Ageing and Employers' Perceptions of Labour Costs and Productivity: A Survey Among European Employers

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ABSTRACT

Purpose: This paper examines employers' perceptions of changes in the labour cost-productivity gap due to the ageing of the workforce, the effects of tenure wages and employment protect ion on the perceived gap, and whether a perceived labour cost-productivity gap affects employers' recruitment and retention behaviour towards older workers.

Methodology: We analyse surveys administered to employers in Denmark, France, Germany, Italy, the Netherlands, Poland and Sweden.

Findings: Approximately half of employers associate the ageing of the personnel with a growing gap between labour costs and productivity. Both the presence of tenure wages and employment protection rules increase the probability of employers perceiving a widening labour cost-productivity gap due to the ageing of their workforce. A counterfactual shows that even when employment protection and tenure wage systems are abolished, 40 percent of employers expect a net cost increase. The expected labour cost-productivity gap negatively affects both recruitment and retention of older workers.

Originality: The wage-productivity gap is examined through the perceptions of employers using an international comparative survey.

KEYWORDS *Older workers, labour costs, labour productivity, ageing, employers, tenure, seniority wages, retirement*

1. Introduction

Employers play a key role in older workers' labour mobility and possibilities to retain their jobs. Barriers for employers to hire or retain older workers are often attributed to an increasing wage-productivity gap. For instance, the OECD (2006) states 'To the extent that labour costs of older workers rise faster than their productivity, employers may be reluctant to either retain workers beyond a certain age or hire older workers' (p.67). In this paper we examine the perceived consequences of an ageing staff on labour costs and productivity, and whether such perceptions are related to employers' behaviour towards older workers.

Various methods have been used to examine the relationship between age, wages and productivity. Many studies use matched worker-firm datasets linking age-earnings profiles to plant-level production functions based on either cross-sectional information (e.g. Hellerstein and Neumark, 2004) or panel data (cf. Crépon *et al.*, 2002; Van Ours and Stoeldraijer, 2011).

Empirical evidence on the relationship between age, wages and productivity is inconclusive. Some studies find workers' wage-productivity gap to increase with age (Kotlikoff and Gokhale, 1992; Flabbi and Ichino, 2001; Crépon *et al.*, 2002; Hellerstein and Neumark, 2004; Ilmakunnas and Maliranta, 2005), while others find little evidence of such a gap (Aubert and Crépon, 2007; Van Ours and Stoeldraijer, 2011). The cited papers predominantly try to establish a relationship between the age structure of the workforce and 'objective' measures of labour productivity and costs.

We approach the wage-productivity gap from a different perspective by examining the perceptions of employers using a survey. The central research questions of this paper are the following: (1) What are the determinants of the perceived changes in the labour cost-productivity gap due to the ageing of the workforce?; and (2) To what extent does this perceived gap affect employers' recruitment and retention of older workers?

In answering our first research question we focus on two factors that are assumed to hamper or stifle flexibility in the labour market: tenure wages and employment protection. Tenure wages are wages that rise with tenure, apart from the employee's formal qualifications and performance within the organisation. Organisations with a steep tenure-wage profile are more likely to be confronted with a labour-cost productivity gap in the face of an ageing personnel structure. In our study, employment protection refers to the perceived difficulty of firing a worker with a permanent contract. Employment protection regulations have been at the centre of heated policy debate in Europe (Siebert, 1997; Blanchard, 2005). The central issue in offering employment protection is to strike a balance between the interests of employers (flexibility for organisations) and those of employees (job security). From the employers' perspective, employment protection may hold both costs and benefits for employers. With respect to costs, employment protection can diminish the ability to cope with a changing environment. Employment protection may also strengthen wage bargaining positions of 'insiders' (OECD, 2004; Addison and Teixeira, 2003). But protection may also have benefits for both employers and employees: long-term contracts create an environment that may enhance productivity by encouraging human capital accumulation (cf. Belot *et al.*, 2002). Whether employment protection regulation is a boon or a bane remains an unresolved issue. This paper addresses the question of whether organisations experiencing high levels of employment protection have different expectations regarding a labour cost-productivity gap than those organisations facing low protection levels.

Our second research question focuses on whether a perceived gap between labour costs and productivity affects employers' recruitment and retention behaviour towards older workers. Although there is no general consensus about the link between age, wages and productivity, the evidence seems to be unambiguous with respect to the vulnerability of older workers in the labour market. Early retirement tends to be a one-way street and older workers'

opportunities to re-enter the labour force after a period of unemployment or to change jobs at the end of a working life are limited and largely determined by employers (OECD, 2006; Berger, 2009). It is suggested that negative perceptions about labour costs and productivity of older workers are critical barriers to their employment prospects (OECD, 2006).

We collected data among European employers and asked about their attitudes towards older workers and retention and hiring behaviour. The cross-national dimension provides information on whether employers' perceptions vary per country or are a more European-wide characteristic among employers. The data come from surveys conducted in Denmark, France, Germany, Italy, the Netherlands, Poland and Sweden in 2009. Employers from the various countries face different labour market situations and institutional arrangements affecting both supply of and demand for older workers. The pooling of these diverse experiences provides more robust and clearer perspectives on how ageing and labour market institutions affect employers' views and behaviour.

