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The varying company performance outcomes of working-time flexibility practices across 13  
sectors in 21 European countries using the European Establishment Survey (2004/2005)

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### **Abstract**

This study examines the performance outcomes of the use of working-time flexibility strategies using company level data. At first glance, the result confirm that of previous studies where employee-friendly flexibility provides good performance outcomes, while employer-friendly flexibility provides negative consequences to workers’ health, recruitment and motivation. Investigating this relationship in detail, I find that this relationship varies across countries and sectors. The use of employee-friendly working-time flexibility provides positive or negative outcomes depending on the sector and country in question. However, employer-friendly flexibility provides negative outcomes for all sectors and countries although the strength of the impact varies.

## **1. Introduction**

There has been increasing interest in working-time flexibility in recent times as a way to meet the needs of employers for enhanced productivity gains as well as to address the work-life balance demands of workers at the same time. Providing employee-friendly working-time arrangements allows people to balance work and life demands better. This thus increases loyalty and morale of workers while decreasing the stress, sickness, absenteeism that may arise due to work-family conflict, making it easier to recruit and retain workers (Bevan et al., 1999; Hill et al., 2001). This thus leads to productivity gains for the employers, which explains why employee-friendly working-time flexibility has been gaining much support from the businesses. For example, two of the most recognized magazines in management and business, *Forbes* and *Harvard Business Review*, both praise employee-friendly flexibility the new trend in management strategies (see Gallo, 2010; Schmitt, 2009). On the other hand, the main purpose of introducing employer-friendly working-time flexibility arrangements is to increase cost efficiency as well as to meet cyclical demands in an efficient manner. However, they have also been seen to cause problems in the company by impacting workers' health and safety (Caruso, 2004; Costa et al., 2006; Dembe et al., 2005).

Although the performance outcomes of the different types of working-time flexibility have been examined empirically, those that examine working-time flexibility outcomes across different countries as well as different sectors are largely lacking. The existing studies are mostly based on single country based surveys or company case studies that cover selected sectors, due to lack of comparable data. Due to this, it is difficult to assess whether the results found from these studies can be generalised to other sectors and countries. In addition, it is yet to be seen if the performance outcomes of working-time flexibility are constant or diverse across different contexts. There are several reasons to believe that there may be different implications of the use of working-time flexibility arrangements on performance outcomes of companies. Since flexibility arrangements have different implications depending not only on the country in question (Mills & Täht, 2010) but also the company context (Anderson et al., 2002; Blair-Loy & Wharton, 2002), the arrangements may be used in different manners and thus have different impact across different countries and sectors. In addition, the added benefit of using an arrangement will largely depend on the diffusion of the arrangements in your country and sector. In other words, companies that provide more employee-friendly flexibility in countries and sectors where it is seldom used will benefit

more from the use than in countries and sectors where all companies are providing generous employee-friendly flexibility arrangements. Finally, due to the different nature and situation each sector and countries are placed in, the performance outcome itself may also vary largely depending on the context.

This paper contributes to the literature on the outcomes of working-time flexibility by examining the question if the impact is constant or different across different countries and sectors. This is made possible due to the European Establishment Survey on Working-time (ESWT), which is a first ever company level survey that covers a large number of countries across Europe that focus on working-time arrangements. Here, the focus is on human resource (HR) related performance outcomes, such as sickness, absenteeism, worker recruitment, maintenance, and motivation. The overall performance of the company is also measured indirectly. This study also adds to the existing literature by examining the outcomes of employee-friendly and employer-friendly working-time flexibility at the same time. Most studies on this topic have examined a single working-time arrangement, or have examined family or work-life balance policies separate from other working-time practices used within companies. In this paper, I will focus on the impact of employee-, employer-, and both-oriented working-time practices separately, when other factors, including the use of other type of arrangements have been controlled for.

The paper is structured as follows. In section two, the theories and previous studies on the company level performance outcomes of working-time flexibility are examined. Section three examines the variables used to measure companies' working-time flexibility strategies as well as performance outcomes. In this section, I also examine the modelling techniques. In section four, results are shown, and section five provides conclusions and implications.

## **2. Theories on the outcomes of working-time flexibility**

### **2-1. Employee-friendly flexibility and employer-friendly flexibility**

Before elaborating on the outcomes of working-time flexibility, we need to define the different types of working-time arrangements. There have been several studies that theoretical or empirically distinguish between different dimensions of typologies of working-time arrangements. Surveying the literature (e.g. Gareis, 2002; Reilly, 1998, 2001; Rubery & Grimshaw, 2003; Visser, 2003), one can see that despite the differences in their wording, most studies distinguish between working-time flexibility arrangements that

serve employees' needs and those which serve employers' needs (Chung & Tijdens, 2009). Employee-friendly working-time arrangements are those that provide workers with freedom to adapt their working hours and schedule to meet their own personal and family needs. These include various leave schemes as well as flexible working schemes and part-time work for the needs of employees. Employer-friendly working-time arrangements are those used by employers to mostly to meet business needs, either to meet demands, machine running time or to provide optimal utilization of capital and workforce, such as the just-in-time approach (Gareis, 2002: 1104). The arrangements included in this category are overtime, unusual hours – i.e., working in the evening, nights and during the weekend, and shift work. Part-time and flexible working schemes for the needs of employers are also a part of the employer-friendly working-time strategy. Previous analyses have also shown that this division is not only supported theoretically, but also empirically (Chung & Tijdens, 2009). The characteristics of the types of working-time arrangements differ as the definition shows, they are used for different purposes (Casey et al., 1997; Dex & Scheibl, 2001) and accordingly their outcomes differ. In the next sections, I will examine the theoretical and empirical studies concerning the performance outcomes of working-time flexibility arrangements divided into that of employee- and employer-friendly categories.

## **2-2. Employee-friendly flexibility and performance**

### **Providing work-life balance and cost reduction**

Possibly the foremost reason for providing employee-friendly working-time arrangements is to relieve the tensions employees may face between work and life demands, including those coming from family responsibilities (see Schieman et al., 2009; Voydanoff, 2004). The failure to address work-life balance demands of employees may lead them to reduce tensions through various means including spending less time and effort on their current jobs. This may then result in withdrawal behaviour such as reduced work efforts, lateness, and absenteeism (Blau, 1985; Brett, 1997; Hammer et al., 2003; Konrad & Mangel, 2000). Workers may also try to relieve the tension by moving to a position or job that generates less stress, or leaving the workforce altogether (Batt & Valcour, 2003; Greenhaus et al., 1997; Hammer et al., 2003; Klerman & Leibowitz, 1999; Konrad & Mangel, 2000). Staff loss leads to direct costs associated with

recruiting, and since recruiting new staff is costly, retaining staff can act as a huge cost reduction. This is especially true when one considers the investment put in by companies to train their employees (Konrad & Mangel, 2000). Previous studies have shown that companies offering family-friendly policies are successful at retaining employees, even if individuals do not use the policies themselves (Grover & Crooker, 1995). Companies that provide various resources that can be used to balance work and life can cutting the costs of recruitment even further by broadening the pool of people they can recruit from (Evans, 2001), such as those who have other care of other responsibilities. Lastly, even if not done intentionally, stressful situations may decrease the productivity of workers because of their health consequences, such as sickness and stress (Greenhaus et al., 2006; Greenhaus et al., 2003). Similarly, the use of employee-friendly flexibility has been shown to provide positive results for workers' health (Costa et al., 2006).

