Working Paper 1:

Explaining the provision of flexitime in companies across Europe (in the pre- and post-crisis Europe): role of national contexts

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Explaining the provision of flexitime in companies across Europe (in the pre- and post-crisis Europe): role of national contexts

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Abstract

One way of simultaneously increasing work-life balance while keeping costs down for both governments and companies is the use of flexible working-time arrangements (flexitime). Though flexitime plays an increasingly prominent role in occupational welfare not much is known about its provision, especially at a cross-national comparative manner. This paper examines the provision of flexitime in companies across a number of European countries using the European Company Survey for 2004 (21 countries) and 2009 (27 countries). It applies a multilevel modelling technique, wherein companies are considered to be nested in countries, and national and company level characteristics are included in the model simultaneously. The results show that company composition, structure and agency factors all play a role in explaining the provision of flexitime. However, the factors explaining the provision of flexitime are not necessarily the same as those explaining why companies provide it to a larger group of workers, and provide an extended use of flexitime such as the ability to accumulate hours or take days off through these accumulated hours. Cross-national variance in the provision of flexitime in 2009 can be explained mostly through national level demand: female labour market participation rates, cultural norms on work, as well as the affluence of the country. This is a change from 2004, where the most important factors explaining the provision of flexitime were government efforts in providing family policy and the size of the public sector. In sum, this paper shows that the more relevant factors in explaining why companies provide flexitime, especially as related to cross-national differences, seem to be based on the demand for such policies and the available resources to meet the demands.

Key words: flexitime, provision, company level, cross-national study, institution, multilevel modelling

Executive summary

Key Findings

- Analysis of European Company Survey data for 2004 and 2009.
- In 2009, 57% of all companies provide flexitime to at least one employee. This is an increase from 2004, where 49% of companies surveyed provided flexitime.
- Where a company provides flexitime, they are likely to provide it to a majority of employees (average 70%).
- Approximately 70% of all companies that use flexitime say they allow workers to accumulate hours (flexihours). 76% of companies allowing flexihours also allowing accumulation of hours to take days off (flexidays).
- In explaining the provision of flexitime, data suggest that company composition (more women and skilled workers), structure (large companies and service sectors) and agency factors (existence of an employee representative) all play a role.
- In 2009, cross-national variance in the provision of flexitime can be explained mostly through national level demand, as influenced by female labour market participation rates, cultural norms on work, as well as the affluence of the country.
- This is a change from 2004, where the most important factors explaining the provision of flexitime were government efforts in providing family policy and the size of the public sector.

Background

Despite the great interest in the use of flexitime by companies and policy makers across Europe, not much is known about its use especially in a cross-national perspective.

This report presents research from the first phase of the Work Autonomy Flexibility (WAF) Project. It examines the types of companies that provide flexitime, and the role different contexts (national, institutional, individual etc.) play therein. This research uses data from two years – 2004 and 2009 – to explore the impacts (if any) of the recent financial recession in the provision of flexitime. This analysis uses the European Company Survey, which includes over 21 countries in the 2004 set, and over 27 in 2009.

As well as detailed information on the types of companies that provide flexitime, this papers also looks at which companies provide flexitime to a large proportion of its workers, and which have more flexible provision (measured here through ‘flexihours’ and ‘flexidays’, see below).

The following four dependent variables were used:

- Flexitime – whether the company provides it for at least one employee
- Flexipro – the proportion of workers covered when flexitime is provided

- Flexihours – the ability to accumulate hours to work shorter and longer days when flexitime is provided
- Flexidays – the ability to take days off with the accumulation of hours, when accumulation of hours is allowed.

The organisational factors examined were:

- Composition of the workforce (% of female workers, % of skilled workers)
- Structure of the company (company size, sector –line of business (NACE 13 categories) public vs private)
- Industrial relations (employee representative present or not), economic resources (economic condition of the company)

The country level factors examined were:

- Institutions (family policy expenditure)
- Industrial relations – strength of the unions (union density %, collective bargaining coverage %)
- Bargaining levels (wage negotiation level, collective bargaining coverage %)
- National level demands (female labour market participation %)
- Cultural norms (gender norms, work centrality norms)
- Economic conditions (affluence – GDP per capita, unemployment rate, economic growth rate from previous year)
- Economic structure (% of service sector jobs, % of public sector jobs)

Results

Approximately 57% of all companies surveyed in the ECS 2009 provide flexitime to at least one employee. This is an increase from 2004, where 49% of companies surveyed provided flexitime. Where a company provides flexitime, they are likely to provide it to a majority of employees, with an average 70% of all workers in such companies having access to flexitime in 2009. Just under 70% of all companies that use flexitime say they allow workers to accumulate hours (flexihours), with 76% of companies allowing flexihours also allowing accumulation of hours to take days off (flexidays).

Companies with more women and skilled workers are those where flexitime is more likely to be provided and, when provided, be available to a larger group of workers. Larger companies are also more likely to provide flexitime to at least some of their workers, but smaller companies are more likely to allow flexitime across the board once it is being used at all. Service sector companies are more likely to use flexitime, though with the exception of sectors such as Education and Social Services. Although Public Administration sectors are more likely to use flexitime, there are no distinctions between public and private employers when sector and other factors are taken into account. Having an employee representative increase the likelihood that the company will use

flexitime. Interestingly, when employee representatives are present, flexitime does not cover as many workers within the company.

There were quite large cross-national variances. On average, in Northern European countries and the UK a larger number of companies provide flexitime, provide it to a larger group of workers within the company and allow it to be used more flexibly. However, while in the UK large groups of workers may have access to flexitime, it is likely that workers are not able to accumulate days off. In Southern European countries, plus Bulgaria, Estonia and Hungary, smaller number of companies provide flexitime, provide it to a smaller group of workers and do not allow for fleixhours or flexidays.

Findings demonstrate that, in 2009, flexitime provision can be largely explained by the national level demand for such arrangements (measured through female labour market participation), the work centrality culture of the country, and the resources countries have to address it (measured through GDP per capita). This is a change from 2004, where the most important factors explaining the provision of flexitime were government efforts in providing family policy and the size of the public sector.

For the 2009 findings, there a few important points to note. Female labour market participation levels may be due to reverse causality, rather than a measure of demand: i.e. where there are more companies using flexitime across the country, more women may be able to take part in the labour market. Furthermore, affluence of a country (GDP per capita) may also indicate changes in individual's preferences for leisure and their orientation towards work. However, even when work centrality is controlled for, findings demonstrate that the impact of GDP remains, suggesting that affluence may indicate the overall level of resources the country – through its companies as well as its workers – have to provide and use flexitime. For example, when wages are high, workers may forego further wages for more control over their work and a better work life balance.

The results of the paper shows that industrial relations, economic cycles, gender norms and economic structure are not as relevant as the aforementioned factors. Family policies, meanwhile, are important, but their effects are (fully?) mediated by female labour market participation measures – i.e. its impact disappears when we take into account women's labour market patterns.

Introduction

Recent research has shown that a large, and increasing, number of workers across Europe face conflict between their work and home lives (Eurofound, 2012). Given the negative consequence such conflict can have on the individual, their families and company, as well as for society more broadly (Blau, 1985; Dex & Scheibl, 2001; Greenhaus, Allen, & Spector, 2006; Hammer, Bauer, & Grandey, 2003), this is an issue that should not be ignored. One way of simultaneously increasing work-life balance, while keeping costs down for both governments and companies, is the use of flexible working-time arrangements (flexitime). Many managerial publications hail the use of flexitime as a part of company policies not only for its positive effects on employee work-life balance, but also as a means to increase their productivity (Gallo, 2010; Schmitt, 2009). For similar reasons, there have been developments in introducing flexitime at the country-level, through regulatory frameworks allowing the use of flexitime. For example, in 2014 the UK government extended the right to request flexible working, once granted only to parents, to all workers (See ACAS). This right to work flexibly has been adopted in several other European countries as a work-life balance tackling strategy (Hegewisch, 2009; Plantenga & Remery, 2005). What is more, increasing flexibility for workers has also been one of the central objectives of the European Commission's Employment Strategies since 1998 (CEC, 1998) and has gained even more ground through the EC's promotion of Flexicurity (CEC, 2007). In light of austerity measures, flexitime can also prove attractive to governments as it presents an easier and cheaper alternative method of addressing the ever growing work-life balance needs of the population and to promote female labour market participation and gender equality (Beninger & Carter, 2013; Wichert, 2014), especially when compared to other costly policies such as child care provision or paid-leave (Hewlett, 2009)

However, despite such interest in the use of flexitime, not much is known about its provision especially in a cross-national comparative perspective and from the company's perspective. Previous studies have addressed the provision of flexitime on its own (e.g., Golden, 2001; Golden, 2009; Präg & Mills, 2014), as a part of a larger set of family-friendly policies (e.g., den Dulk, Groeneveld, Ollier-Malaterre, & Valcour, 2013; den Dulk, Peters, & Poutsma, 2012; Dex & Scheibl, 2001; Dex & Smith, 2002; Evans, 2001), or a part of a larger set of flexibility arrangements (Berg, Appelbaum, Bailey, & Kalleberg, 2004; Chung, 2009; Chung, Kerkhofs, & Ester, 2007; e.g., Kassinis & Stavrou, 2013; for a review of the literature see Ollier-Malaterre, 2009). However, most studies examine the provision of flexitime based on individual level data. Those that do examine company level only look at one specific country, namely the Anglo-Saxon countries such as the UK, US and Australia (Lyness, Gornick, Stone, & Grotto, 2012; Ollier-Malaterre, 2009; see also, Präg & Mills, 2014). Although

recently there are a couple of new studies that do look at company level provision from a more cross-national perspective (e.g., den Dulk et al., 2013; Kassinis & Stavrou, 2013) they are based on data from a decade ago and do not include all relevant contextual factors in their analysis to account for any confounding factors that may distort the results.