The next section addresses the theoretical background of the relationship between ageing, labour costs and productivity. Section 3 presents the data and variables of interest. The results are presented in Section 4, and in Section 5 we conclude with a summary of the main findings and discussion.

2. Ageing, labour costs and productivity

Several strands of economic theory provide a basis for hypotheses examining the link between age, labour costs and labour productivity. The first strand is the spot market theory, which states that in a perfectly competitive labour market firms pay workers according to their marginal product, regardless of the age of the worker. In spot market theory an age-related wage-productivity gap would not occur by definition. As productivity is often difficult

or costly to assess, in most organisations it is not a viable option for employers to pay workers according to their marginal productivity.

The second strand of economic theory comes from human capital theory (Becker, 1962; for an overview, see Polachek and Siebert, 1993). The theory states that investments in human capital boost labour productivity, and productivity is positively related to remuneration of employees. In principle, people accumulate human capital through training and experience during the whole of their career, but most investments in training take place at younger ages. Human capital also may depreciate, e.g. because knowledge of older technologies becomes obsolete or because cognitive and physical skills deteriorate. Depreciation of human capital will lead to a decrease in productivity.

In the late 1970s, the relationship between age, labour costs and productivity as described by human capital theory was called into question (Hutchens, 1989), giving rise to different kinds of contract theories, such as Lazear's delayed payment contract theory (1979). This theory states that employers may have implicit contracts with their employees regarding the connection between productivity and income over their career: while earnings are lower than productivity during the first phase of a worker's career, earnings are higher than productivity during the second phase. Such contracts induce employees to perform at a higher level of effort and reduce workers incentives to shirk. A different type of contract theory, such as that of Harris and Holmstrom (1982), takes into account the uncertainty about the productivity of newly recruited workers, which translates into offering them relatively low wages. Another variation on the theme takes into account worker reliability. Since younger workers by definition cannot have a reputation for reliability, they pay a higher wage premium, thus effectively receiving lower wage offers (Grossman, 1977). All these contract theories imply a present value relationship between compensation and productivity, boiling

down to a distribution in which younger workers' productivity exceed wages and older workers' wages exceed productivity.

As Lazear (1979) argues, incentive theories are consistent with mandatory retirement. He stresses that 'A necessary consequence of this payment schedule is mandatory retirement, that is, a date at which the contract is terminated and the worker is no longer entitled to receive a wage greater than his VMP [value of the worker's marginal product]' (Lazear, 1979, p. 1283). Employers will therefore either opt for mandatory retirement schedules or for the use of private pension schemes that penalise continued employment beyond a certain age. An additional complication with contract models, with their relatively high remuneration for older workers, is that the sustainability of the contracts is negatively affected by the ageing of the workforce. An increase in the number of older –and relatively highly paid – workers reduces the financial sustainability of an organisation and increases incentives for organisations to either decrease wages of older workers, renegotiate the promise to retain the workers until the mandatory retirement age, or lay them off.

An element that might affect employers' decisions is the level of employment protection. Strong employment protection rules may weaken the adaptability of organisations to alleviate the possible negative consequences of an ageing workforce. Contrary to a host of macroeconomic research that focuses on the *de jure* level of employment protection as measured by the OECD, this study uses the level of employment protection as perceived by individual employers. There is some evidence as to why perceptions of regulations may be of importance in understanding actual decisions. For instance, Boeri and Jimeno (2005) show that small firms are often exempted from certain aspects of labour regulations, or do not comply when enforcement is weak. In general, one would expect *de jure* regulations to impact labour demand; research by Pierre and Scarpetta (2006), who employ the World Bank's Investment Climate Survey, show that firms in developing countries facing stricter

employment legislation are more likely to report regulations being a major obstacle to their operation. However, they also show that larger firms and innovating firms tend to be more sensitive to the strictness of regulations. In short, it matters to pay special attention to the individual circumstances in which firms operate, and under those circumstances perceptions of the strictness of regulations may even offer a better approximation of the way rules and regulations function in a country. Employers face uncertainty about future developments in labour costs and productivity of individual employees, and this uncertainty plays a large role in hiring decisions. Although diplomas, job interviews and references may provide an idea of the abilities of new personnel, how productive they will be remains to be seen. Employers have access to what Phelps (1972) has called 'previous statistical experience': information on how certain categories or groups of employees tend to behave and develop. This experience affects their hiring decision, and as formalised by Thurow (1975) it determines to a large extent the place of job candidates in the job queue. The 'job queue' represents the idea of employers – who are in the process of recruitment and selection – ranking potential employees and placing them in a fictitious order of preference. Employers select the candidates in turn, until their demand for labour has been met. If employers associate seniority with a larger labour cost-productivity gap, it will presumably negatively affect the relative position of older workers in this 'job queue'.

This short overview of the theory on the relationship between age, labour costs and productivity can be formalised into three specific hypotheses which will be the focus of this paper:

- *Tenure wage hypothesis: Organisations that apply tenure-based wage profiles are more likely to expect an increasing labour cost-productivity gap due to ageing of the workforce than organisations without such seniority wage rules*.