### **Productivity and economic performance**

Providing employee-friendly benefits also has direct impacts on performance and productivity, in addition to the cost cutting benefits. Some argue that businesses only take up family-friendly benefit systems when the benefits outweigh the costs (Ortega, 2009; Plantenga & Remery, 2005) or from expectation of better performance based on past experience (Dex & Scheibl, 2001).

There are several ways employee-friendly working-time practices may increase firm's performance. In competitive labour markets, especially where labour demand exceeds supply, firms may enhance their ability to attract best and most productive workers through providing flexible policies alongside competitive remuneration packages (Konrad & Mangel, 2000; Yasbek, 2004:13). Also, having such policies may encourage greater output by workers already employed, through increased loyalty and effort put in by workers (Konrad & Mangel, 2000; Yasbek, 2004). This is especially true when workers are allowed to work at their peak hours (Perry-Smith & Blum, 2000) and since this may also increase work intensity (Kelliher & Anderson). Using employee-friendly benefit packages may also improve corporate image perceived by potential customers and the general public which may lead to greater sales and improved stock prices of the company (Dex & Scheibl, 1999; Evans, 2001).

### **Empirical evidence**

Most empirical results concerning the outcomes of the use of employee-friendly working-time policies have been at the individual level (e.g., Batt & Valcour, 2003; Costa et al., 2006; Greenhaus et al., 2006; Grover & Crooker, 1995). For example, Eaton (2003) examines self-reported productivity of professional workers using working-time flexibility in biotechnology firms in the United States. She reports that when workers are able to freely use the arrangements, positive associations with performance outcomes are found. There are few studies that empirically examine company level performance outcomes, and most are based case studies covering specific countries and sectors. Bevan et al. (1999) examined the family friendly policy practices of small and medium sized companies in manufacturing, services, pharmaceuticals, publishing, software development, logistics and research and development sectors in the UK through interviews and focus groups. They identified that family friendly policies reduced sickness and absenteeism while improved retention, recruitment, productivity and morale of workers. In addition, they found that companies were also able to cut direct costs due to replacing workers. Dex and Scheibl (2001) also based on case studies of 14 companies in the United Kingdom, examined the reasons, costs and benefits of providing flexible arrangements for employees. They found that for both small and large companies, the arrangements were introduced in many cases for business cases, that is, to reduce costs, absenteeism while increasing retention and recruitment. Whitehouse and Zetlin (1999) based on case studies of six Australian firms in the mining, manufacturing and service industries also find positive outcomes when employee-friendly arrangements were taken up.

Only few studies use survey data to examine the impact of flexible arrangements in a more statistical manner, and most use data gathered from one country. One way to examine productivity effects of work life balance policies is to use the perceived performance impacts of the use of work-life balance policies by the managers. Dex et al. (2001) using the British Work Employee Relations Survey of 1998, examines the performance outcomes of use of flexible working arrangements at the company level. They find that the use of the arrangements could be linked to better perceived financial performance, in terms of labour productivity, improved quality performance and sales value, and reduced labour turnover, even when other factors are controlled for. However, examining the performance measured through the objective profit measures, no clear relationship was found. Perry-Smith and Blum (2000) examine 527 firms in the United States to show the impact of the impact of family policy bundles on the companies' perceived

organisational and market performance as well as profit and sales growth. The outcomes show that the organisations that provide more family policies are those who do better in all three accounts. Shepard et al. (1996) examine the performance outcomes of working-time flexibility in pharmaceutical industries, using panel data, and note that flexible schedules improve about 10 percent of the productivity of companies. Nelen et al. (2011) examines Dutch pharmacy sectors to investigate the performance outcomes of part-time work. They state that higher part-time shares lead to higher firm productivity, measured in objective manner in prescription lines delivered. Whitehouse et al. (2007) analysed the incidence and performance outcomes of family-friendly provisions in British workplaces, based on the Workplace Employment Relations Survey 1998-2004 Panel. They show that the increase of family friendly policies in companies was positively associated with positive financial performances, even when other factors have been controlled for. Summing up, it is clear that family-friendly or employee-friendly working time flexibility arrangements will increase the performance outcomes of companies especially measured in subjective terms.

### **2-3. Employer-friendly flexibility and outcomes**

Unlike employee-friendly flexibility arrangements, the main reason employers take up flexibility arrangements is because of direct cost benefits companies gain from its use. Brewster et al. (1994) argue that the main reasons for employers to take up flexibility arrangements are to reduce costs and improve effectiveness, to match work provision closely to work demand, to put greater focus on work rather than job, establish clearer performance targets, and to undertake closer more realistic performance monitoring etc. Meeting customers' needs is another reason why employers would take up employer-friendly working-time arrangements. In other words, the main goal of implementing various employer-friendly working-time flexibility policies is to increase profit, however, not necessarily through enhancing productivity. Here I examine the studies on the effects of using employer-friendly flexibility on performance outcomes, divided by the effect it has on profit generation and performance, to the effect it has on HR problem issues especially concerning health and safety.

### **Performance and profitability**

Although there have been many studies that link employee-friendly working-time flexibility to performance measurements, it is not easy to find studies that link employer-friendly working-time flexibility to performance. One of the reasons for this may be because the use of various employer-friendly working-time flexibility arrangements, such as overtime, unusual hours, and shift work, are used to match demand as well as to increase profit, which is directly observed by the managers. Due to this, there were no great needs in the academic field to persuade companies to use such arrangements. There have, however, been studies that linked the use of flexible employment contracts with HR practices and corporate performance, which counter the arguments that using flexibility brings great cost effectiveness. The first stream of studies show how employer-friendly flexible working practices do not enhance performance significantly, or that they only increase short-term performance.