Due nature of the work undertaken by a company, as well as its size, and financial and administrative capacity, the provision of flexitime will vary across companies of different sizes and sector. In addition, the demand for flexitime will also vary largely depending on the workforce composition of the company (Chung, 2009; Golden, 2009). Industrial relations systems within the company, such as the existence of an employee representative body, social dialogue practices, and manager's attitude towards work-life balance issues, may also explain variances in provision (Hoque & Bacon, 2014; Seeleib-Kaiser & Fleckenstein, 2009). Similarly, industrial relations structure at the national level and institutional policy frameworks has been shown to be influential in explaining flexitime provision (Berg et al., 2004; den Dulk et al., 2013; Lyness et al., 2012). Other studies argue that national demand measured through female labour market participation, or cultural factors such as normative views on work and gender relations can better explain the cross-national differences in the way flexitime is provided (Kassinis & Stavrou, 2013; Ortega, 2009). Economic and labour market conditions of the country, as well as the structure of the economy may also be of importance as well.

Another question left unanswered is how patterns of flexitime developed over the years. Although it is generally thought that flexible work arrangements are increasingly becoming the norm with a wider group of companies making use of them, due to the recent economic recession and changes in company cultures some large companies, that were providing very generous flexible work arrangements, have recently scrapped their programmes (e.g., Best Buy, Yahoo, …). In addition, surveys show how an increasing number of employers believe that work-life balance issues should be the responsibility of the employees (Wanrooy et al., 2013). This paper is the first to the author's knowledge that examines flexitime provision across different time points in a cross-national comparative manner. This allows us to see how the recent economic crisis has impacted the provision of flexitime, as well as to see how the impact of context has also changed over the years.

Lastly, this paper contributes to the existing literature on the provision of flexitime by examining different ***levels*** of provision of flexitime. Most previous studies examining company level data will note any provision of flexitime without going further into what can explain the proportion of workers covered or the various types of extensions that are given when using flexitime, such as accumulation of hours, and the ability to take days off from these accumulated hours. This paper examines these issues separately to see whether the factors that can explain for which companies

provide flexitime can also be applied to the chances the company will provide it to a larger group of workers or to provide extended use of flexitime in the company.

These questions will be answered through the use of the European Company Survey for 2004 and 2009. It applies a multilevel modelling technique where companies are considered to be nested in countries and national and company level characteristics are included in the model simultaneously. This will allow us to examine which country context factors can explain for the levels of provision of flexitime while holding company level characteristics constant. The paper compares the results from the two time points to see whether there are changes in the major factors explaining the take up of flexitime before and during the financial crisis of 2008.

The next section explains what is meant by flexitime and examines key literature and theories on provision of flexitime, focusing on the role of national contexts and institutional factors. Section three examines the data, variables used as well as the methodologies applied in the paper. The fourth section will present the analysis results, before making some final concluding remarks and suggestions for future discussion points.

Theories, definition

Defining flexitime

Flexitime falls under the heading of a broader concept scheduling flexibility, frequented in the sociological and managerial literature. Scheduling flexibility can be provided through providing workers the ability alter their starting and ending times of work (Golden, 2001:1157), the timing and sequencing of tasks (Briscoe, 2007:268), to change the number of hours worked and the location of work (Kelly, Moen, & Tranby, 2011), and can also include time off from work to attend to family and personal matters – i.e., leaves (Blair-Loy, 2009: 282; Voydanoff, 2004). Within this broader definition, flexitime is usually defined as worker's ability to change the timing of their work (that is, to alternate the starting and ending times), and/or to change the numbers of hours worked per day or week – which can be then used to take days or weeks off (working time banking). Other types of arrangements that can provide schedule flexibility are part-time work (or the ability to reduce the number of hours worked in a longer period of time – and in some cases to increase back to full-time work), compressed hours (ability to work the same number of hours, usually full-time, in a shorter number of days), telework or homework (changing the location of work or working from home), and various types of leaves (short, long, paid and unpaid, maternity, paternity, parental and other care leaves).

There are two strands of literature where flexitime is discussed. One strand includes flexitime among a range of other family-friendly policies provided by employers to meet the demands of family life (e.g. Chung, 2009; den Dulk et al., 2013; Glass & Finley, 2002; Kelly et al., 2014). The other strand examines flexitime as a part of a larger set of arrangements that allow workers more control or discretion over their work (e.g., Berg et al., 2004; Lyness et al., 2012; Ortega, 2009). In both cases, flexitime is usually grouped with other types of arrangements of similar nature. However, the practice of examining flexitime or other arrangements as a part of a bundle of arrangements has raised criticism from different scholars. Den Dulk et al. (2013) maintain that family-friendly policies, leaves and other care policies, should not be grouped with flexible work arrangements as they are provided with different aims – the former targeted towards parents of young children, and the latter for a much larger varieties of reason. Chung and Tijdens (2013) argue that flexitime especially can be used for both the employer's and employee's needs, which is not necessarily the case for other types of leaves and family friendly arrangements. Glass and Finley (2002) note that combining different schedule flexibility arrangements such as flextime, part-time, and job-sharing under one heading is problematic, and argues that research should focus more on the control over one's work (see also, Lyness et al., 2012).

It is important to examine arrangements that are used either as a part of a larger range of family-friendly policies or for worker's control over their work separately to get a clearer understanding of the dynamics at play in their provision. The right to reduce working hours, or (right to work) part-time, and tele-working, frequently combined as a bundle of arrangements examined together with flexitime, have been shown to have very different outcomes in terms of job satisfaction and work-life balance (Allen, Johnson, Kiburz, & Shockley, 2013; Possenriede & Plantenga, 2011; Tipping, Chanfreau, Perry, & Tait, 2012). In addition, these arrangements are used by employers to a different extent and for different reasons (CIPD, 2012; Dex & Scheibl, 2001; Eurofound et al., 2010; Wanrooy et al., 2013) and their use can be explained also through different dynamics (Dex & Smith, 2002). When these arrangements and provisions are examined without discrimination, the results may be misleading and somewhat unhelpful.

This paper will examine flexitime separately from other flexibility or family-friendly arrangements. The reason flexitime is highlighted here are several. First, it is one of the most widely used forms of flexible work arrangements used across Europe (Chung, 2009; Eurofound et al., 2010). In addition, and as mentioned in the introduction, it is also a form of family policy that has received a lot of attention from policy makers as well as employers due to the ease of its introduction, compared to more costly alternatives such as paid leaves, and more administratively and managerially complicated ones such as teleworking. Given the attention and support flexitime has received, it is

important to examine exactly how it is applied at the company level, and what types of context factors facilitate or prevent its application.

Organisational factors explaining flexitime provision

There are several organisational characteristics that have been linked to the use of flexible working arrangements. Dex and Smith (2002) distinguish between structural factors, workforce composition, and human resource practices factors. Similarly, Chung (2009) distinguishes between structural and agency (HR practices) factors. It is not always easy to distinguish between these structural and agency factors as in some cases both may be relevant. For example, a larger share of skilled workers in the company could indicate a demand/institutional need for the use of flexitime, while it may also indicate agency factors such as high performance strategies in the company.

Here I will examine some of the key organisational characteristics that have been shown to be linked to the provision of flexitime in previous studies (Chung, 2009; Dex & Smith, 2002; Evans, 2001; e.g., Evans, 2002; Galinsky & Bond, 1998; Golden, 2001, 2009; see for a review, Ollier-Malaterre, 2009; Osterman, 1995; Plantenga & Remery, 2009; Präg & Mills, 2014). The factors are divided into three groups – demand based on composition of workers in the company, structural factors that restrict or allow for the provision of flexitime, and lastly agency factors. The list of factors is by no means exhaustive of all organisational characteristics that influence companies' decision in providing flexitime. However, these are the most important variables identified in the previous literature that have been shown to be of relevance empirically.

Workforce composition (demand)

Flexitime is used as a part of the employer's family-friendly strategy to enable families to cope with demands of work and family life. Thus companies with employees with more family demands are likely to face a higher demand to provide such arrangements. Given that women still take the bulk of responsibility for household tasks (Bianchi, Milkie, Sayer, & Robinson, 2000; Eurofound, 2013), it is likely that companies with larger shares of women are more likely to provide flexitime to its employees. Unlike other family-friendly policies, flexitime is also used by high-skilled employees for career advancement purposes (Brescoll, Glass, & Sedlovskaya, 2013). In addition, high-skilled workers are more likely to be given autonomy and flexibility over how they organise their work (Schieman, 2013; Schieman, Milkie, & Galvin, 2009). Thus, companies with higher skilled workers are more likely to provide flexitime.

Structural factors

Due to the administrative costs that are involved in providing flexitime, larger companies may find it easier to administer it. Although small and medium sized companies may also provide various types of informal or ad hoc flexible work arrangements, this type of use may not be picked up by large scale surveys, such as the one used in this paper (Dex & Scheibl, 2001). Related to resources, companies may decide to provide flexitime when they have more financial capacity to provide benefits. On the other hand, companies in more dire economic situations may not find it appropriate to provide these benefits.

The type of work that is being done at the company has always been noted as one of the biggest constraints to the introduction flexible work arrangements by managers (Wanrooy et al., 2013). In other words, there are jobs where it is harder to apply flexitime than others due to, for example, constraints from the production structure (machinery, clients demand etc.) or sensitivities towards certain business cycles. Public sectors have been seen to be better at providing various types of family friendly arrangements because they are not as sensitive to business cycles, employ a higher proportion of women (Evans, 2001) and are usually the forerunners of gender equality and family friendly initiatives (Bewley, 2006).

Agency factors

Although some scholars find structural factors to be the driving forces to the provision of flexitime arrangements, others maintain that agency factors, such as social dialogue practices or management's strategies, are more important. Companies with (stronger) union/employee representatives or larger engagement of employer representatives in policies have been shown to provide more family and equal opportunity policies (Chung, 2008; Hoque & Bacon, 2014; TUC, 2005). On the other hand, using data from Germany and the UK, Seeleib-Kaiser and Fleckenstein (2009) argue that managers are the real protagonists of the introduction of family policies at the company level. Companies where the management style is of a high performance strategy or those who have a more family friendly attitude may be more facilitative towards the use of flexitime. Other scholars have noted that larger proportion of women in management roles may drive companies to be more family friendly (Galinsky & Bond, 1998).