- *Employment protection hypothesis: Employers who perceive the level of employment protection to be high are more likely to perceive a larger labour cost-productivity gap due to an ageing of the workforce than those employers who perceive this level of protection to be low.*
- *Recruitment and retention hypothesis: The perception of a larger labour cost-productivity gap negatively influences employers' retention and hiring behaviour towards older workers.*

3. Methodology

Survey among employers

Data on employers' behaviour and attitudes were collected between March and November 2009. The countries included in this study are geographically dispersed over Europe and cover all types of European welfare state regimes. Sweden and Denmark represent Esping-Andersen's (1990) social-democratic welfare state, the United Kingdom stands for the liberal welfare state, and the Netherlands, Germany and France stand for the continental/conservative welfare state. As several authors (Leibfried, 1992; Ferrera, 1996; Bonoli, 1997) also distinguish a fourth category, the Mediterranean type of welfare state, we also included Italy. Finally, Poland represents a 'new' – former Eastern European – EU member state. We used data from comparative surveys carried out among employers in Denmark, France, Germany, Italy, the Netherlands, Poland and Sweden.[1]

The total number of completed questionnaires amounts to 5,822, of which 609 are from Denmark, 500 from France, 892 from Germany, 770 from Italy, 1,077 from the Netherlands, 1,037 from Poland and 525 from Sweden. The overall response rate was 23 percent and ranged from 7 to 53 percent for the different countries. This is lower than the

[1] Data from the United Kingdom was left out because a shorter questionnaire was used that did not cover the questions on seniority wage and recruitment and retention behaviour, some of the main themes in this paper.

average response rate for individual surveys but in line with the rate generally found in corporate surveys. In Europe and the United States, response rates have been found to be 20 to 30 percent at most (see Brewster *et al.*, 1994; Kalleberg *et al.*, 1996; Van Dalen *et al.*, 2009).

The questionnaires were completed by directors/CEOs/CFOs (29 percent), heads of departments and general managers (16 percent), and human resource managers (33 percent); this 'higher management' group adds up to at least 79 percent, and is likely to be well informed and have good insight into the policies and practices of the organisation. Sixty-one percent of respondents reported that an academic degree was required for their job. The average age of respondents was 46, and 50 percent of respondents were male.

The questionnaires used in the different countries were identical. Interview techniques used differed between countries, depending on what was perceived to be the best way to address respondents in a specific country. Denmark used computer-assisted web interviewing; Germany, the Netherlands and Sweden used paper and pencil interviewing; and France, Italy and Poland used computer-assisted telephonic interviewing.

For all countries we drew a stratified sample on the characteristics of establishments' sector and size. In the analyses at the *national* level we weighted the data afterwards to account for the sampling design, to ensure the observations were representative for the population of employers. Weights are constructed according to the population of establishments from national statistics bureaus and corrected for establishment sector and size. To present results at the *pooled* level, we pooled the data for all eight countries – including the national weighting factors – and constructed a new weighting factor that takes the net sample size of the different countries into account. Otherwise, Dutch and Polish employers ($N > 1000$) would influence results more than French and Swedish employers ($N \approx 500$).

Measures

Dependent variables

Perceptions of a labour cost-productivity gap[2] were based on the following two questions: 'What would the consequences in your organisation be if the average age of your personnel increased by 5 years?' Response items included: (a) *labour costs* and (b) *labour productivity* (answer categories: '1' strong decline, '2' decline, '3' stays the same, '4' increase, '5' strong increase). The combination of the expectations on labour costs and productivity translate into expectations on the *development* of the labour cost-productivity gap with an ageing workforce. For instance, when an employer expects productivity to stay the same but labour costs to increase, this implies an *increase* of the labour cost-productivity gap. A scale of the expected labour cost-productivity gap was constructed by grouping together respondents who expect the gap to decrease ('-1'), stay the same ('0') or increase ('1'). In Figure 1 the relevant scores are presented for the different combinations of changes in labour costs and productivity.

[Here Figure 1] – Relevant groups for the analysis of a labour costs productivity gap

Retention behaviour was operationalised by asking respondents whether they encouraged workers to continue working until they reach age 65 ('1' currently applied, '0' not applied). Recruitment behaviour was operationalised by asking whether employers recruited older workers ('1' currently applied, '0' not applied). 'Older workers' were defined in the questionnaire as 'workers ages 50 years or older'. Descriptive statistics of the variables used in the analyses are presented in Table 1.

[2] Labour costs may consist of both direct wages and additional labour costs (such as extra leave or sickness absenteeism). Although 'wages' and 'labour costs' are not the same, in the economic literature it is more common to talk about a wage-productivity gap than about a labour cost-productivity gap. We therefore use 'wages' and 'labour costs' interchangeably.

[Here Table 1] – Descriptive statistics

Independent variables

Tenure wage – Tenure wage was measured by the question 'To what extent, apart from the employee's formal qualifications and his function in the organisation, do wages rise with tenure (i.e. the number of years that the employee has worked in your organisation)?' (answering categories: '1' not at all to '4' = to a high extent). Tenure wages are usually implemented by using salary scales, which automatically increase by one step each year.

Employment protection – Employment protection legislation generally refers to the entire set of regulations affecting both hiring and firing policies. We focus on protection of permanent workers against individual dismissal, which is highly relevant in terms of organisations' adaptability to alleviate the possible negative consequences of an ageing workforce. This measure is based on the question: 'How difficult is it in your organisation to fire a worker with a permanent contract?' (answering categories: '1' very easy to '5'very difficult). Our measure captures perceived employment protection at the organisational level rather than objective measures of legislation at the national level, as performed for instance by OECD.[3] This different stance towards employment protection is complementary in the sense that perceptions may differ between employers *within* a country: the perceived level of employment protection need not be grounded in law, but can also originate from collective bargaining of social partners, organisational culture and individual characteristics or experiences of employers.