Valverde et al. (2000) examine the different performance outcomes of organizations with different proportion of its workforce employed on numerically flexible contracts, using the establishment level survey across 20 European countries for 1989. Here flexible contracts include part-time contracts, temporary, fixed-term contracts, subcontracting, and annualized hours. Performance was measured through managers' perception of how well the company was doing in terms of financial turnover. Results show that the only statistical significant impact found was from the use of temporary contracts. Michie and Sheehan-Quinn (2001) examine the impact of flexible work practices, human resource systems, and industrial relations on corporate performances, using UK company level data. The results show that increasing flexibility, while positively correlated with short-term financial performances was negatively correlated to innovation within the company. Michie and Sheehan (2005) examine the relationship between flexibility, HR strategy, with performance of companies. They use objective performance measurements, that is, three year averages of the percentage of change in total sales, the percentage of change in labour productivity, and the percentage of change in per-tax profitability. They find that the use of external flexibility within the establishment reduces the effectiveness of HR strategies, especially for those pursuing an approach that emphasizes innovation and quality-enhancement.

### **Health and safety outcomes of employer-friendly flexibility**



More specifically to working-time practices, there have been studies that link the use of employer-friendly practices with health and safety issues in the fields of medical science. These studies show how the use of various employer-friendly working-time arrangements leads to hazardous health and safety outcomes.

Overtime has been linked to poorer perceived general health, increased injury and hazard rates, more illnesses, increased mortality, as well as decreased performance (Caruso, 2004; Caruso et al., 2006; Dembe et al., 2005). Shift work and unusual hours, such as night shifts, has also been recognized as risk factors for health, safety, and social well-being (Costa, 2003; Costa et al., 2006). In addition, working unusual hours and shift may increase dissatisfaction of workers concerning work-life balance (Williams, 2008) and have negative impact on the family's well-being (Strazdins et al., 2006).

From these results and others, we can expect that employer-friendly flexibility arrangements will increase the HR related problems faced in the company in terms of sickness and absenteeism of workers. In addition, due to the negative consequences of the employer-friendly arrangements, we can expect lower motivation and loyalty of workers, lower retention rates, as well as difficulties in recruiting workers in companies that use employer-friendly working-time arrangements intensively. We can even expect a decrease in productivity, and thus a negative impact on economic performance as a part of indirect effects of the use of employer-friendly working-time arrangements.

### **2-3. Country and sector variances**

As we can see from the survey of the studies mentioned, most empirical studies have focused primarily on data from one country, and from these, many focus on one or few number of sectors. The limitation to this is that it is unclear whether or not the impact of working-time flexibility is constant or diverse across different countries and different sectors. Countries have different institutions, as well as culture, including corporate culture (Hofstede et al., 1991). Due to these contexts, working time strategies may have different implications in different countries. Mills and Täht (2010) examine various flexibility arrangements across countries and note how the arrangements are not only different in character but also have different outcomes depending on the country in question (Mills & Täht, 2010). Similarly, flexible

arrangements may be used differently and have different characteristics depending on the company context (Anderson et al., 2002; Blair-Loy & Wharton, 2002).

Due to the different starting points – regardless of why they came about – the use of flexible arrangements will entail different company involvement in different countries and sectors. Previous studies have shown that countries and sectors are different in terms of diffusion level of working-time practices (Chung, 2009; Dex & Bond, 2005; Golden, 2009; Konrad & Mangel, 2000), where some countries many are used whereas in others they are seldom used, if used at all. Thus, the additional impact of working-time components can be different accordingly. In addition, companies in distinct sectors and countries will be in different situations in regards to the possible problems they may face in the areas of HR performances. In countries and sectors where there is a large supply of labour and not much demand, workforce recruitment as well as retainment may not be problematic for companies. In some countries and sectors, sickness and absenteeism occur more frequently due to the nature of the job or due to differences in the institutional frameworks (Frick & Malo, 2008; Väänänen et al., 2003). In sectors where there are more stress due to the nature of the job, such as in care related sectors, there may be more HR related problems that arise related to stress. In other words, countries and sectors have different needs as well as potential problems thus the problem relieving or inducing impact of working time flexibility will depend on the context in question.

Examining previous studies, there have not yet been studies that systematically compare the impact of the use of working-time practices on performance outcomes across different countries directly. On the other hand, the results of the studies covering different countries show different outcomes. For example, Lee and Kim (2010) show how the flexitime arrangements do not benefit Korean firms to the extent it has been shown in Western countries. They note how this is due to that these arrangements are different in characteristics in the different countries.

### **3. Data and Methodology**

#### **3-1. Data and measurement**

##### **Data**

To examine the performance outcomes of the use of working-time arrangements, I use the 1<sup>st</sup> wave of the European Company Survey (ECS), also known as the Establishment Survey on Working-time and Work-life Balance (ESWT) from the European Foundation. The ESWT provides information at the establishment level on various arrangements used within firms for flexibility and work-life balance issues. It covers 21 EU member states – the EU-15 plus six new accession countries, namely Cyprus, Czech Republic, Hungary, Latvia, Poland and Slovenia – and was conducted between 2004 and 2005 in over 21,000 establishments in which personnel managers and, if available, employee representatives (ER) were surveyed via telephone interviews. All establishments with more than 10 employees across all sectors are represented in this data set. This paper makes use of the data from the manager survey, which covers a wider and more representative range of companies and contains more reliable answers. The ESWT survey covers a wide range of arrangements on which data were not available in other sources, especially those that were comparable across countries. The list might not be exhaustive but does include the major arrangements currently in use in companies throughout Europe. See Riedmann (2006) for more concerning the ESWT data set. Of the various arrangements, we include nine working-time arrangements; three employee-friendly arrangements i.e., leave for care or illness in family, leave for education or training, leave for other purposes which is not defined, three employer-friendly arrangements i.e., shift-work, unusual hours – that is, working during evenings, nights, and weekends, and overtime- working longer than the contracted weekly working hours, and lastly arrangements that facilitate both sides, i.e., part-time work, flexible working schedules- that is, flexible beginning and ending times of work, changing the number of hours worked, as well as the possibility to accumulate hours to take days off, and right to reduce working hours(see Table1).

*Table 1 about here*

### **Measuring working-time components**

In this paper working-time arrangements are examined separately as well as bundles in terms of working-time components. There are several reasons for using the component scores. First, examining the provision of arrangements separately neglects how organisations may use various arrangements in combination (Kalleberg et al., 2003: 539). The provision of an arrangement within the company will have

different implications depending on what other arrangements have been used simultaneously, since there are substitution as well as complementary effects. Second, sometimes managers find it difficult to distinguish between the various arrangements organisations provide, and the use of bundles captures the basic distinction between the types of arrangements (Kalleberg et al., 2003: 539-540). Last, use of the concept bundles or components allows a much simplistic analysis of complex ideas, since we are able to grasp the provision of various arrangements in manageable small number. For this reason, most previous studies (e.g. Eaton, 2003; Konrad & Mangel, 2000; Perry-Smith & Blum, 2000; Whitehouse et al., 2007) that examine the impact of family policies or working-strategies on performance outcomes use the bundle approach.