Table 1. Company and national level characteristics and their expected relationship with the provision of flexitime

	Variable	Relationship with the provision of flexi-time
Company level characteristics	***Composition (demand)***	
	Proportion of female workers	Positive
	Proportion of skilled workers	Positive
	Structural	
	Company size	Positive
	Sector (NACE 13)	Services sectors more likely to use flexi-time
	Public sector	Positive
	Good economic conditions	Positive
	Agency	
	Employee representative exist	Positive
	Managers positive attitude towards employee's WLB (only in 2004)	Positive
	Workers covered in collective bargaining (only in 2009)	Positive
	Stronger unions (not available)	Positive
	Higher shares of women managers/executives (not available)	Positive
National level characteristics	***Institutions***	
	Family policies	Positive
	Industrial relations/agency	
	Union strength	Positive
	Centralised bargaining/collective bargaining system	Positive
	National level demand and gender cultures	
	Female labour market participation	Positive
	Progressive gender views on mother's employment	Positive
	Economic resources and work culture	
	Affluence (GDP/capita)	Positive
	Work centrality culture	Negative
	Economic and labour market conditions	
	Market condition/cycle (GDP growth rate)	Positive
	High unemployment rate	Negative
	Structure of the economy	
	Proportion of the service sector	Positive
	Proportion of the public sector	Positive

Country level factors

Table 2 (page 17) reviews 16 existing studies that examine the use of working-time flexibility or working-time control in a cross-national perspective. Most studies examine flexitime as a part of a larger set of arrangements concerned with family-friendly policies, worker's control over working time, or others (noted in the third column). These studies can be distinguished into those that are based on interviews with managers and other related bodies, those that examine individual's (perception of) use and provision of flexitime using individual level quantitative data, and lastly company level provision of flexitime based on establishment level quantitative data (see fourth

column). The last column of this table provides a summary of the findings of the studies related to country level context factors that can explain the use/provision of flexitime. From the table it is evident that the following national level context factors are most relevant in explaining company level provision of flexitime; namely, industrial relations and power resources of unions, cultural factors including national norms on gender issues and work orientation, the institutional factors such as social and family policies, national level demand measured through women's labour market participation, and economic conditions and structures such as the affluence of the country, economic labour market condition and the composition of the economy.

Institutional factors

Family and social policy

Perhaps one of the most widely examined, and one of the most interesting factors for scholars, is the influence of national level social policies in the provision of flexitime and other family-friendly arrangements at the company level. There are two theoretical assumptions held in examining the relationship between national level policies and provision of (additional) family friendly policies by the company.

Institutional theory argues that institutions and bureaucratic systems laws and policies put pressures on organisations to become similar through isomorphic processes (DiMaggio & Powell, 1983). Den Dulk et al. (2013) argue that governments put institutional pressure on organizations to develop work-life arrangements through coercive powers. Work-life balance related policy regulations that enforce provision and tax incentives for such policies directly influence company behaviours in these matters. In addition, such national provision signals the emphasis government s put on work-life balance issues changing the norm and public demand for companies to address. Based on this line of reasoning, we can expect company level flexitime policies to be more generous and widespread in countries where there are generous family policies (Chung, 2008; den Dulk et al., 2013; den Dulk et al., 2012; Lyness et al., 2012).

The counter argument to this is crowding out theory. Crowding out theory argues that national social policies programmes "'crowd out' informal caring relations and social networks, as well as familial, communal and occupational systems of self-help and reciprocity"(Van Oorschot & Arts, 2005: 6). Based on this theory, in countries where generous family policies exist at the national level companies will not be willing to, or may not feel a need to, provide occupational policies to address similar issues. Previous studies provide some evidence of this showing, for example, that in countries where there are not many statutory regulations on family policies, companies use family-friendly policies in staff retention or for other strategic reasons (den Dulk, 2001, 2005; Ollier-Malaterre, 2009).

Others argue that there are no clear relationship between statutory regulations and (extra) company provision (Kassinis & Stavrou, 2013; Präg & Mills, 2014), and only when there is a very large involvement from the state can a crowding out impact be seen (Evans, 2002).

Other than general family policy efforts, government regulations on the use of flexitime could directly impact whether flexitime is provided by the company. However, in the period under investigation most countries did not have statutory frameworks in place that guarantee access to flexitime. Though some countries provide legal rights to request flexitime at the time of the survey (Hegewisch, 2009; Hegewisch & Gornick, 2008), this does not equate to a right to access.

Lastly, more general provision of social policies has also been linked to company level adoption of family policies. Both Lyness et al. (2012), and Präg and Mills (2014) use social policy expenditure in explaining the provision of flexitime and control over hours worked. However, the theoretical background behind this is based on the relationship between generous social policies and reduction of working hours, especially of women (Reynolds, 2004; Stier & Lewin-Epstein, 2003). Thus for the purposes of examining flexitime it is deemed irrelevant.

Industrial relations

Industrial relations at the national level have also been seen to have a major influence on the choices managers/companies make in the provision of family policies, and providing workers with control over work. According to power resource theory, welfare states are shaped by the power that is mobilized by wage earners, whether through political parties or through interest organisations such as labour unions (Korpi, 1989). In addition to the direct impact trade unions may have on shaping national policies, when there are strong unions within the company and at the national level, this can lead to a "contagion from the Left," (Korpi, 1989:316) influencing the way employers act in providing family friendly benefits at the company level. In addition, in the Varieties of Capitalism literature (Hall & Soskice, 2001), it has been argued that different institutional structures – including industrial relations structures – impact the behaviours of employers in choosing their competitive strategy. Thus, centralised negotiating structures and platforms will help employee representatives negotiate family-friendly benefits with employers, and also change the way employers behave in choosing their strategies for competition – taking more of a high performance route. In sum, strength of the trade union, as well as the collective bargaining structures are likely to impact the way companies behave in providing workers with flexitime.

Comparing seven different countries, Berg et al. (2004) conclude that countries with higher collective bargaining coverage, high trade union density, and where employee representatives were more positive towards work-life balance increased worker's control over working time – which

includes the use of flexitime. Other studies using more quantified measures have also shown that collective bargaining coverage rates and union density is positively correlated to the use/provision of flexitime (Chung, 2009; Lyness et al., 2012; Präg & Mills, 2014).

Socio-economic and cultural factors

National level demand/women's labour market participation and gender norms

Although flexitime can be used for various reasons – including further training for career advancement purposes – one of the main reasons for its introduction is to provide parents the flexibility to adapt their work-lives with their family-lives. Similar to what is expected at the company level, it can be expected that countries with higher proportion of women in the labour market will be those where there are larger demands for family friendly policies at the company level (Ortega, 2009). This is not necessarily because there will be more women in the company itself, which will be controlled for through the company level characteristics. Rather, a larger proportion of women in the labour market is expected to change the work culture within organisations to be more family friendly because of more demands throughout the labour market regardless of the amount of women working in any specific company. Empirical evidence supports this, and use of flexitime and working time flexibility arrangements have been shown to be positively related to female labour market participation rates (Chung, 2009; Ortega, 2009; Präg & Mills, 2014), although others have shown that there are no significant relationships once affluence of the country is taken into account (Lyness et al., 2012).

Similarly, normative views on women's roles in the market and household may also influence the way employers provide flexible work arrangements. In countries where gender norms are positive towards women, and especially mothers, working, there may be more demand from workers for employers to provide family friendly arrangements (Kassinis & Stavrou, 2013; Lyness & Judiesch, 2008).

Affluence and work culture

Using Mincer's (1962) theory of the relationship between affluence and people's preference towards leisure for paid work time, Präg and Mills (2014) argue that the affluence of a country will influence workers' willingness to work fixed hours. In fact, GDP per capita has been shown to have a negative effect on work ethic (Stam, Verbakel, & De Graaf, 2013) and has been positively linked to the use of flexitime (Lyness et al., 2012; Präg & Mills, 2014). Similarly, Den Dulk et al. (2013) directly examine the work culture of a country – namely work centrality also known as work ethics scale (Stam et al., 2013; Van Oorschot, 2006) – to see how it can change company's provision of flexible working time arrangements. It is assumed that in cultures where work is more central to one's life people are

likely to work longer, and companies are not likely to provide various flexibility options. Indeed, cultures with higher work centrality, companies have been shown to reduce the provision of family-friendly arrangements, including flexitime, working time banking and the rights to part-time work or to reduce working hours.

Other than the impact it has on changing work culture, affluence of the country can influence the use of flexitime by indicating a high income level of workers or more resources in the country. In the case of former, higher income may provide workers the capability to forego (further) income for more control over their work. In the case of the latter, richer countries may have companies where there are more resources to be allocated to providing flexible working arrangements.

Economic condition

An important economic factor to examine is the labour market condition. When the economy is in strain, and there is greater supply of labour than demand, this may decrease workers' negotiation power in relation to flexitime, especially if geared towards the employee's needs. On the other hand, when demand outstrips supply, employers may use family friendly arrangements as incentives to help recruit and maintain workers (Aryee, Luk, & Stone, 1998; Batt & Valcour, 2003; Chung, 2009; den Dulk et al., 2013). As the data used in this paper come from 2004 – a period in which relatively good economic conditions were prevailing in Europe – and the peak of the economic crisis in 2009, we may expect market conditions to be influential in explaining why companies provide flexitime as an option to their employees. However, pervious empirical evidence is not as supportive of this theory (Chung, 2009; den Dulk et al., 2013).

Structure of the economy

Prevalence of service sectors and public sectors have also been examined to see the how the structure of the economy as a whole has an influence on individual companies through the diffusion of practices (Chung, 2009; Lyness et al., 2012; Präg & Mills, 2014). Service sector and public sectors are more likely to adapt flexible work arrangements (see previous section). It is thus hypothesised that when these sectors dominate the economy this may change the work practices of the whole country, as their work practices diffuse across sectors. The prevalence of the service sector can also be linked to the theories of deindustrialisation. Deindustrialisation, and the resulting increase of service sector employment in the economy, has been linked to changes in labour market regulations, public sector employment, as well as general changes in the market structure (Esping-Andersen, 1999; Iversen & Cusack, 2000). In the case of flexitime, we can expect that deindustrialisation may increase use of the more innovative, non-standard labour market policies such as flexitime – again even for industries outside services sectors.