[3] We note that the OECD (2010b) distinguishes three pillars of employment protection legislation: 1) protection of permanent workers against individual dismissal; 2) specific requirements for collective dismissal; 3) regulation for temporary forms of employments. Our questionnaire captures primarily the perception of the strictness of the first pillar. In our study the effects of employment protection on the labour cost-productivity gap might therefore be an underestimation, as we did not include all aspects of employment protection.

Control variables – In the analyses we controlled for sector of industry, organisational features and country. To control for sector differences, respondents were given a list of industrial sectors defined by Eurostat (2002) and were asked to indicate the sector in which their own organisation operated. We categorised the sectors into 'industries,' 'construction,' 'services and trade,' 'public sector,' and 'education, health and social work.' The control variables on organisational characteristics were assessed using five variables. Respondents were asked for the total number of employees in their organisation (size), share of high-skilled workers, share of workers with fixed-term temporary contracts and share of older workers; these are all continuous variables. The extent of absenteeism/ sickness rate was based on the question 'To what extent does your establishment encounter any of the following problems related to personnel: High absenteeism and/or high sickness rate?' (answering categories: '1'no/to a low extent to '3' to a high extent). Since the number of countries is too small to perform multilevel analyses to test for macro-level effects (cf. Maas and Hox, 2005), we controlled for country characteristics by including country dummies.

Analyses

We used ordered logistic regression models to estimate the impact of tenure wages, employment protection and control variables on the perceived labour cost-productivity gap. In these models the outcome variable was treated as ordinal, as the response levels have a natural ranking (decline, no change, increase) despite our not knowing the actual distances between contiguous levels. Nonetheless, for the results of such models to be valid they must meet the criteria for proportional odds. Since the ordered logit model estimates one equation over all levels of the dependent variable (as compared to the multinomial logit model), the test for proportional odds tests the validity of our one-equation model. We used a Chi-square test for

proportional odds. The results suggest that the assumption of proportional odds was not violated. We therefore analysed the data using ordered logistic regression analyses in which the values of our dependent variable are treated as ordinal variables. To examine to what extent the perceived gap affects employers' recruitment and retention of older workers, we performed multivariate logistic regression.

4. Results

Perceptions of changes in labour cost-productivity gap

We addressed the question of whether organisations expect changes in the labour cost-productivity gap due to an ageing workforce. Table 2 shows to what extent employers expect an ageing workforce to affect labour costs and productivity within their organisation. The first part of the table presents the expectations regarding the influence of ageing on labour costs. For the pooled sample we show that almost half of employers expect an increase in labour costs. There are, however, large differences between countries. In Poland and Denmark up to one-third of employers expect labour costs to increase. In Sweden, Germany, Italy and France roughly half of employers expect costs to increase. Employers in the Netherlands are at the other end of the spectrum: here 75 percent think labour costs will increase due to an ageing workforce. Only very few employers expect a decline of labour costs. The latter finding is in accordance with insights from OECD (2006) based on cross-sectional macro data and Deelen (2011), who shows for a large administrative database that wage-tenure profiles in the Netherlands are steep.

With respect to the connection between ageing and productivity, the results show that in all countries a majority of employers state that productivity as such is not affected by the ageing of the workforce. However, a substantial minority (28 percent) expects productivity to

decrease (strongly); this is the highest in Germany, where 36 percent of employers expect a productivity decline, and the lowest in Denmark (19 percent).

The combination of the expectations on labour costs and productivity translate into expectations on the development of the labour cost-productivity gap with an ageing workforce, which is shown in the third part of the table. We combined the answers on changes in labour costs and labour productivity to establish whether employers perceive a net cost or a net productivity increase as a result of an ageing workforce. Overall, about half of employers expect an ageing workforce to be associated with a net labour cost increase (53 percent). The table shows large differences between countries. Dutch employers are most sceptical when it comes to expectations about the consequences of an ageing staff; 74 percent of employers expect a net labour cost increase as the workforce ages, and only two percent expect a decline. In Poland the wage-productivity gap is less of an issue; in this country about one-third of employers expect a net cost increase and 11 percent expect a net productivity increase.

[Here Table 2] – Expected consequences

Tenure wages and employment protection

In this section we examine tenure wages and employment protection rules as possible underlying predictors of an expected labour cost-productivity gap. Figure 2 shows that 58 percent of employers report wages to rise with tenure to 'a high' or 'some' extent in their own organisation. Automatic increases in salary scales are mostly observed among Dutch and French organisations (78 and 72 percent respectively). In Germany, only 36 percent of employers indicate that wages rise with tenure in their own organisation. These results on tenure wages correspond largely to those found by the OECD (1998, 2006, 2010a).

[Here Figure 2] – Seniority wage

Figure 3 shows that 56 percent of employers indicate it is 'difficult/very difficult' to fire a worker with a permanent contract. In Italy, the Netherlands, Sweden, Germany and France a majority of employers perceive a high level of employment protection. In Denmark, only 25 percent of employers report finding it difficult to dismiss a worker, which is in line with the Danish 'flexicurity' model. The high perceived level of employment protection in Italy is interesting, because according to OECD (2010b) protection of permanent workers against dismissal is relatively low in Italy.