To derive components of working-time arrangements, a factor analysis is done including the nine working-time arrangements listed in Table 1. Factor analysis reduces the numbers of variables by combining them into a single factor and it allows for the identification of interrelated variables, and thus for finding or classifying bundles (Statsoft, 2008). The groupings can be understood as representing the working-time arrangements bundles, but they can also be understood as representing the company's working-time flexibility strategy. The analysis resulted in three components, using the eigen value scores. They can be distinguished namely as the employee-friendly working-time flexibility component (WTFC)(factor 1) and the employer-friendly working-time flexibility component (factor 3) and the both working-time component (factor 2) (See Table 2). In the strict sense the component scores represent number of arrangements used by the company that are included in the employee-, employer-, or both-friendly working-time arrangement bundle, but it could be interpreted as the intensity to which they use that given flexibility strategy. These three component scores will be used as our main independent variable throughout the rest of the analysis. For the precise methods used as well as its analysis outcomes see (Chung & Tijdens, 2009).

*Table 2 about here*

### **The dependent variable**

There are two types of questions asked in the ESWT data set that can be used as performance measures. The first type concerns whether the company has confronted problems in the areas of HR. Managers

were asked to choose in a dichotomous manner, the problem areas they feel that their company is facing. However, they were not able to express the severity of the problem. The indicators are examined separately, to see whether companies face certain problems depending on their working-time flexibility component scores. I add the number of problems the company is facing to derive a total number of problems. This should be understood as the diversity of problems faced in the company, rather than the intensity. I presume, however, that the more problem areas the company faces, the worse situation the company is in. The second type of performance measure is the economic situation of the company. The survey also included perceived economic performance question, given to the managers. Managers were asked how they perceived the economic situation of the company, where they could answer on a four point scale of very bad, quite bad, quite good to very good. This will be used as a proxy for the economic situation or performance of the company. Unfortunately, in the survey there were no questions asked on the actual performance or productivity of the workers, nor was it possible to match the data with the information concerning the financial turnover of the company. Overall, the performances indicators used in this paper are as follows:

***HR problem indicators*** (dichotomous measurement)

- High absenteeism and/or high sickness rate
- Difficulties in recruiting staff – both high and low skilled
- Difficulties in retaining staff
- Low motivation of staff
- ‘Other’ problems (not defined)

***Total number of problems in the company*** (scale: aggregated number of problems from the individual problem area) – ranging from 0 to 5

***Economic performance indicator (scale)***- ranging from 1 to 4 (very bad, bad, good, very good)

**Measuring performance outcomes**

It is important to take caution when examining performances outcomes. The relationship between corporate policies on working-time flexibility and performances is hard to decipher, since productivity has multiple causes in addition to working-time practices (Yasbek, 2004). The outcome variables may be endogenous to the firm’s other HR behaviour or strategies. It is hard to say how the flexible working practices in themselves will result in certain outcomes without taking into account other managerial/production practices and complex environment where the company is placed in. In addition,

the causality of the relationship is not always clear cut and there are possibilities of reversed causality, where the HR problem areas may be the reason why companies take up specific working-time arrangements rather than being the result of it. However, we can still loosely link the outcome results of the firms with their working-time flexibility practices to infer their possible impacts.

Furthermore, when dealing with issues such as HR problems, one must clarify what the responses really mean. A problem can only occur, when there is a need for something that cannot be met. In the example of problem areas such as difficulties in finding staff, these problems can only occur when the company first has a need to recruit workers. Thus not having a problem can mean that the company has succeeded in solving the issue, but it could also mean that the need never aroused. However, most problem areas mentioned in the survey are those that are more or less universal problems companies of all characters could face at any given time. However, it is yet important to keep this issue in mind when interpreting the results of the analyses.

### **Control variables**

To enable a proper assessment of the impact of working-time practices on the performance outcome of the company, other factors that can influence performance outcomes need to be controlled for. Only through this method, can we compare two companies in the same situation but only differing in the extent to which they use working-time flexibility. Based on previous studies on the performance outcomes of working-time practices examined in section two, we control for the following variables; Sector – NACE13 categories as dummy variables – reference: manufacturing, public vs. private sector – dummy variable (reference: private company), establishment size – 6 categories, composition – proportion of female, skilled, younger and older workers (5 point scales), existence of employee representative body – dummy variable (reference: no employee representative), whether or not the company is a headquarters, subsidiary or single-site – dummy variables (reference: single-site), and lastly the provision of work-life balance services and facilities provided in the company.

### **3-2. Models**

Random slope random intercept multi-level regression models are used to model the varying impact of working-time practices across countries. Multi-level analysis takes contextual effects into account, thus companies are considered to be embedded in countries (see Hox, 2002). Using this approach, I can examine whether if there is a varying impact of working-time practices at the company level across different countries. For the specific problem areas, since they are dichotomous variables, multi-level logistic regressions are used. In this paper several models are examined. First, bi-variate relationships are examined. Second, relevant company characteristics that may influence performance outcomes of companies are controlled for, to see the pure effects of working-time practices on performance outcomes. Here, I will use a random slope model to examine if the impacts of working-time practices vary across different countries. In order to examine the actual impact of the working-time components per country and their statistical significance, I also run models for separate countries. Third, sectoral variances will be examined through the use of interaction terms with the working-time component scores and sector dummies. In addition, to examine the actual impact of the working-time component scores per sector, I run the model separately per each sector. Using a multi-level approach, I am able to find the average impact across Europe for the specific sector. Here I use STATA 10.0 and MLwin 2.22 to derive the results.

## **4. Analysis outcomes**

### **4-1. Descriptive**

Table 3 shows the percentage of companies facing the above mentioned problem areas per country as well as the average total number of problems faced in the company and average scores for economic performance. We can see that there is indeed a large variance of companies facing problem issues. On average across Europe, 40.0% of all companies face problems with recruitment, which is the largest problem area for all countries, and low motivation and sickness absenteeism are somewhat less of a problem with approximately 14% of all companies across Europe perceive it as an issue. Not many companies face problems retaining workers or “other problems”, with the European average of less than 10%. The total average number of problems faced in a company in Europe is 0.84 area, but this ranges

from 0.39 of Portugal to 1.32 of Spain. On average, in 2004/2005 most companies across Europe seem to be in “good” economical situations and not much variance is found although the scores range from 2.77 of Germany to 3.26 of Ireland.

*Table 3 about here...*

The question than is, to what extent working-time practices explain these scores. Since a certain level working-time component score already entails that the company has certain characteristics(see Chung, 2009). Due to this, a bi-variate analysis outcome will also provide fruitful information on the relationship between performance and company working-time practices. Table 4 shows us that the use of more employee-friendly flexibility strategies are linked to decreased likelihoods of having problems in recruiting staff and keeping them motivated. However, the use of these strategies is positively linked to “other” problems. Why this is the case, is uncertain. Since other problem issues were not specified in the survey, it could entail a whole range of issues. Based on the literature, this may include the conflict between those who take up the arrangements and those who do not, as well as high indirect labour cost due to the use of such arrangements (Evans, 2001; Yasbek, 2004). Regardless, the higher the employee-friendly WTFC score, the lower the total number of problems faced in the company, and the better the economic condition of the company.