Table 2. Review of 16 existing cross-national study on working time flexibility/working time control

	Study	dependent variable	Data	Country level determinants of provision of flexi-time
Interviews with managers and others	den Dulk (2001) (2005)	family-friendly arrangements including flexi-time	Interviews with HR officers of service sector in NL, IT, UK, SE (1998-1999)	employers in liberal countries use family friendly policies as retention policies (so a negative relationship between policy and company level provision- extra provision)
	Berg et al. (2004)	working time, flexible work schedules, and employee control over working time	Interviews with managers of 7 different countries DE, SE, NL, IT, JP, AUS, US (2000)	collective bargaining coverage, high trade union density, representatives who were sensitive towards working time issues, workers have more control over working time (Germany, Sweden, the Netherlands) - in liberal countries, the high skilled professional have more control, in these countries flexible form of working is narrow
	Ollier-Malaterre (2009)	provision of family-friendly policies	44 in depth semi-structured interviews across 16 organisations in France of HR managers, employee representatives, diversity officers etc. (2005-2006)	Companies in countries without statutory regulations may use family friendly benefits more
	Berg et al. (2013)	flexible scheduling, vacation leave and parental leave	interviews conducted with managers, supervisors, and labor union representatives from two universities each in US, AUS (2006–2008)	Flexitime provided only through employer's discretion in both cases, but universities with more unified bargaining structure - single table agreement reduced the likelihood of employers whipsawing the request for flexible work

	Study	dependent variable	Data	Country level determinants of provision of flexi-time
Individual level data	Evans (2001) (2002)	various types of family-friendly arrangements including flexi-time	European Working Conditions Survey 15 European countries (1995)	impact of national level policies and extra statutory maternity leave company policy is not clear cut- U -shaped - state provision crowds out company level provision only at a very high level – bivariate analysis
	Lyness et al. (2012)	(1) control over work schedule starting and stopping times(flexi-time) (2) control over the number of hours worked	International Social Survey Programme 21 countries (1997)	control over work related to GDP per capita(+), social policy expenditure (+), collective bargaining coverage (+), and paid leave policies (+) (variables included: GDPcap, Social Exp, Women's LF part, Service Sector emp, Union Cov, Weekly Hours Policy(collective agreed hours), Paid Leave Policy) – ML analysis
	Ortega (2009)	Employee discretion (they can choose the order, the method , the speed or rate of work, the timing of breaks or the working hours) summative index	EWCS 15 EU countries (2000)	employee discretion - control over one's working hours is stronger in countries with higher female labour market participation rates – Multivariate analysis one country characteristic
	Plantenga & Remery (2010)	Flexi-time, working time banking, staggered working hours	EU LFS Reconciliation between Work and Family Life 29 EU countries (2004)	Nordic countries more likely to use flexitime/working time banking, Eastern European, Southern European countries less likely (no context factors examined) – descriptive
	Praeg & Mills (2014)	flexi-time and working time banking	EU-LFS Reconciliation between Work and Family Life 29 EU countries (2010)	GDP per capita (+), social policy expenditure(+), national policies on leaves for care of sick children and adults (- but weak), the female labour force participation (LFP) rate(+), the size of the service sector(+), collective bargaining coverage(+), and gender occupational segregation(n.s.) – bivariate analysis

	Study	dependent variable	Data	Country level determinants of provision of flexi-time
Establishment level data	den Dulk et al. (2012)	(change & proportion) use of part-time work arrangements, job sharing, flexi-time, home-based work and telework.	CRANET data (100+ employees), 19 European countries (1999-2000)	Examines regime differences (social democratic, conservative, liberal, , formal communist, Mediterranean) - provision in that order--> no evidence of crowing out, countries with more statutory provision provides more benefits – ML analysis
	Chung (2009)	Employee-centred flexibility(combining flexitime, part-time, reduction of working hours, phased retirement & leaves)	Establishment Survey on Working Time - 21 European countries (2004/5)	EPL temp (-), Union density (+), size of public sector (+), female labour market participation(+), unemployment average (+), trade (+)(other variables include EPL regular, centralisation of bargaining, foreign direct investment, service sector employment) – ML analysis
	Chung (2008)	Working time arrangements (part-time, phased retirement, possibility to change from full-time to part-time, Flexitime, working time banking)	EWST - 21 European countries (2004/5)	no clear cross-national variance examined - but Nordic countries, conservative countries with more working time arrangements, southern European countries with least – ML analysis
	den Dulk et al. (2013)	family friendly arrangements (flexi-time, working time banking, grouped with right to pt, reduce working hours)	ESWT 19 European countries (2004/5)	Impact of policy(+), work centrality culture(-) and male unemployment rate (n.s.) - size, public sector, female composition moderates the impact – ML analysis
	Kassinis & Stavrou (2013)	use of pt & job sharing, and use of flexi-time, compressed week, tele-working as one variable	CRANET data (100+ employees) 15countries (2008/2010)	public expenditure on family policies(n.s.), EPL(n.s.), Gender Empowerment Measure (GEM)(+), Female labour market participation (n.s.) – ML analysis

Data and Methods

Data

European Company Survey 2004, 2009

To examine provision of flexitime, the 1st and 2nd waves of the European Company Survey (ECS) from the European Foundation is used. The ECS provides information at the establishment level on various workplace practices, ranging from working time to social dialogue. In the first round, a representative sample of establishments with more than 10 employees was gathered from 21 countries – the EU-15 plus six new accession countries, namely Cyprus, Czech Republic, Hungary, Latvia, Poland and Slovenia – and 30 countries in the second round including, all of the EU27 member states and three candidate countries. The first wave of the survey was conducted during the second half of 2004 for the EU15 and the second half of 2005 for the six new accession countries. The second wave was conducted during the first half of 2009 for all countries. The surveys were conducted via telephone, with personnel managers and, if available, employee representatives being interviewed. This paper makes use of the data from the manager survey, which covers a wider and more representative range of companies. The response rate for the 2004 wave is 20% and for the 2009 wave is an average of 29%. The survey gathered data from approximately 1000 companies per country, with the sample somewhat proportionate to the country size, with data from over 21000 companies in the 2004 wave and 27000 companies in the 2009 wave. A disproportionate sample method is used to gather data from sufficient numbers of companies in each category of size and sector. However, establishment weighting is used in this paper which allows the data to be more representative of the real composition of companies in terms of size and sector, as well as the size of each country. See Riedmann et al. (2010; 2006) for more detail on the survey.

Dependent variables

The provision of flexitime has been measured through the following variable: “Does your establishment offer employees the possibility to adapt – within certain limits – the time when they begin or finish their daily work according to their personal needs or wishes?”. This could be answered as yes, or no. Those who have answered yes to this question, are considered as providing flexitime (flextime). The survey then follows up by asking employers the proportion of workers covered in the scheme (flexipro). In the 2004 survey, the answer could only be given in 20% categories – e.g., more than 20, less than 40%; more than 40, less than 60%; etc. In the 2009 survey the raw proportion is asked and only when employers were not able to give exact figures were the proportion categories given as guidelines. The survey also asks “Does this system of flexible working

hours allow employees to accumulate hours, i.e. is it possible to work longer on some days and to compensate this later by working less on other days?" (flexihrs), and when managers agree to that question, the survey asks "Is it possible for employees to use accumulated hours for full days off?" (flexidays). These variables will be examined in this paper separately. Note that in this paper, the proportion of workers provided flexitime is examined within the group of companies that provide flexitime to at least one of its workers. As such, the questions asked are: which company and country characteristics can explain why companies use flexitime? What company and country characteristics can explain why companies provide flexitime to larger groups of workers, when they implement flexitime? What company and country characteristics can explain which companies allow for the accumulation of hours/allow days off, once they implement flexitime? These questions can be distinguished from those looking at the company and country characteristics that can explain why companies use a specific flexitime that allow for accumulation of hours. The latter could be used when comparing the different definition of "provision of flexitime"; i.e., restricting the definition of flexitime as when individuals can change start, finishing times as well as accumulate hours (and take days off when needed). Our interest lies in each of these aspects separately, rather than in the changes in result when flexitime definitions are changed to be more restrictive.

Independent variables: company level

The previous section of this paper outlined the different company level characteristics that have been linked to provision of flexitime, namely composition, structural, and agency factors. In the ECS, managers were asked the proportion of workers that are female and high-skilled, that is, in jobs which usually require an academic degree or a comparable qualification. In the 2004 wave the proportion categories were none at all, less than 20%, 20% to less than 40%, … , to all. In the 2009 wave, the exact percentage was asked, and only if the respondents were not able to answer were they given the proportion categories as guidelines. In both cases the variable is considered to be a continuous variable. Company size is included as a structural variable, categorised as 10 to 19, 20 to 49, 50 to 99, 100 to 249, 250 to 499, 500+ employees – reflecting the commonly used definition company sizes. The sector of the company was divided into the NACE 13 categories, and managers were also asked whether the company belonged to the public sector. Lastly, perceived economic situation of the company is measured by the question "How would you rate the economic situation of this establishment?". Managers could answer very good, quite good, quite bad or very bad. Those who have answered very good and quite good are considered to be companies in good economic situations. For this variable, when managers have answered "don't know" it is considered being in a not good economic situation.

Not many agency variables were available in the data set. However, both waves include information regarding whether there is an employee representative within the establishment. In the 2004 wave there are questions regarding the existence of collective agreement on working-time. Management's attitude towards employee's work-life balance issues are measured by the question "In your opinion, to what extent should a company take into consideration the private responsibilities of its employees in its work organisation and working time regulations?", with an answer ranging from 0 meaning "It is not at all the task of a company" and 10 meaning "The company should definitely consider them." In the 2009 wave managers were asked the proportion of workers under the collective bargaining agreement, although this is regarding wage negotiations.