[Here Figure 3] – Employment protection

The next step is to test our hypotheses about the two possible factors influencing the labour cost-productivity gap: tenure wages and employment protection rules. The first model of Table 3 presents results from the ordered logistic regression analysis explaining the labour cost-productivity gap by control variables only: organisational features, sector of industry and country. In the second model we added seniority wages and employment protection.

[Here Table 3] – Explaining expected labour cost-productivity gap

The estimation results show that the steepness of the tenure-wage profile is positively related to the perceived change in the labour cost-productivity gap.[4] In other words, in organisations where wages rise to a higher extent with tenure employers are more likely to expect a net cost increase due to an ageing staff. Regarding employment protection, the results show that

[4] Results of the separate estimation results for the analyses of perceived labour costs and productivity can be obtained from the authors upon request.

employers who perceive the level of employment protection to be high are more likely to expect a net labour cost increase.

In the literature it is sometimes suggested to include a bargaining structure variable (cf. Addison and Teixeira, 2003), since there is a potential omitted variables problem if unionisation is correlated with employment protection and/or tenure wages. We tested whether this is the case in our model by adding the variable approximating the labour union power. This variable is based on the question: 'The influence of labour unions on personnel policies is clearly visible in this organisation' ('1' completely disagree, '5' completely agree) (not in table). Adding this variable did not alter our results.

The results show that compared to the reference group ('industries'), organisations in 'services and trade' are less likely to perceive a net cost increase, whereas organisations in 'education, health care and social work' have more frequent expectations of such a gap occurring. Employers who already have a larger proportion of older workers in their staff or who encounter high absenteeism problems are more likely to expect a net cost increase. Employers' perceptions vary across countries regarding the gap between labour costs and productivity due to ageing staff, as is shown in the lower part of Table 3. National contexts may be particularly relevant when examining the effects of tenure wages and employment protection. There are significant interaction effects between country and tenure wage and between country and employment protection (see Appendix A). Compared to European employers, for German employers tenure wages and employment protection are more positively related to an expected net cost increase. For Dutch employers, tenure wages are more related to the perceived gap and for Swedish employers employment protection is less related to the perceived gap. For all countries, the main effects remain significant after adding the two-way interactions.

To gain more insight into the effects of tenure wages and employment protection on the perceived labour cost-productivity gap, we performed a simple counterfactual analysis in which the application of tenure wages and the level of employment protection are varied. We calculated the predicted scores on the dependent variable based on the model in Table 3, and examined a situation in which the tenure-wage profile is complete absent as well as one in which the perceived employment protection is reduced to a minimum level.

[Here Table 4]

Table 4 shows that in the baseline case 58 percent of employers expect a net cost increase as a result of an ageing workforce and only 6 percent expect a net productivity increase. The central question of this exercise is: To what extent is the share of employers who expects a change in the gap between costs and productivity affected by these labour market reforms? In the extreme case of wages not rising with tenure and a low level of employment protection, 45 percent of employers expect a net cost increase and 10 percent expect a net productivity increase; the model thus shows a 13-percentage point decline compared to the baseline situation of a net cost increase and a 4-percentage point increase for a net productivity increase. In other words, although these types of labour market reforms have a substantial effect on the financial sustainability of organisations, they do not neutralise the expected consequences of an ageing workforce: 40 percent of employers still expect a net cost increase as a result of an ageing workforce.

Recruitment and retention behaviour

Table 5 presents the logistic regression analysis of employers' recruitment and retention of employees as dependent variables. We test whether the perception of a labour cost-

productivity gap is a predictor of employers' recruitment and retention behaviour towards older workers. The odds ratio represents the ratio of the probability of employers recruiting or retaining older workers compared to the probability of them not hiring or retaining older workers.

Column 1 of Table 4 shows that employers who expect a net cost increase due to an ageing staff are significantly less likely to recruit older workers. In Column 3 we see that employers who expect a net cost increase also are significantly less likely to encourage employees to continue working until they reach their country's statutory retirement age. These effects are in line with our hypothesis that the perceived labour cost productivity gap affects recruitment and retention behaviour of older workers.

[Here Table 5] – Recruitment and retention of older workers

The results also show that organisations with a more high-skilled staff are more inclined to retain older workers. This is in line with what one would expect from human capital theory, in the sense that the higher the value of the accumulated knowledge and skills an employee embodies, the more an employer is inclined to retain an older worker. Further, the results show that employers who already have a large proportion of older workers in their staff are more inclined to recruit and retain older workers. Personnel shortages positively influence the recruitment and retention behaviour towards older workers.

5. Conclusions and Discussion

Raising the labour force participation of older workers is a key policy objective in the European Union. Negative perceptions of employers about older workers' productivity are often assumed to hamper a further increase of their labour force participation (OECD, 2006;

Van Dalen *et al.*, 2010). This article has examined perceptions of European employers regarding the consequences of an ageing personnel structure. Not only the consequences for the organisation's labour productivity, but also perceived consequences for labour costs were examined. The results show that a majority of European employers in each of the countries studied does not expect the ageing of their staff to affect the productivity level within their organisation. With respect to employers' perception of the consequences of ageing on labour costs, the results show much more variation. Many European employers expect labour costs to increase as a result of an ageing staff, but the percentages differ widely across Europe, from 16 percent in Poland to 75 percent of Dutch employers. By combining perceptions about labour costs and productivity the survey shows that about half of employers associate ageing personnel with a net cost increase – a situation in which the change in labour costs exceeds the change in productivity. Perceptions of such a gap are not without consequences as they negatively affect both recruitment and retention of older workers.