On the other hand, high employer-friendly WTFC scores, thus use of overtime, unusual hours as well as shift work and other employer-friendly working-time arrangements, are positively associated to all HR problem aspects covered in the ESWT survey. This includes having problems with sickness and absenteeism of workers, recruiting, retaining workers as well as keeping them motivated, and other problems, thus resulting in these companies having more problems overall. Also, the companies that score high on employer-friendly WTFC seem to be in worse economic situations. The use of working-time arrangements that facilitate both sides, are also likely to face problems in all aspects with the exception of finding workers, although the likelihood is smaller than that of when using employee-friendly strategies. In addition, the use of the both-friendly strategies is not necessarily linked with bad economic conditions.

*Table 4 about here.*



These results do not control for other factors that may affect company HR performances, including the use of the other type of working-time component, which as we see in the above table, is highly influential. For this reason, we run multi-variate analyses, where other company level characteristics that may affect performance outcomes are controlled for.

## **4-2. Multi-variate<sup>i</sup>**

### **Effects of working-time flexibility on problem areas**

As we can see from the Table 5, companies that use more employee friendly working-time practices are those less likely to have problems concerning recruitment and motivation of staff within their company, perceived by the managers. In the case of former, this difference is statistically significant. On the other hand, the working-time component that facilitate both employer and employees, and the employer-friendly working-time component increase the likelihood of having all types of problems. For the employer-friendly working-time component this impact is statistically significant for all problem areas, somewhat like the conclusion found in the bi-variate analysis. For example, 1 standard deviation increase of employer-friendly working-time flexibility will lead to 4% increase in the likelihood of having problems in the area of sickness and absenteeism, recruitment, worker retainment, and low motivation of workers and will increase the likelihood of facing other problems by 2%.

I look in more detail to see exactly which arrangement within the component bundles drive the impacts. For the employee-friendly component all arrangements have different impacts on the probability of having a problem and no clear patterns are found. For the both-friendly component arrangements, we can see that part-time work increases the likelihood of facing all types of problems. The use of flexible working schemes, on the other hand, decreases the likelihood of the company facing the problem with the exception of other problems, where it increases the likelihood. This impact is significant for sickness and absenteeism, as well as recruitment issues. All of the employer-friendly arrangements significantly increase the likelihood that the company will face the surveyed problem area. The one exception to this rule is the use of unusual hours on the likelihood of other problems, where the impact is insignificant. Of the arrangements, overtime seems to be the most problematic arrangement, where its use increases the

likelihood of the company facing problems such as recruitment, retainment and motivation by 7% and increasing the likelihood of facing other problems by 5%. For sickness and absenteeism the use of unusual hours seem to increase this problem most, with 6%, however, the use of shift work also increases the likelihood of facing this problem by 5%.

*Table 5 about here*

### **Effects of working-time flexibility on total number of problems and economic situations**

Now, I examine the impact of working-time flexibility on the total number of problems and on the economic situation of the company. As shown in Table 6, both-oriented and employer-friendly working-time component scores increase the total number of problems faced in the company. This is not surprising based on the results found in Table 5, where separate problem areas were examined. For employee-friendly working-time component no significant impacts are found. We can also see from Table 6 that companies using more employee-friendly flexibility are in better economic situations and companies using more employer-friendly flexibility are in worse economic situations. Examining more closely per arrangement, it seems that it is unusual hours and somewhat shift work that drive the result for employer-friendly flexibility, whereas the use of leave for the care of family and relative may be leading the employee-friendly component result.

The positive relationship between economic situations and the use of employee-friendly working-time arrangements can result from various reasons. This can be due to the fact that the use of employee-friendly working-time arrangements leads to less HR related problems, or lead to increase in productivity through other manners as mentioned in section 2. However, the relationship can also be due to reverse causality. Thus, companies that are in better economic situations may be the ones that have more room to provide employee-friendly working-time arrangements. In a previous study I have found that even when other things are held constant, economic situation of the company affects their working-time practices (Chung, 2009). Similarly, employer-friendly working-time arrangements may be used in companies in bad economic situation to overcome their economic problems.

*Table 6 about here*

To test the relationship between the total number of HR problems and economic situations, I run bi-variate and multi-variate models of the number of HR related problems and economic situation of the company. Table 7 shows the bi-variate model as well as in the two multi-variate models, where other company characteristics-including the company's working time practices- are held constant. The results show that the total number of HR related problems faced in a company has a significant negative impact on the economic situation of the company, when we control for other company characteristics including the use of various working-time components.

*Table 7 about here*

The results found here leads me to believe that there may be a vicious vs. virtuous cycle of economic situations, HR problems, and working-time practices as the Figure1. Companies in better economic situations provide more employee-friendly working-time practices. These practices then reduce the probability of having various HR related problems, although this relationship is not statistically significant for some problem issues. Decreased number of HR problem will then improve productivity, thus putting the company in better economic situations. On the other hand, companies in bad economic situations use more employer-friendly working-time practices, although when other company characteristics are held constant, this relationship does not hold. However, companies that use large amounts of employer-friendly working-time flexibility, have more HR related problems, both when other factors are taken into account and when they are not. The high number of HR related problems will result in a bad economic situation for the company.

*Figure 1 about here*

### **Country variance in the effect of working-time flexibility**

The next question in this paper is whether or not there are country level variances in the effect of the different working-time flexibility components. The results of the analysis show that there is a statistically significant cross-national variance in the impact of employer-friendly working-time component, but this variance is not statistically significant in the case for employee-friendly or both-oriented components.

However, since we wanted to examine the actual impact of these components per country, a model is run

per country. As we see from Table 8, there are significant country differences between the effects employee-friendly working-time flexibility has on the total number of problems a company faces.

Although in the European average one can find an insignificant relationship, as shown in Table 6, in countries such as UK and Finland, the negative effect of using employee-friendly flexibility is significant. Denmark, Spain, Ireland, and the Netherlands also show negative relationship between employee-friendly flexibility use and total number of problems, but their impacts are not statistically significant. In Luxembourg, and somewhat Latvia and Hungary, the use of employee-friendly working-time component significantly increases the number of problems a company faces. Also in the case of France and Slovenia, one could see a slight positive relationship. For the both-oriented working-time component, the impact also varies largely across countries. Although in the European average there is a statistically significant positive relationship between the use of both-oriented working-time component and the average number of problem areas a company will have, this is actually only true for some countries. In Slovenia, the UK, France, Portugal and somewhat Finland, the more a company uses the arrangements facilitated to the needs of both workers and employers, it seems that they would face more HR related problems. However, in the rest of Europe this impact is statistically insignificant, and in some countries such as Sweden, Czech Republic and the Netherlands, a slight negative impact could be seen. As for the effect of employer-friendly flexibility components, all countries with the exception of Cyprus, have the same effect as the European average effect. Thus the more employer-friendly working-time flexibility a company uses, the more problems it would have and this relationship holds true for all countries, although the significance of the relationship varies depending on the country. In the case of Luxembourg, Belgium and the UK this effect is even stronger than the average effect found for Europe.