National level variables

The following variables are used to measure institutional structures that may explain the cross-national variance in the provision of flexitime at the company level. Public expenditure on family policies as a % of GDP is used to indicate family policy effort at the national level; collective bargaining coverage rate is used to measure union strength as well as the negotiation structure of the country; union density is used as another measure for union strength; centralised bargaining systems are also used to measure negotiation structures directly; female labour market participation of the years of the survey is used; progressive views on mothers' employment is measured through a composite indicator of gender attitude variables; affluence of the country is measured through GDP per capita in the past five years; work culture is measured through a composite indicator of work centrality used by Den Dulk et al (2013); the GDP growth rate from the previous year is used to measure the economic cyclical conditions (and the impact of the recession); the unemployment rate of the specific year of the survey is used to measure the labour market condition; size of the service and public sector measured here as the number of employees in the respective sector as a proportion of the total dependent employed. All union variables are from the ICTWSS data set. The affluence, socio-economic condition, policy expenditure, and service sector size variables are from EUROSTAT. The gender norm variable is from ISSP 2002, and the EVS 2008 data. A composite indicator summing up 10 gender egalitarian items and 8 items respectively have been used. The Chronbach's alpha, testing internal consistency, was 0.7 for the 10 items in ISSP 2002 and 0.6 for the 8 items in European Value Survey (EVS) 2008. Work centrality is derived from Den Dulk (2013) and is based on the work ethics index (Stam et al., 2013; Van Oorschot, 2006). This is derived from the EVS 2000 and 2008 data and is a composite mean of five variables asking the importance of work. The Chronbach's Alpha of the 2000 data is 0.69 and 0.72 for 2008. Lastly, the size of the public sector is an aggregate measure derived through the ECS itself. Note that, due to missing data, in 2004 the

models with gender norm variables exclude Greece and Italy, and the models with work centrality exclude Austria and Cyprus.

Modelling method

A two level random intercept multi-level regression model is used for the purposes of this paper. This means that the model is able to take contextual effects into account, and that companies can be considered as nested within countries (Hox, 2002). Multilevel modelling is used when it is presumed that the lower level sample – here companies – is subject to the influences of groupings (Rasbash, Steele, Browne, & Goldstein, 2009), in this case countries. Through the use of a multi-level model we are testing how companies provide flexitime differently depending on which country they are based in, even when company level characteristics are controlled for. Using this model both company level and national level variables can be included in the model at the same time and used to explain for variance of the provision of flexitime found both within countries and between countries.

In this paper three models are examined. First, the empty model is examined, where the amount of variance of provision of flexitime is divided into what can be explained at the company level, and at the national level. In the second model, company level variables are included in the model to see the extent to which country level differences can be accounted for by the different composition of companies within each country. Third, having controlled for company level characteristics, to explain cross-national differences context variables are included in the model one at a time. In addition, using a step-wise method, a best fit model is found through including context variables two at a time in the model to explain for the larger variance between countries. It is not possible to include more than two or three variables at a time due to the lack of degree of freedom at the national level (Meuleman & Billet, 2009). STATA 12.1 xtmelogit is used for the dichotomous dependent variable, and xtmixed is used for the continuous variables.

Results

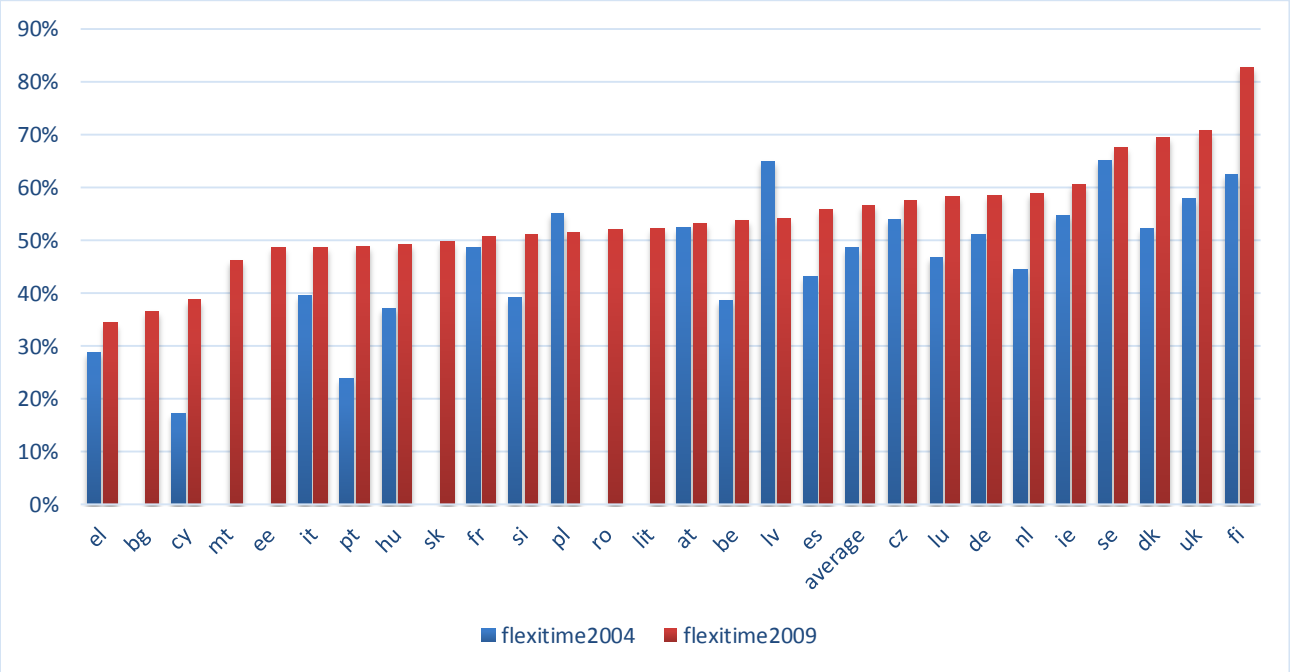
Descriptive statistics

As shown in Figure 1, approximately 57% of all companies across the EU27 provide flexitime, that is, the freedom for workers to change the start and finishing time of work, for at least one of its employees in 2009. This is a slight increase from the 49% found in 2004. (Note that in 2009 the average for the 21 countries surveyed in 2004 is also 57%). Northern European and Anglo-Saxon countries, such as Finland, UK, Denmark, Sweden and Ireland, have the highest likelihood of their companies providing flexitime in 2009, while some Eastern and Southern European countries such as Greece, Bulgaria, Cyprus, and Malta have the lowest likelihood. Examining the average proportion of

workers having access to flexitime, again companies in Northern Europe and the UK are those where, once flexitime is provided in a company, a good majority (70%+) workers have access to it. In Bulgaria, Hungary, Portugal, Cyprus and Malta, amongst others, in companies that provide it, on average less than half of workers are covered by flexitime. The proportion of workers covered by flexitime seems to be stable or have decreased in some countries. However, this may be due to changes in measurement: in 2004 the proportion of workers covered were only asked in categories of 20%, while in 2009 raw figures were used. Generally, countries with a larger proportion of companies providing flexitime are also those where, once implemented in a company, flexitime is provided to a larger proportion of its employees (correlation of 0.66 at the country level in 2009).

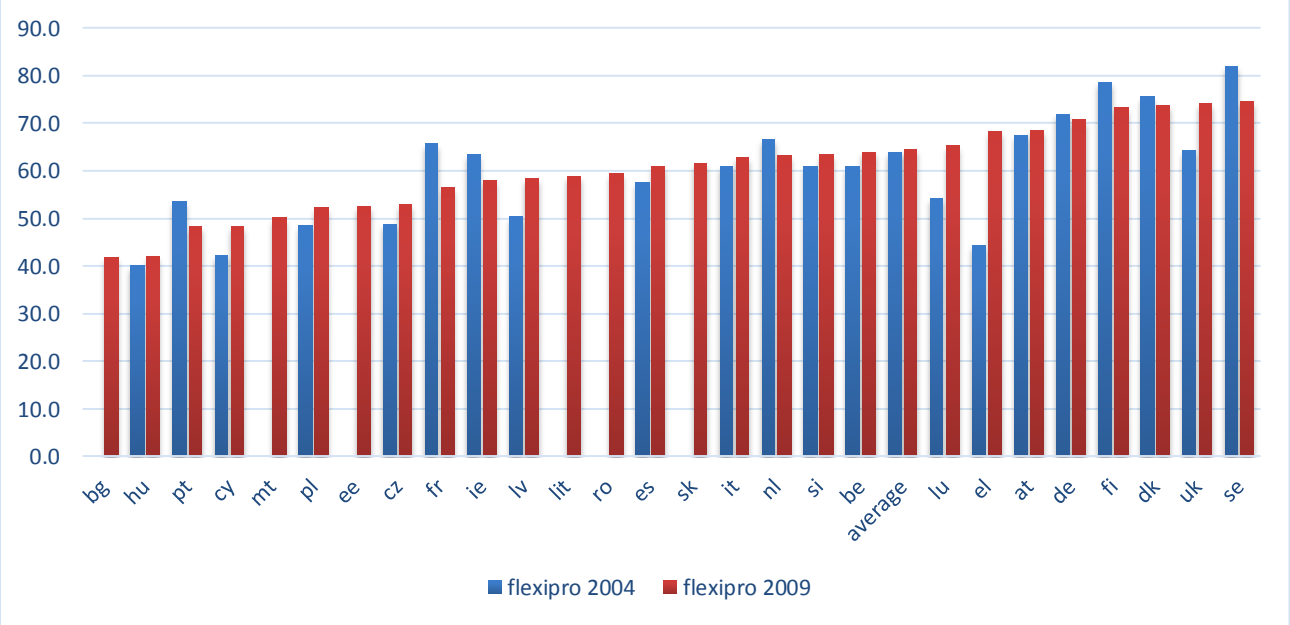
A good proportion of companies allow workers to accumulate hours – i.e., allow employees to work longer on some days and to compensate this later by working less on other days (flexihours) – across days when using flexitime (Figure 3). In both 2004 and 2009 just less than 70% of all companies providing flexitime allow flexihours. In Finland, Austria, Germany almost 90% of all companies providing flexitime allow such arrangements. On the other hand, again in Southern European countries such as Greece, Cyprus and Malta, along with other countries, including Ireland, Lithuania and Romania, less than half of companies that do use flexitime allow workers to accumulate hours. There have not been large changes in the proportion of companies using flexihours from 2004 to 2009. Amongst those who allow for accumulation of hours, most companies seem to allow workers to accumulate hours to take full days off (flexidays) (Figure 4). On average more than three quarters of companies who do allow flexihours when using flexitime allow workers to take days off in 2009. This percentage is 90+% in Finland, Denmark and Austria. Again, it is Southern European countries have lowest levels of flexiday provision.