Tenure wages and employment protection are thus important factors explaining employers' perceptions of a divergence between productivity and labour costs. European employers tend to associate employment protection rules predominantly with a net cost increase, and employers who face a steep tenure wage profile make an association with larger net cost increases than those who face a flat wage profile. Although we find such relationships in each of the countries we studied, the observed differences in perceived employment protection and wage profiles across countries explain the differences in the perceived wage productivity gap *between* countries only to a limited extent. This raises two interesting issues for further research. First of all, which other country-specific factors influence the perception of a divergence between labour costs and productivity? Future research might focus on age-related fringe benefits, employers' contribution to sickness benefits and other institutional factors. The second issue relates to the variation in perceptions about level of employment

protection *within* countries. Future research might examine the root causes of these different perceptions. For instance, employers may vary in their perception of degree of enforcement of employment protection legislation, or may see more of a problem in laying off workers when the number of union members is high within the organisation.

A final note on the policy implications. The insights generated by this employer study might suggest avenues for policymakers in tackling the problems of ageing labour markets. Our empirical models shed only some light on unravelling the relationship between age pay and productivity, and many more elements not uncovered seem to play a role. A counterfactual in this study shows that even when employment protection and tenure wage systems are abolished, 40 percent of employers still expect a net cost increase, compared to the baseline situation where 53 percent expects such an increase. This suggest that labour market policy must have a wider scope than is usually assumed, and silver-bullet solutions like the abolishment of employment protection are not going to solve all the problems of an ageing labour market. Furthermore, the country specificity of employer behaviour and perceptions seems to be a hardwired element of most labour market studies, and in that respect it is a silent reminder to policymakers that popular solutions like exporting the Danish model of 'flexicurity' to other countries must be met with some scepticism. Good or best practices are often hard to copy, as the tacit mechanisms of labour markets and organisations will be lost in translation.

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Appendix A – Explaining expected labour cost-productivity gap by paying attention to national context of tenure wages and employment protection (ordered logistic regression analysis)

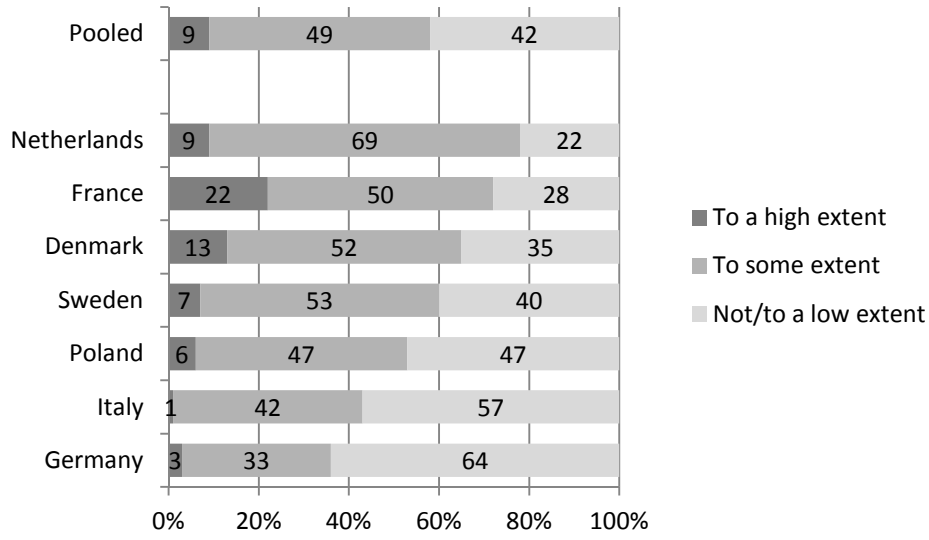
	Explaining labour cost- productivity gap [a] by paying attention to country specific effects of:													
	Denmark		France		Germany		Italy		Netherlands		Poland		Sweden	
	Odds ratio	*z-value*	*Odds ratio*	*z-value*	*Odds ratio*	*z-value*	*Odds ratio*	*z-value*	*Odds ratio*	*z-value*	*Odds ratio*	*z-value*	*Odds ratio*	*z-value*
Main effects														
Tenure wage	1.17**	3.63	1.20**	4.54	1.13**	2.85	1.19**	4.15	1.15**	3.49	1.22**	4.62	1.21**	4.55
Employment protection	1.11*	2.54	1.12**	3.12	1.10*	2.38	1.13**	3.22	1.13**	3.32	1.14**	3.35	1.18**	4.27
Two-way interactions														
Tenure wage * COUNTRY	1.10	0.87	0.82	-1.50	1.29*	2.39	0.95	-0.46	1.31*	2.02	0.85	-1.80	0.86	-1.26
Employment protection * COUNTRY	1.12	1.31	1.05	0.41	1.24*	2.10	0.98	-0.26	0.97	-0.23	0.94	-0.65	0.75 **	-2.86
Control variables[b]	Yes		Yes		Yes		Yes		Yes		Yes		Yes	
Pseudo R^2	0.08		0.08		0.08		0.08		0.08		0.08		0.08	
N	4947		4947		4947		4947		4947		4947		4947	