*Table 8 about here*

### **Sector differences in the effect of working-time flexibility components**

Another aspect of interest is the sectoral variances in the effect of the working-time flexibility components. As we can see from the analysis result shown in Table 9, the effect of working-time flexibility components vary depending on the sector in question. Employee-friendly working-time arrangements decreases the number of HR related problem a company faces in sectors such as Mining

and quarrying, Electricity, gas and water supply, Health and social work, Financial intermediation, Retail and repair, and transport, Real estate, and Education, although the impact is only statistically significant for Mining and quarrying. However, in sectors such as, Construction, Hotel and restaurants, transport, Public administration and Other services, there a statistically insignificant positive effect.

For the both-friendly and employer-friendly working-time flexibility component, a positive effect is found for all sectors, although the power of the impact and their respective statistical significance depends on the sector in question. The only exception is the Electricity, gas and water sector for the employer-friendly working-time flexibility, where a slight statistically insignificant negative relationship is found. In the Mining and quarrying sector, the use of both-friendly flexibility component increases the number of HR problems faced in a company much more than in other sectors. On the other hand, the use of employer-friendly working-time flexibility components increases the number of problems much more in sectors such as Real estate, Retail and repair, Education, Public administration and Health and Social Services.

### **4-3. Discussion**

The results of the analysis show that there are differences between countries and between sectors in the relationship in the use of the different types of working-time flexibility strategies and the total number of problems the company faces. An interesting fact is that the use of employee-friendly working-time flexibility may increase or decrease the number or problems faced in the company depending on the country and sector in question. On the other hand, the use of employer-friendly flexibility almost always increases the number of problems faced in all countries and sectors, but the strength of the impact may vary. For the both-friendly flexibility their impact could be negative or positive depending on the country context, but on average it increases problems in most sectors. Also, their negative influence is not as strong as the one found for employer-friendly arrangements.

This varying impact of the working-time components could be due to several different things. One reason for this could be that, as mentioned in the theory section, these arrangements have different characteristics depending on the country and sector context in question. For example, employee-friendly

arrangements may be more generous or they may facilitate the needs of employees more in countries where there are generally more of an employee-friendly policy company culture than in other countries. This may be the reason why the use of employee-friendly flexibility may actually be helpful in decreasing number of problems in Finland, a country where there are generally more work-life balance policies than in other countries. Especially the both-friendly flexibility arrangements may change its characteristics depending on the context it is being used, especially because these are arrangements that could be used to meet the needs of either employers or employees. On the other hand, the use of certain working-time strategies may provide good results because the provision is not common among the companies within the country. For example, in the UK it may be that the use of employee-friendly flexibility is not common, and thus when used it provides good results. However, at a first glance there does not seem to be a clear relationship between the diffusion of arrangements and their impacts. On the other hand, it seems that employer-friendly arrangements seem to have rather a straight forward result, where it tends to increase problems regardless of the country context and sector context. The degree differs, but the impact is rather stable. In addition, based on the per problem analysis, we see that it increases the problems of all of the aspects examined and all of the three arrangements that are included in the analysis, that is shift work, unusual hour and overtime all seem to have negative impacts on the HR problem areas. In other words, all employer-friendly working-time flexibility strategies seem to be problematic in all countries and in all sectors.

## **5. Conclusions**

In this paper, we explored the performance outcomes of working-time practices of companies across 21 countries and 13 sectors, dividing working-time practices into those that are employee-friendly, both-friendly and employer-friendly. At first glance, the use of employee-friendly working-time flexibility brings less HR related problems, thus bringing better economic situations. However, taking a closer look, we see that this relationship is not true for all problem aspects, not for all countries, and not for all sectors, and a large cross-sectoral and cross-country variance is found in this relationship. In addition, of the arrangements included in the bundle, it seems that specific arrangements are driving the results. On

the other hand, employer-friendly flexibility brings more HR related problems, thus bringing worse economic situations for companies. Unlike the case for employee-friendly flexibility, this holds true for all problem aspects, in all economic situations, for all countries, and for all sectors, although the strength of the relationship is stronger in some sectors and for some countries. In addition, all of the arrangements included in the employee-friendly bundle seem to be causing the problem, and only the strength of the impact varies. For the both-friendly flexibility component it also depends largely on the country in question and the type of problem in question. Of the arrangements categorized as both-friendly, it seems that part-time work is causing most of the negative impacts, whereas flexible working schemes are providing rather positive outcomes in some areas.

These results provide a caution concerning the use of employer-friendly working time arrangements. Although they may be used to tackle urgent problems or to meet short-term profit gains, on the longer-run it is likely to provide negative performance outcomes, due to its negative consequence on the human resource related problems it may cause. For employee-friendly and for some of the both-friendly flexibility arrangements, namely flexible working hours, there seem to be indeed a business case for the use of these arrangements. In other words, there is evidence to believe that the introduction of these arrangements may help companies in the longer-term, although some short-term costs may occur in its introduction. However, the good outcomes of employee-friendly working time arrangements is not as clear cut as was shown in previous studies. One of the reasons for this would be that in this study, the use of employer-oriented flexibility has also been controlled for in the model. It could be the case that although employee-flexibility could provide good results, when used along side with employer-flexibility, its positive impact may be cancelled out. Another important issue to note here is that this positive effect may not hold true for all companies and that the context in which it is introduced matters greatly.

The cross-national and cross-sectoral variance of the relationship found for employee-friendly flexibility and performance outcomes shows us the danger of presenting a general theory based on data from specific countries or sectors. As we have seen there are differences between not only countries, but also sectors, and also certain company circumstances, and sometimes they show opposite results in different settings. Thus, we cannot rely on one all encompassing theory but have to try to grasp the diversity of the relationships that actually exist, and try to understand the reasons behind it. There seems

to be no one-size-fits-all approach to introducing flexibility, and such benchmarking must be taken with severe caution.