Figure 1. Percentage of companies providing flexi-time for at least one of its employees



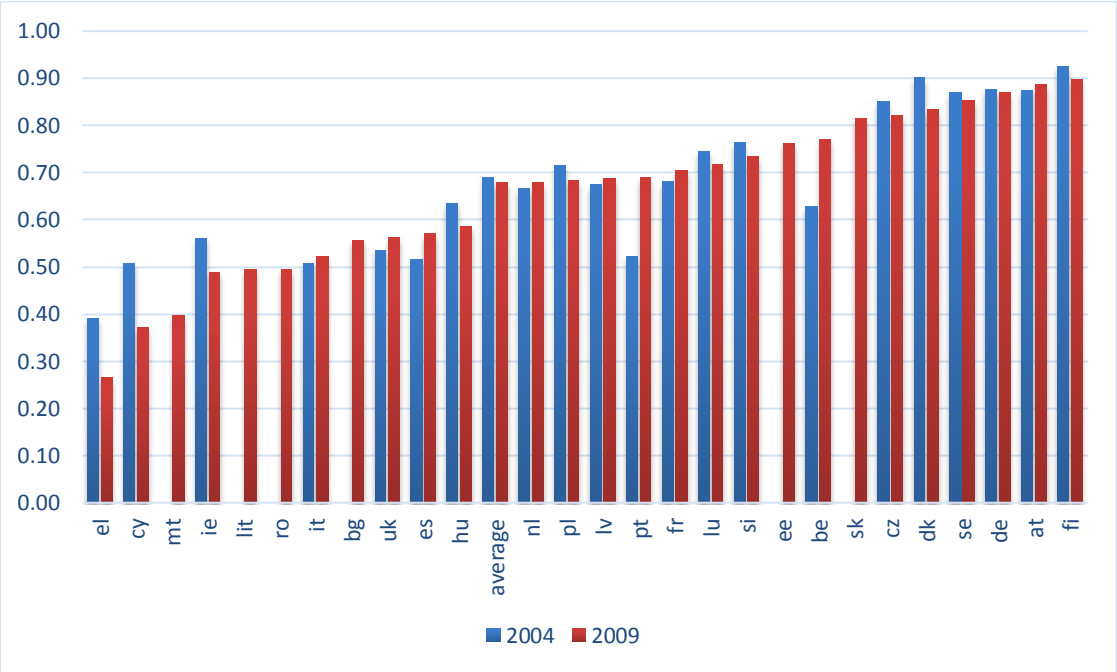
Source: ECS 2004, 2009 (establishment weighted) N=20787 (2004), 24475(2009)

Figure 2. Percentage of workers having access to flexitime amongst companies that provides flexitime



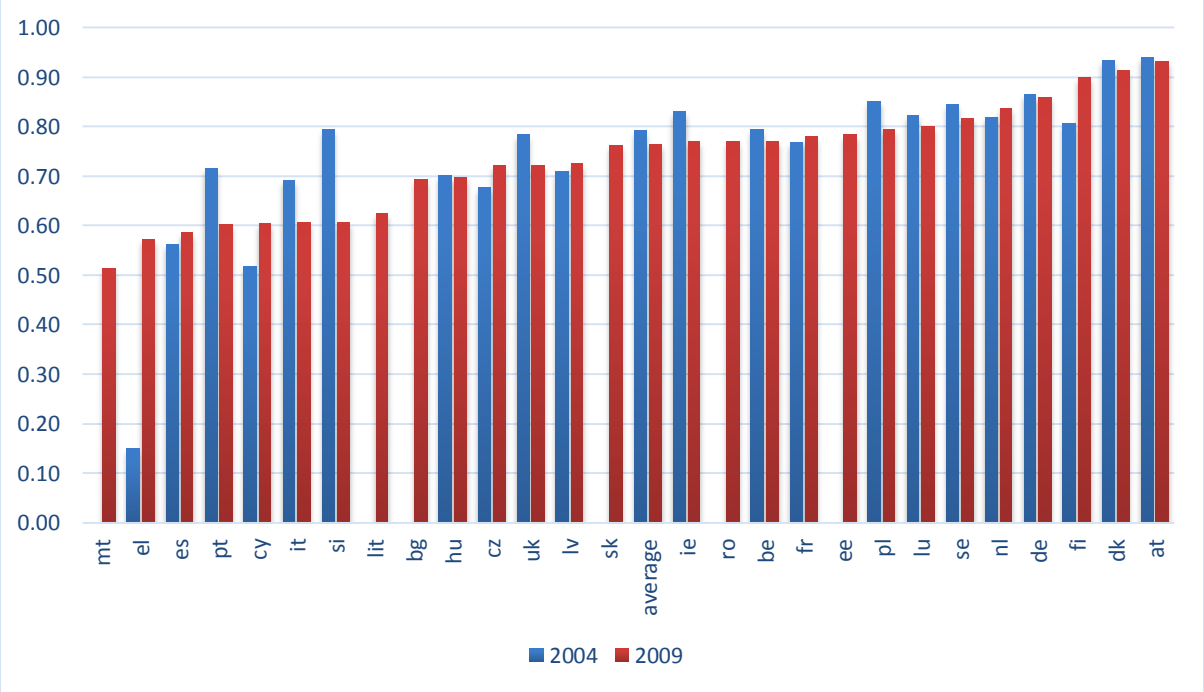
Source: ECS 2004, 2009 (establishment weighted) N=9753(2004), 13352(2009)

Figure 3. Percentage of companies allowing workers to accumulate hours to work different numbers of hours per day when providing flexitime



Source: ECS 2004, 2009 (establishment weighted) N=9981(2004), 13807(2007)

Figure 4. Percentage of companies allowing workers to take days off when allowing accumulation of hours



Source: ECS 2004, 2009 (establishment weighted) N=7101 (2004), 9586 (2009)

Overall, it is in companies located in Northern European countries where flexitime is most widely provided for, where it covers a wider group of workers within companies, and where once provided is used most flexibly, as measured by provision of flexihours and flexidays. On the other hand, Southern European countries do not use flexitime as much, and more restrictive as to how it is used by employees, even once they allow for its use. The liberal countries on the other hand – i.e., Ireland and the UK – although flexitime is provide widely, they are more restrictive in how it is being used. Contrarily, in Germany and Austria although flexitime is not necessarily used as widely, once it is used it is used more flexibly.

Multivariate analysis 2009

Variance attributed to the country level

Before examining the predictors of flexitime, the interclass correlation (ICC) is examined for each of the dependent variables. The ICC indicates the extent to which the variance of the dependent variable could be attributed to the country level. In 2009, the ICC of flexitime is approximately 7% in the empty model, however, when company characteristics are taken into account this increases to 8%. For the proportion of workers covered, this is 6% and 8% respectively, 19% and 18% respectively for flexihours, and 11% and 10% respectively for flexidays. All in all, with the exception of flexihours, much of the variance in the use of flexitime and the proportion of workers covered can be explained by company level characteristics and only about a tenth of the variance can be attributed to the country level. In addition, once company level characteristics are taken into account, there is an increase in the cross-national variance – entailing that some of that some of the cross-national variance is hidden due to the different composition of companies in each country. In general, when comparing these figures to 2004, the ICC suggests that a greater proportion of the variance could be attributed to the country level in the earlier period than in the latter, irrespective of the fact that there were more countries under investigation in 2009. In other words, these data suggest there has been some sort of convergence in the provision of flexitime across European countries over the 5 years.

Company level characteristics

Table 3 provides the outcomes of the model including company level characteristics to explain the four flexitime variables. The composition of the workforce within companies can explain why companies provide flexitime and the type they provide. As expected, companies with higher proportion of women and skilled workers are more likely to provide flexitime, and when providing flexitime extend it to a larger group of workers within the company. However, they are less likely to allow workers to accumulate hours to change the numbers of hours worked per day (female) and

take days off (skilled). In other words, although flexitime is provided more widely in the companies with more internal demand, it seems to be used in a slightly more restricted manner.

The size of the company also seems to be important in explaining the provision of flexitime at the company level. As we can see from the first column, the larger the company the more likely the company is going to use flexitime for at least one of its employees. However, the smaller the company the more likely that it will provide it for a larger group of workers within the company. In other words, although larger companies are more likely to provide someone with flexitime, when smaller companies use it, it is more likely to be throughout the company whereas larger companies are likely to use it more selectively. It could also be the case that in larger companies it is more difficult to provide flexitime to all employees, given the diversity of types of jobs and people the company will have. Size does not seem to have a clear relationship with whether the company allows for flexihours and flexidays to be used.

Service sectors are more likely than industry sectors to use flexitime in general, although there are exceptions, such as Education and Social Services sector, which are more likely to be restrictive in terms of operating times confined by customer demands and other structures. The construction sector is the least likely to provide flexitime, likely again due to the nature of these jobs which are heavily based on team work. Financial, real estate, and public administration sectors are highly likely to use flexitime but also provide it to a large group of workers. Public administration sectors are also likely to allow accumulation of hours. Interestingly enough, when other company level characteristics are taken into account, being a public company or being in a good economic situation does not explain which companies provide flexitime. Having an employee representative on site does, however, increase the likelihood that flexitime will be provided, and provided in a way so that it is possible to take days off. However, having an employee representative decreases the proportion of workers covered by the scheme within the company, having controlled for other company level characteristics. This could be a sign that perhaps employee representatives (unions) are able to push for the use of flexitime but are only able to do so for their own members and are not able to pressure companies so that all workers can benefit from it. Companies with employee representatives are also the ones where when flexitime is provided it is provided flexibly – allowing flexihours and flexidays.

