is a small shift, and the standard deviation of the log of home-work fit amounts to 0.339, this correlation is of little economic significance.

These analyses combined show that PRP is highly correlated with the employee working more hours and weakly correlated with the employee having a better fit between their workhours and their home environment. The third hypothesis can therefore only be partially accepted. The positive correlation between PRP and workhours is also something that is found by Fehr & Goette (2007) and Green (2004). It is noteworthy that while employees with PRP tend to work more hours, they also think they have a better fit between their workhours and their home environment. This could be explained by the phenomenon that due to the PRP, the employee receives more freedom in choosing at which hours they would like to work, making it easier for them to fit their workhours around their home environment.

Reverse causality could also impose a problem for the interpretation of this correlation, since it could be possible that because employees work more hours, the employer starts introducing PRP schemes into these jobs. However, this is less likely than a PRP scheme leading to an increase in workhours. Following the aforementioned research, employees tend to like their job more when they receive PRP, which could make them more prone to work more hours. It is not clear what the underlying mechanism would be for employers introducing PRP schemes into jobs where employees work more hours, so it is most likely that PRP has a positive influence on the workhours of employees.

Table 5

OLS regressions regarding work-life balance of an employee.

	Dependent variable: Actual hours	*Dependent variable: Satisfied about hours*	*Dependent variable: log (Work-home fit)*
	(1)	(2)	(3)
Performance related pay	1.926*** (0.286)	0.008 (0.013)	0.023* (0.012)
Gender controls	Yes	Yes	Yes
Age controls	Yes	Yes	Yes
Education controls	Yes	Yes	Yes
Firm industry controls	Yes	Yes	Yes
Tenure controls	Yes	Yes	Yes
Simple work controls	Yes	Yes	Yes
Workplace choice controls	Yes	Yes	Yes
Number of observations	5,343	5,353	5,338
R^2	0.3840	0.0225	0.0582

Notes: Robust standard errors, which control for heteroskedasticity, are included between parentheses. The dependent variable in regression 1, actual hours, is constructed by Dutch employees answering the question how much they actually generally work each week. The dependent variable in regression 2, satisfied about hours, is constructed by Dutch employees answering the question whether they are satisfied with the number of hours they work. The dependent variable in regression 3, work-home fit, is constructed by Dutch employees answering the question how well they think they are able to fit their workhours in their home environment. A higher grade corresponds to a better fit. The *simple work* controls include whether an employee has to perform repetitive simple tasks. The *workplace choice* controls include whether an employee can choose their own workplace. The industries included in the firm industry controls are agriculture, industrial, construction, trade/repair/catering, transport, business services, care and wellbeing, government, teaching and other services.

*** Indicates statistical significance at the 0.01 level.

** Indicates statistical significance at the 0.05 level.

* Indicates statistical significance at the 0.10 level.

V. Conclusion

In this paper, the association between performance related pay and job fondness, health and the work-life balance of Dutch employees is examined. Other research has mostly focussed on the productivity gains or losses of performance related pay, making the perspective of this paper, especially for the Netherlands, a bit unconventional. Following other, international, research on the topic of employee implications of performance related pay, it is hypothesised that an employee with performance related pay likes their job more, searches less for a different job and has a higher job satisfaction than other employees. It is also hypothesised that an employee with PRP is more fatigued and has worse health. The last hypothesis forms the expectation that an employee with performance related pay will work more hours, be more satisfied about their workhours and have a worse fit between their workhours and their personal environment.

The data used to examine these hypotheses is gathered from a Dutch questionnaire which was conducted in 2012 and 2014. In this survey, Dutch citizens were asked questions regarding different aspects of their life, centralised around the supply of labour and labour conditions. The survey is constructed in such a way that it was attempted to make it a representative sample of the Dutch society. Since the data is gathered from a questionnaire, several drawbacks need to be mentioned regarding the analyses. One of the shortcomings of a survey is that only the opinions of subjects are gathered, which in turn are based upon recollections. Since opinions could be vastly different from the actual facts, the results based on opinions are likely to be biased. Moreover, subjects could differ in their interpretation of the questions and due to the many questions, it is possible that subjects did not answer all the questions truthfully.

The data is used in two different parts to test the hypotheses. First, an overview is constructed regarding the distribution of performance related pay over Dutch employees. In this part, it became clear that all variables used, which are gender, age, tenure, education, firm sector, whether one could choose their own workplace and whether one has to perform repetitive simple tasks, are relevant in an analysis regarding performance related pay. In the second part, these variables are used as control variables in eight different ordinary least squares regressions. From these regressions, it follows that performance related pay is positively correlated with the fondness an employee has for their job. It also follows that performance related pay is positively correlated with the health of an employee, as well as with the number of hours an employee works. All these results are, except for the correlation regarding the actual workhours, of little economic significance.

It is important to get a clear image on how performance related pay impacts the life of an employee. This paper has established a part of this image, but much is still left to examine in future research. For one, this paper has not taken into account the self-selection by employees who want to have a performance related pay scheme, while it would be informative to do so. Additionally, this paper only examines a few aspects of the life of employees, and for a full understanding of all the consequences of performance related pay and its effectiveness, more aspects need to be examined. Lastly, the data used in this study was gathered over only two years, restricting the possibilities of the empirical strategy. It is likely that several variables are omitted which might be relevant. To control for this, a fixed effects regression would be ideal as empirical strategy. It is therefore advised to examine the impact of performance related pay over a longer period of time, making it possible for people to switch between positions with and without such pay.

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