Relating to this point, there are some issues still not yet tackled in this paper. Firstly, although we have found that there are cross-national variances in the relationship between the use of working-time flexibility with performance outcomes, we have not yet examined why this is the case. At a first glance, no clear patterns are found for the cross-national variances and further investigations are needed to find the reason behind this difference between countries. The same holds true for the sectoral differences. In addition, repeated test using different types of data would be of benefit, especially those including more objective performance outcomes as well as those using longitudinal data across time. In this paper, due to data limitation, we only focus on human resource related performance outcomes and a rather subjective measure of economic performance. However, it will be interesting to see how the different working-time practices have varying impacts on the performance outcomes measured in terms of financial turnovers or other objective performance outcomes. Furthermore, panel data including a time dimension will contribute greatly to confirm the findings especially on issues such as the virtuous and vicious cycles addressed in this paper. This would allow us to see how the use of arrangements at an earlier time point can result in performance outcomes at a later time point. With cross-sectional data as our data set, such analysis is limited. However, company level panel data that is comparable across countries and includes information on company performance as well as the information on the use of various working-time flexibility arrangements does not exist. To further studies in this field, such data development would thus be crucial.

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**[Tables and Figures]**

Table 1. Working-time arrangements included in this paper (ESWT 2004/2005)

Main Category	Arrangements
Employee-friendly	Leave for care or illness in family Leave for education Leave for other purposes
Employer-friendly	Shift-work Unusual hours Overtime
Both-friendly	Part-time Flexible working-time/schedule Possibility to change from full time to part time
Total	9 options

Table 2. Working-time flexibility components

Variable	Factor1	Factor2	Factor3	Uniqueness
Care leave	0.82	0.10	0.01	0.32
Education leave	0.83	0.06	0.04	0.31
Other leave	0.69	0.05	0.00	0.52
Overtime	-0.02	0.27	0.34	0.81
Unusual hours	-0.02	0.04	0.81	0.35
Shift work	0.07	0.02	0.79	0.37
Flexible working	0.08	0.45	-0.03	0.79
Part-time work	0.03	0.77	0.05	0.40
Reduce working hours	0.16	0.75	0.04	0.41

Varimax rotation method, bold representing the highest loadings

R<sup>2</sup>=52.44%

N=17,200

Table 3. Country averages of company HR performance outcomes (weighted averages)

	sickness & absenteeism	hard to recruit workers	hard to retain workers	low motivation of workers	other problems	total # of problems	economic situation
Belgium	18.2%	59.8%	12.1%	17.1%	8.4%	1.16	3.07
Denmark	18.7%	25.4%	5.7%	10.5%	2.9%	0.63	3.10
Germany	14.2%	36.2%	4.2%	14.8%	14.5%	0.84	2.77
France	4.1%	45.1%	12.4%	5.2%	1.9%	0.69	3.04
Greece	12.0%	39.9%	8.2%	8.2%	0.7%	0.69	3.14
Spain	20.6%	58.1%	13.8%	27.6%	12.1%	1.32	3.06
Ireland	14.1%	45.1%	10.9%	24.1%	2.1%	0.96	3.26
Italy	11.8%	38.5%	10.0%	16.2%	1.6%	0.78	2.94
Luxembourg	24.5%	50.2%	6.4%	19.3%	3.6%	1.04	3.14
Netherlands	11.3%	30.8%	3.9%	9.1%	8.9%	0.64	2.95
Austria	12.7%	43.3%	5.2%	10.0%	2.9%	0.74	3.14
Portugal	3.5%	20.8%	3.4%	7.4%	4.3%	0.39	3.17

Finland	14.9%	43.4%	5.3%	14.7%	8.9%	0.87	3.08
Sweden	13.6%	34.3%	4.6%	10.0%	9.0%	0.71	2.95
United Kingdom	16.2%	44.5%	12.0%	11.2%	3.4%	0.87	3.16
Czech Rep.	25.4%	40.0%	10.1%	16.7%	11.1%	1.03	3.09
Cyprus	8.6%	63.0%	18.8%	12.4%	6.9%	1.10	3.16
Latvia	14.9%	59.5%	17.0%	15.2%	7.1%	1.14	2.85
Hungary	10.3%	27.5%	6.4%	10.1%	1.9%	0.56	2.79
Poland	7.1%	24.0%	8.2%	12.8%	4.8%	0.57	2.96
Slovenia	22.5%	46.0%	5.2%	9.6%	3.7%	0.87	3.01
Average	14.1%	40.0%	8.5%	14.5%	7.2%	0.84	2.99

N=20,954

Table 4. Correlations of working-time flexibility component scores and company performance outcomes [establishment weighted]

	sickness & absenteeism	hard to find workers	hard to retain workers	low motivation of workers	other problems	total number of problems	economic situation
Employee-WTC	0.003	-0.068***	-0.006	-0.026***	0.032***	-0.035***	0.025**
Both-WTC	0.062***	0.006	0.017*	0.029***	0.049***	0.053***	0.003
Employer-WTC	0.104***	0.108***	0.075***	0.097***	0.064***	0.162***	-0.028***

Note: \*\*\* p > 0.01 , \*\* p > 0.05, \* p > 0.10

N=17,200

Table 5. The effect of working-time flexibility components on various problems within the establishment and its economic situation controlled for various company level characteristics

	sickness & absenteeism				hard to recruit workers				hard to retain workers				low motivation of workers				other problems			
	Prb.	sig	Prb.	sig	Prb.	sig	Prb.	sig	Prb.	sig	Prb.	sig	Prb.	sig	Prb.	sig	Prb.	sig	Pb.	sig
Constant	25.8	***	21.0	***	48.0		39.9	***	10.8	***	7.7	***	18.6	***	13.7	***	5.1	***	3.4	***
Employee WTFC	0.5				-0.8	*			0.2				-0.5				2.0	**		
Both WTFC	0.8				0.9	**			1.1				1.6	**			2.9	***		
Employer WTFC	4.4	***			3.6	***			3.9	***			3.8	***			2.2	**		
Part time			2.8	**			2.6	**			4.0	**			3.2	**			3.7	*
Flexible working scheme			-2.9	***			-1.6	*			-2.1				-1.3				6.2	***
Right to reduce working hours			0.3				-0.3				-0.6				0.3				-1.2	
Care leave			1.5				-2.0	*			-1.4				0.6				-1.0	
Education leave			-0.9				1.3				0.0				-1.5				-0.6	
Other leave			0.9				-1.3				2.6	*			-0.4				6.7	***
Shift work			5.1	***			2.2	**			4.7	***			3.6	***			4.6	**
Unusual hours			5.6	***			4.7	***			3.1	**			4.0	***			-0.3	
Overtime			2.4	*			7.2	***			6.9	***			6.7	***			4.9	**
	Var	S.E.	Var	S.E.	Var	S.E.	Var	S.E.	Var	S.E.	Var	S.E.	Var	S.E.	Var	S.E.	Var	S.E.	Var	S.E.
Variance level 2	0.197	0.064	0.200	0.065	0.224	0.071	0.228	0.072	0.268	0.088	0.286	0.094	0.162	0.054	0.165	0.055	0.446	0.146	0.447	0.146
Variance level 1																				