Table 3. Company level characteristics explaining the provision of flexi-time across 27 European countries in 2009

	Flexitime		% of workers covered (flexipro)		Accumulate hours (flexihrs)		Take days off (flexidays)	
	beta	Std.err	beta	Std.err	beta	Std.err.	beta	Std.err
Composition								
% females	0.002**	0.001	0.048***	0.014	-0.002**	0.001	0.001	0.001
% skilled	0.010***	0.001	0.259***	0.012	-0.001	0.001	-0.005***	0.001
Size (ref:500+)								
10 to 19	-0.562***	0.063	21.80***	1.341	-0.161€	0.089	0.182€	0.108
20 to 49	-0.524***	0.061	13.031***	1.290	0.245**	0.086	-0.029	0.103
50 to 99	-0.558***	0.064	5.748***	1.354	-0.336***	0.090	0.006	0.109
100 to 249	-0.360***	0.066	2.846*	1.363	-0.227*	0.091	-0.051	0.108
250 to 499	-0.296***	0.069	4.179**	1.413	-0.057	0.096	0.107	0.113
Sector (ref: Manufacturing)								
Mining	-0.418*	0.165	-7.621€	4.373	-0.333	0.280	-0.269	0.379
Electricity	0.144	0.131	4.724	2.901	0.206	0.201	0.003	0.219
Construction	-0.426***	0.051	-1.200	1.326	-0.117	0.082	-0.151	0.105
Retail	0.037	0.045	3.265**	1.061	-0.135*	0.066	-0.079	0.087
Hotels&res	0.133€	0.080	4.270*	1.876	0.031	0.114	0.197	0.157
Transport	-0.081	0.068	2.114	1.630	-0.243*	0.100	-0.153	0.130
Financial	0.272*	0.107	14.661***	2.104	0.049	0.133	-0.207	0.166
Real estate	0.316***	0.056	7.671***	1.169	0.029	0.074	0.048	0.094
Public admin	0.253***	0.076	10.619***	1.673	0.398***	0.110	0.049	0.130
Education	-0.764***	0.074	-9.662***	1.760	-0.052	0.108	0.281*	0.143
Social Svcs	-0.453***	0.067	-1.933	1.597	0.299**	0.104	0.436***	0.135
Oth svcs	0.241***	0.076	4.233**	1.606	0.332**	0.108	0.364**	0.134
Public sector	-0.073	0.046	1.151	1.059	0.034	0.067	-0.116	0.082
Good econ.	-0.002	0.016	0.278	0.383	0.043€	0.025	0.008	0.031
ER exists	0.083*	0.034	-2.359**	0.798	0.084€	0.050	0.151*	0.065
constant	0.391***	0.122	32.974***	2.486	1.016***	0.190	1.095***	0.169
Var. country	0.278***	0.078	107.282***	30.254	0.711***	0.198	0.381***	0.112
Var. company	$\pi^2/3$		1320.077***	16.312	$\pi^2/3$			
R^2 level 1	n.a.		9.8%		n.a.			
R^2 level 2	-14.0%		-16.8%		5.7%		6.2%	

N level 2=27 countries, N1= 24048 (Flexitime), 13126 (proportion), 13543 (accumulation), 9410(days off)
*** = p < 0.001, ** = p < 0.01, * = p < 0.05, € = p < 0.10
R^2 level 2 calculated from the empty model, where no predictors are included in the model

Country level characteristics

Table 4 provides the result of the multivariate multilevel model with context level variables included in the model one at a time for 2009. As expected, countries with stronger unions – represented here as union density and collective bargaining coverage – are the ones that are more likely to provide flexitime. Centralisation of bargaining, however, does not explain the provision of flexitime. This could be because most flexitime arrangements are negotiated at the individual or company levels, and thus may not be linked to national level negotiations even when such negotiations exist.

Countries that spend more on family policies are those that are more likely to use flexitime as hypothesised in the crowding in theory and the institutional theory. Countries where governments are more family-friendly – as represented with their efforts in providing family policies – are those where companies are more likely to be family-friendly, at least in terms of flexitime provision, which is in line with the institutional theory. Using the crowding in framework, it could be understood as that even when there are national level efforts made to provide individuals/workers with a better work-life balance, this does not crowd out employer/company level efforts but encourages it more. The countries where there are more women in the labour market are those where companies are more likely to provide flexitime even when other company level characteristics, including the proportion of women in the company is controlled for. Thus, regardless of the number of women employed in the specific company, companies that are in countries where there are generally more women in the labour market are those where flexitime is more commonly provided. The participation of women in the labour market may change not only national norms but also company culture and practices so that family-friendly policies, such as flexitime, becomes normalised for all workers. However, when measuring the impact of gender norms directly, there does not seem to be any significant influence. The result we find in the relationship between the provision of flexitime and female labour market participation may be due to reverse causality – that is, when flexitime is provided and to a larger group of workers, women are more likely to take part in the labour market.

Looking at other factors, affluent countries are also those where companies are more likely to provide flexitime, suggesting that having more resources means that flexitime arrangements are more easily facilitated. Considering attitudes to work through the impact of work centrality on the provision of flexitime: countries where workers put more emphasis on work are those where the likelihood of companies providing flexitime decreases. The size of the service sector is another factor explaining the provision of flexitime, pointing to the structure of the economy as influencing the provision of flexitime.

Overall, examining the relative strengths of the context variables through their standardized coefficient and their explained variance, work centrality is closely followed by female labour market participation rate as the most important factors explaining the use of flexitime at the company level. These two variables explain approximately 35% and 31% of the country level variance respectively.

Table 4. Country level characteristics explain the use of flexi-time across 27 European countries in 2009

Flexitime / model	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12
Union density	0.220*											
Collective bar. cov.		0.194*										
Centralisation			0.064									
Gender norm				0.063								
Work Centrality					**- 0.306***							
Family exp.						0.216*						
Female labour market part.							**0.280***					
GDP/capita								0.233**				
GDP growth rate 2009									-0.045			
Unempl. %										-0.087		
Size of service sector											0.226**	
Size of public sector												0.076
Constant	0.383***	0.419***	0.396***	- 0.993	0.418***	0.384***	0.410***	0.410***	0.382**	0.393***	0.412***	0.392***
Var. country	0.230***	0.239***	0.274***	0.272***	0.182***	0.232***	0.191***	0.204***	0.276***	0.270***	0.219***	0.273
R^2 level 2	17.3%	14.1%	1.5%	2.3%	**34.6%**	16.5%	**31.4%**	26.5%	0.9%	3.0%	21.2%	1.9%
Log likelihood	-15357.921	-15358.387	-15360.203	-15360.095	**-15354.803**	-15358.025	**-15355.516**	-15356.362	-15360.293	-15360.018	-15357.303	-15360.161

Flexiproportion	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12
Union density	4.821**											
Collective bar. cov.		4.744**										
Centralisation			3.649**									
Gender norm				1.377								
Work Centrality					-5.048**							
Family exp.						5.065**						
Female labour market part.							5.082**					
GDP/capita								**6.057***				
GDP growth rate 2009									-0.220			
Unempl. %										-2.045		
Size of service sector											**6.056***	
Size of public sector												-0.103
Constant	-32.814***	33.588***	33.236***	2.839	33.382***	32.808***	33.295***	33.483***	32.928***	33.006***	33.544***	32.973***
Var. country	83.495***	83.928***	93.012***	104.232***	81.717***	81.691***	78.166***	57.849***	107.215***	102.560***	64.632***	107.265***
R^2 level 2	22.2%	21.8%	13.3%	2.8%	23.8%	23.9%	27.1%	**46.1%**	0.1%	4.4%	**39.8%**	0.0%
Log likelihood	-65827.823	-65827.746	-65829.126	-65830.598	-65827.356	-65827.472	-65826.987	**-65823.023**	-65830.977	-65830.428	**-65824.606**	-65830.983

Flexihrs	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12
Union density	0.161											
Collective bar. cov.		0.257$^{€}$										
Centralisation			0.145									
Gender norm				0.222$^{€}$								
Work Centrality					-0.209							
Family exp.						**0.375***						
Female labour market part.							**0.474*****					
GDP/capita								0.231$^{€}$				
GDP growth rate 2009									-0.082			
Unempl. %										-0.139		
Size of service sector											0.115	
Size of public sector												0.066
Constant	-1.009***	1.050***	1.026***	-3.842	1.033***	1.002***	-1.047***	1.034***	0.998***	1.018***	1.026***	1.016***
Var. country	0.684***	0.642***	0.689***	0.630***	0.666***	0.571***	0.462***	0.638***	0.702***	0.689***	0.695***	0.707***
R^2 level 2	3.7%	9.7%	3.1%	11.4%	6.3%	**19.6%**	**35.0%**	10.3%	1.2%	3.0%	2.2%	0.6%
Log likelihood	-7394.805	-7393.931	-7394.865	-7393.683	-7394.424	**-7392.417**	**-7389.603**	-7393.861	-7395.131	-7394.896	-7395.002	-7395.215

Flexidays	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12
Union density	0.194											
Collective bar. cov.		0.204$^{€}$										
Centralisation			0.102									
Gender norm				0.088								
Work Centrality					-0.114							
Family exp.						**0.367*****						
Female labour market part.							**0.301****					
GDP/capita								0.233*				
GDP growth rate 2009									0.014			
Unempl. %										-0.181		
Size of service sector											0.129	
Size of public sector												-0.017
Constant	1.092***	1.122***	1.102***	-0.840	1.103***	1.087***	1.111***	1.115***	1.098***	1.099***	1.107***	1.095***
Var. country	0.353***	0.338***	0.370***	0.369***	0.367***	0.224**	0.282***	0.306***	0.380***	0.342***	0.359***	0.380***
R^2 level 2	7.3%	11.2%	2.8%	3.1%	3.5%	**35.9%**	**25.8%**	19.6%	0.1%	10.2%	5.7%	0.1%
Log likelihood	-4679.742	-4679.007	-4680.170	-4680.115	-4680.097	**-4675.137**	**-4676.836**	-4677.873	-4680.542	-4679.319	-4679.905	-4680.541