NOTES:
Statistical significance levels are denoted by * $p < 0.05$; ** $p < 0.01$
[a] Dependent variable: labour cost-productivity gap, country name: COUNTRY in two-way interaction terms.
[b] Controlled for: sector of industry, organisational features (size, share of high-skilled workers, share of workers with fixed-term temporary contract, share of older workers, extent of absenteeism/sickness rate), countries.
Source: ASPA employers survey (2009)

Figure 1 - Relevant groups in the analyses of a labour costs-productivity gap as a result of an ageing personnel structure

	Labour costs		
Productivity	Decrease	Stable	Increase
Decrease	0	1	1
Stable	-1	0	1
Increase	-1	-1	0

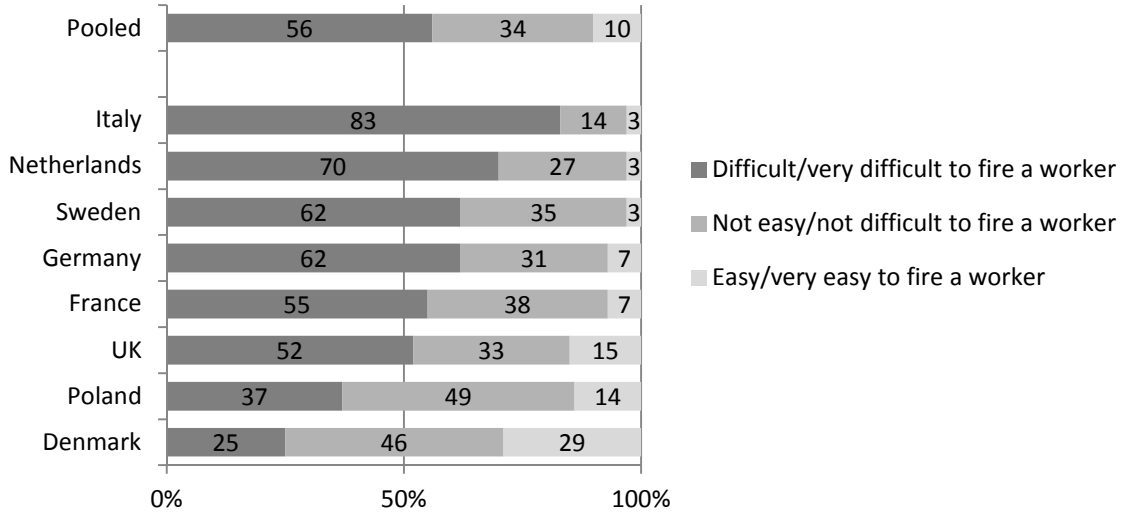
Figure 2 – European employers' perception of wages rising with tenure [a] (%)



[a] Based on the question: 'To what extent, apart from the employee's formal qualifications and his function in the organisation, do wages rise with tenure (i.e. the number of years that the employee has worked in your establishment)?'

Source: ASPA employers survey (2009)

Figure 3 – European employers' perception of level of employment protection[a] (%)



[a] Based on the question: 'How difficult is it in your establishment to fire a worker with a permanent contract?'

Source: ASPA employers survey (2009)

Table 1 – Descriptive statistics

	Mean	*St.dev.*	*Min*	*Max*
Dependent variables				
Expected labour cost-productivity gap (-1 = decline, 1 = increase)	0.53	0.60	-1	1
Recruitment of older workers (0=no, 1=yes)	0.14	0.35	0	1
Retention of older workers (0=no, 1=yes)	0.26	0.44	0	1
Independent variables				
Tenure wages (1 = none, 4 = highly applicable)	2.57	0.78	1	4
Difficulty of dismissing a worker (1 = very easy, 5 = very difficult)	3.81	0.96	1	5
Control variables				
Sector of industry (Industries = ref. category)				
Construction	0.09	0.28	0	1
Services and trade	0.32	0.47	0	1
Public sector	0.12	0.33	0	1
Education, health care and social work	0.21	0.41	0	1
Size (logarithm)	4.46	1.52	0	13.12
Share of high-skilled workers	0.26	0.29	0	1
Share of workers with fixed-term temporary contract	0.11	0.18	0	1
Share of older workers	0.25	0.17	0	1
Extent of absenteeism/sickness rate	1.43	0.62	1	3
Experienced shortages (no shortages = ref. category)				
Some vacancies	0.36	0.48	0	1
Many vacancies	0.79	0.27	0	1
Countries (Denmark = ref. category)				
France	0.05	0.21	0	1
Germany	0.16	0.37	0	1
Italy	0.14	0.35	0	1
Netherlands	0.19	0.40	0	1
Poland	0.18	0.39	0	1
Sweden	0.09	0.29	0	1

Table 2 – European employers' perceptions of the consequences[a] of an ageing personnel structure of own organisation (%)