N1=16272, N2=21

Note: \*\*\* p > 0.01, \*\* p > 0.05, \* p > 0.10

Two-level multilevel model with country constant variance (significant for all models)

All models controlled for company level variables listed in section 3 of this paper

Table 6. The impact of working-time component and arrangements on total number of problems and economic situations

	total number of problems				Economic situation			
	B	sig.	B	sig.	B	sig.	B	sig.
constant	1.091	***	0.885	***			3.035	***
Employee-WTFC	0.000				0.015	***		
Both-WTFC	0.031	***			0.005			
Employer WTFC	0.100	*** (RE)			-0.016	***		
Part time			0.080	***			-0.006	
Flexible working scheme			-0.035	**			0.013	
Right to reduce working hours			-0.018				0.006	
Care leave			-0.009				0.022	*
Education leave			-0.003				0.009	
Other leave			0.019				0.006	
Shift work			0.105	***			-0.018	
Unusual hours			0.106	***			-0.031	***
Overtime			0.140	***			0.018	
	Var.	Std.E.	Var.	Std.E.	Var.	Std.E.	Var.	Std.E.
Variance level 2	0.054	0.017	0.056	0.018	0.013	0.004	0.013	0.004
Variance level 1	0.918	0.010	0.916	0.010	0.365	0.004	0.365	0.004
Variance 2: employer WTFC	0.001*	0.001						

N level 1=16272 (for total number or problems), N level1=15601 (for economic situation), N level 2 = 21

Note: \*\*\* p > 0.01, \*\* p > 0.05, \* p > 0.10

Two-level multilevel model with country constant variance (significant for all models)

All models controlled for company level variables listed in section 3 of this paper

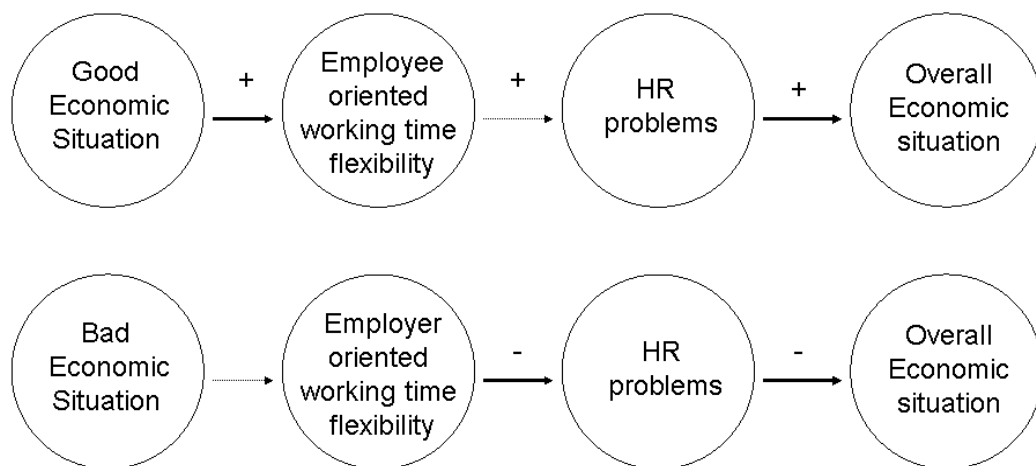


Figure 1. Virtuous/Vicious cycle of working-time practices and performance

Note: the darker lines represent statistical significance in the relationship



Table 7. The relationship between the number of problems within a company and its economic situation

Model	Economic situation of the company	
	Coefficients	
Total number of problem (bi-variate)	- 0.095	***
Total number of problems (multi-variate+ control variables)	- 0.101	***
Total number of problems (multi-variate+ control variables + working-time flexibility components in the model)	- 0.101	***

Note: \*\*\* p > 0.01 , \*\* p > 0.05, \* p > 0.10

N level 1= 15601, N level2=21

Two-level multilevel model with country constant variance (significant for all multi-variate models)

The company level variables that were controlled for can be found in section 3 of this paper.

Table 8. The impact of working-time component on the total number of problems per country

	employee	both	employer
Belgium	0.00	0.04	<b>0.21</b>
Denmark	-0.03	0.02	0.05
Germany	0.00	0.01	<b>0.11</b>
France	0.08	<b>0.10</b>	<b>0.09</b>
Greece	0.02	0.03	<b>0.12</b>
Spain	-0.03	0.01	<b>0.10</b>
Ireland	-0.04	0.06	<i>0.11</i>
Italy	0.00	0.03	<b>0.10</b>
Luxembourg	<b>0.16</b>	0.00	<b>0.22</b>
Netherlands	-0.02	-0.02	0.03
Austria	0.01	0.02	0.06
Portugal	0.00	<b>0.09</b>	<b>0.08</b>
Finland	<b>-0.10</b>	<i>0.07</i>	<b>0.11</b>
Sweden	0.01	-0.05	<b>0.10</b>
United Kingdom	<b>-0.11</b>	<b>0.12</b>	<b>0.20</b>
Czech Rep.	0.02	-0.03	0.07
Cyprus	-0.01	0.07	0.00
Latvia	<i>0.10</i>	0.05	0.09
Hungary	<i>0.07</i>	0.06	0.04
Poland	0.01	0.00	<b>0.07</b>
Slovenia	0.07	<b>0.19</b>	0.08

Note: bold= p > 0.05, italic= p > 0.10

Two-level multilevel model with country constant variance (significant for all models)

Each row represents one model, and all models control for company level variables listed in section 3 of this paper

All models control for company level variables listed in section 3 of this paper

Table 9. The impact of working-time component on the total number of problems per sector

	employee	Both	employer
Mining & quarrying	<i>-0.215</i>	<b>0.232</b>	0.132

Manufacturing	-0.011	0.004	<b>0.089</b>
Electricity, gas and water supply	-0.078	0.015	-0.014
Construction	0.021	<b>0.086</b>	<i>0.058</i>
Retail & repair	-0.004	<b>0.051</b>	<b>0.152</b>
Hotel & restaurant	0.035	0.062	0.040
Transport	0.027	0.048	<i>0.065</i>
Financial intermediation	-0.023	<i>0.085</i>	0.058
Real estate	-0.003	0.047	<b>0.184</b>
Public administration	0.017	<b>0.062</b>	<b>0.137</b>
Education	-0.002	0.021	<b>0.140</b>
Health & Social service	-0.057	0.079	<b>0.130</b>
Other services	0.049	0.074	<b>0.112</b>

Note: bold=  $p > 0.05$ , italic=  $p > 0.10$

Two-level multilevel model with country constant variance (significant for all models)

Each row represents one model, and all models control for company level variables listed in section 3 of this paper

All models control for company level variables listed in section 3 of this paper

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<sup>i</sup> All specific models can be provided upon request.