Consequences		*Pooled*	Denmark	France	Germany	Italy	Netherlands	Poland	Sweden
Labour costs	Increase	*44*	33	51	48	49	75	16	44
	Same	*52*	61	43	51	48	24	74	50
	Decline	*4*	6	6	1	3	1	10	6
Labour productivity	Increase	*10*	10	7	10	14	8	10	8
	Same	*62*	71	64	54	62	58	61	55
	Decline	*28*	19	28	36	25	34	29	37
Cost-productivity gap[b]	Increase	*53*	41	55	61	50	74	31	59
	Same	*41*	51	38	36	45	24	58	35
	Decline	*6*	8	7	3	5	2	11	6

[a] Based on the question: 'If the average age of your personnel increases by 5 years, what will be the effect on…?'
[b] Based on cross-tabulating expected consequences in labour costs and labour productivity.
Source: ASPA employers survey (2009)

Table 3 – Explaining expected labour cost-productivity gap (ordered logistic regression analysis)

		GAP[a]			
		Model 1		*Model 2*	
		Odds ratio	*z-value*	*Odds ratio*	*z-value*
Wage	Tenure wage	-	-	1.18**	4.29
Employment protection	Difficulty of dismissing a worker	-	-	1.13**	3.40
Control variables					
Sector of industry:	Industries = ref. category	-	-	-	-
	Construction	0.83	-1.56	0.84	-1.46
	Services and trade	0.87	-1.72	0.85*	-2.00
	Public sector	1.20	1.74	1.09	0.77
	Education, health care and social work	1.32**	2.90	1.22*	2.03
Organisational features:	Size (logarithm)	1.11**	4.74	1.10**	4.42
	Share of high-skilled workers	1.03	0.30	1.00	0.03
	Share of workers with fixed-term temporary contract	0.73	-1.76	0.76	-1.55
	Share of older workers	1.58*	2.54	1.59*	2.57
	Extent of absenteeism/ sickness rate	1.29**	4.95	1.26**	4.50
Countries:	Denmark = ref. category	-	-	-	-
	France	2.42**	6.76	2.11**	5.57
	Germany	2.96**	9.94	2.79**	8.79
	Italy	1.61**	4.62	1.43**	3.03
	Netherlands	5.90**	15.06	5.11**	13.31
	Poland	0.83	-1.74	0.82	-1.80
	Sweden	2.00**	6.54	1.85**	5.53
Pseudo R^2		0.07		0.08	
N		4947		4947	

[a] The scale of the expected labour cost-productivity gap ranges from -1 to 1 and was based on cross-tabulating expected consequences in labour costs and labour productivity. Statistical significance levels are denoted by * $p < 0.05$; ** $p < 0.01$

Source: ASPA employers survey (2009)

Table 4 – Results of a counterfactual analysis of the consequences of abolishing tenure-based wages and employment protection on an expected labour cost-productivity gap

	Share of employers expecting a labour cost-productivity gap		
	Net cost increase (Δcost > Δproductivity)	Stable (Δcost = Δproductivity)	Net productivity increase (Δcost < Δproductivity)
Baseline model[a]	53%	41%	6%
1. Wages that do not increase with tenure[b]	48%	44%	8%
2. Low level of employment protection[c]	46%	46%	8%
3. Combined effects of 1 and 2[d]	40%	50%	10%

a. Baseline model is based on the estimation results of model 2 in Table 3.
b. In this counterfactual analysis the score for tenure wages is set to 1 (lower limit).
c. In this counterfactual analysis the score for employment protection is set to 1 (lower limit).
d. In this counterfactual analysis both the scores for tenure wages and employment protection are set to 1.

Table 5 – Explaining European employers' recruitment and retention of older workers (logistic regression analysis)

		Behaviour towards older workers			
		Recruitment		*Retention*	
		Odds ratio	*z-value*	*Odds ratio*	*z-value*
Expected labour cost-productivity gap		0.87**	-2.83	0.91*	-2.36
Control variables					
Sector of industry:	Industries = ref. category	-	-	-	-
	Construction	1.04	0.23	1.11	0.78
	Services and trade	1.22	1.65	1.07	0.73
	Public sector	0.89	-0.83	1.11	0.91
	Education, health care and social work	1.22	1.49	1.06	0.55
Organisational features:	Size (logarithm)	1.23**	7.28	1.15**	5.64
	Share of high-skilled workers	1.07	0.40	1.32*	2.13
	Share of workers with fixed-term temporary contract	0.75	-1.23	0.83	-0.92
	Share of older workers	3.47**	4.89	3.44**	6.00
	Extent of absenteeism/sickness rate	1.06	0.76	0.95	-0.78
Experienced shortages	Some vacancies	1.77**	6.09	1.63**	6.43
(no shortages = ref. category)	Many vacancies	2.66**	6.21	1.71**	3.92
Countries:	Denmark = ref. category	-	-	-	-
	France	0.67	-1.73	1.45*	2.22
	Germany	0.78	-1.81	0.39**	-7.61
	Italy	0.14**	-8.22	0.24**	-9.58
	Netherlands	0.62**	-3.40	0.42**	-7.24
	Poland	0.87	-0.93	1.29*	2.13
	Sweden	0.71*	-1.99	0.65**	-3.17
Pseudo R^2		0.08		0.08	
N		4912		4912	

Statistical significance levels are denoted by * $p < 0.05$; ** $p < 0.01$

Source: ASPA employers survey (2009)