(flexitime) N level 1= 6483, N level 2= 27 (flexihrs) N level 1= 7078, N level 2= 27(flexipro) N level 1= 7078, N level 2= 27

*** = p < 0.001, ** = p < 0.01, *= p < 0.05, $^{€}$= p < 0.10

R^2 level 2 calculated from the model in Table3 where company level predictors are included in the model – bold figures represent best fit models. All context variables have been standardized

Countries with strong unions and centralised bargaining systems are the ones where companies provide flexitime to a larger group of workers in 2009. The difference in the influence of centralisation for the use of flexitime and the proportion of workers covered may be due to the influence of the collective bargaining agreement itself. Perhaps when flexitime is provided in countries where bargaining takes place at a more central level, it is provided more generally to a larger group of workers within each company. In addition, countries that spend more on family policies, with a larger group of women in the labour market and where workers are not as focused on work are more likely to be ones where the companies provide flexitime to a larger group of workers. However, the most important context level factor in explaining why companies provide flexitime to a wider group of workers is the affluence of the country (GDP per capita) and the size of the service sector. In other words, affluent countries and countries with a larger service sector are those where companies are more likely to provide flexitime across the board, if they do provide flexitime at all. These two factors, independently explains up to 46% and 40% of all cross-national variance in the proportion of workers covered by flexitime across the 27 European countries in 2009.

Examining the cross-national variance in the likelihood of providing flexihours and flexidays, female labour market participation and family policy expenditure are, again, the most important factors. In other words, the likelihood of companies providing a more extended version of flexitime is largely driven by national level policies and demand, which could perhaps change the working culture in those countries to be more family-friendly. Having said this, the two culture norm variables – gender norm and work centrality - do not have any direct significant impacts on the provision of flexihours and flexidays.

Although it is helpful to examine the single variable influence of context factors, many of the variables examined in the country level are highly correlated to one another (see Annex). Thus, these variables need to be included in the model simultaneously to see which context factors are the actual driving force of the cross-national variance in the provision of flexitime.

Stepwise model

In the next step, the effects of the different context level variables are examined net of others. Since many variables are highly correlated (see Annex Table A-1), only when other context factors are taken into account can the results found in Table 4 be considered to be robust. For example, the affluence of the country is highly correlated to the size of the service sector and the expenditure the country makes in family policies in 2009 (both 0.7 correlation). In addition, all three variables are related to union strength, measured as union density. Family expenditure and the size of the service sector are correlated to female labour market participation. In other words, some of the significant

impact found in Table 4 may be purely due to the omitted variable bias. This could be overcome by including relevant variables into the model, however, due to the lack of country level cases, the model does not allow for the inclusion of more than two variables at a time. In Table 5 and 6, the variables are included pairwise to test for their relative strengths in explaining the use of flexitime and the proportion of workers covered.

Similar to what was found in the models where context variables were included one at a time, work centrality, female labour market participation, and GDP per capita are by far the most important factors explaining the cross-national variation in provision of flexitime in 2009. Although family expenditure also remains significant for most of the cases, when combined with female labour market participation rate or GDP per capita it loses its significance. When work centrality, female labour market participation and GDP per capita are included in the model simultaneously, the explained variance goes up to 58%. Similarly, the proportion of workers covered by the flexitime scheme once it is provided (flexipro) can be best explained through female labour market participation and GDP per capita. When one of the two above mentioned variables are also included in the model all other variables become insignificant with the exception of work centrality. The model including work centrality and family policy expenditure also provides high explanatory power, but not as high as the model with female labour market participation and GDP per capita, which explains up to 59% of the variance in the proportion of workers covered by flexitime.

In sum, in 2009 the likelihood of a company providing flexitime to its workers can be explained by how affluent the country is, and the general work culture of the country – measured here as GDP per capita and work centrality respectively. Both variables could indicate the cultural norms in these countries, and how central work is to individuals, and their preference towards leisure. In other words, in countries where there is not as much emphasis on work and where there are more preferences towards a balance between work and life, there may be more likelihood for the companies to provide flexitime. GDP per capita could also indicate the general level of resources the country, and perhaps the company and workers have. In the case of companies, this may indicate more room to implement flexible work arrangements. In the case of workers, higher GDP per capita could indicate higher wages, and the resources for workers to exchange (additional) wages for more work-life balance or leisure. The national level demand for flexitime and other family-friendly measures are also important – here measured through female labour market participation rate. All three variables could be interpreted as demand-side drivers in the provision of flexitime. Thus based on this analysis, for cross-national variance in the provision of flexitime, the most deciding factor is the extent to which there was a cultural setting and a demand for a better work-life balance.

Although other variables are not as significant, we should take into account how several of the variables examined in this paper are highly correlated to one another. Rich countries where there are more women in the labour market are also the countries where family policies are generous and unions are stronger (and more centralised). Family policies remain significant in most cases with the exception of when GDP per capita and female labour market participation is included in the model. In the case of the latter, this could be due to mediation effects: as family policy expenditure increases female labour market participation, the impact of family expenditure on flexitime is fully mediated through female labour market participation. In this sense, the impact of family policies, rather than having a direct influence through coercive powers of institutions, is more indirectly felt through increasing female labour market participation, with concomitant increases in demand for flexible work arrangements and also, perhaps, changes the attitudes towards work and work-life balance.

Table 5. Country level characteristics explain the use of flexi-time across 27 European countries in 2009

B	A u. density	Cb coverage	central	Gender norm	Work Centrality	Fam. exp09	Fem labour	GDP/capita	GDP growth rate 2009	unemp	Svc sector	Public sector
Union density		n.s.	**B(+)***	**B(+)***	**A(-)***** B(+)*	n.s.	n.converge	**A(+)***	**B(+)***	**B(+)***	**A(+)**$^{€}$	**B(+)***
Cb coverage			**B(+)****	**B(+)**$^{€}$	**A(-)***** B(+)*	**A(+)*** B(+)*	**A(+)***** B(+)$^{€}$	**A(+)***	**B(+)***	**B(+)**$^{€}$	**A(+)*** B(+)$^{€}$	**B(+)***
Centralisation				n.s.	**A(-)*****	**A(+)***	**A(+)*****	**A(+)****	n.s.	n.s.	**A(+)****	n.s.
Gender norm					**A(-)*****	**A(+)***	**A(+)*****	**A(+)****	n.s.	n.s.	**A(+)***	n.s.
Work Centrality						A(+)** **B(-)*****	A(+)* **B(-)****	A(+)** **B(-)*****	**B(-)*****	**B(-)*****	**B(-)****	**B(-)*****B(+)$^{€}$
Fam. exp09							**A(+)****	**A(+)***	**B(+)***	**B(+)***	**A(+)**$^{€}$	**B(+)***
Fem labour								A(+)** **B(+)****	**B(+)*****	**B(+)*****	A(+)$^{€}$**B(+)****	**B(+)*****
GDP/capita									**B(+)*****	**B(+)****	n.s.	**B(+)*****
GDP growth rate 2009										n.s.	**A(+)****	n.s.
Unemployment											**A(+)****	n.s.
Svc sector												**B(+)****
Public sector												

Notes: Entries are results from 66 separate multilevel models, in which contextual variables are introduced in pairs (having controlled for the company level characteristics presented in table 3) A (represents when the variable in column A is significant) B (represents when the variable in column A is significant), n.s. represents when both variables are insignificant.
The letters in bold represents the stronger predictor in the model. Shaded box represents the best fit model (R^2=50.6% (work centrality & family expenditure) & 50.4% (Work centrality and GDP per capita) & 45.9% (GDP per capita and Female lab) / three factor model, GDPcapita, work centrality, femlab R^2= 58.3%
The model with union density and female labour market participation did not converge
*** = p < 0.001, ** = p < 0.01, *= p < 0.05, €= p < 0.10

Table 6. Country level characteristics explaining the proportion of workers covered in flexitime across 27 European countries in 2009

B	A u. density	Cb coverage	central	Gender norm	Work Centrality	Fam. exp09	Fem labour	GDP/capita	GDP growth rate 2009	unemp	Svc sector	Public sector
Union density		A(+)$^{€}$ **B(+)$^{€}$**	**B(+)***	**B(+)****	**A(-)**** B(+)*	**A(+)$^{€}$** B(+)$^{€}$	**A(+)**** B(+)**	**A(+)*****	**B(+)****	**B(+)***	**A(+)****	**B(+)****
Cb coverage			**B(+)$^{€}$**	**B(+)***	**A(-)**** B(+)**	**A(+)**** B(+)**	**A(+)**** B(+)*	**A(+)*****	**B(+)****	**B(+)***	**A(+)***** B(+)**	**B(+)****
Centralisation				**B(+)$^{€}$**	**A(-)**** B(+)*	**A(+)**** B(+)*	**A(+)**** B(+)$^{€}$	**A(+)*****	**B(+)***	**B(+)$^{€}$**	**A(+)***** B(+)****	**B(+)***
Gender norm					**A(-)****	**A(+)****	**A(+)****	**A(+)*****	n.s.	n.s.	**A(+)*****	n.s.
Work Centrality						A(+)*** **B(-)*****	**A(+)*** B(-)*	**A(+)***** B(-)****	**B(-)****	**B(-)****	**A(-)****	A(+)* **B(-)*****
Fam. exp09							**A(+)*** B(+)$^{€}$**	**A(+)*****	**B(+)****	**B(+)****	**A(+)****	**B(+)****
Fem labour								**A(+)***** B(+)****	**B(+)*****	**B(+)*****	**A(+)***** B(+)***	**B(+)*****
GDP/capita									**B(+)*****	**B(+)*****	**B(+)***	**B(+)*****
GDP growth rate 2009										n.s.	**A(+)*****	n.s.
Unemployment											**A(+)*****	n.s.
Svc sector												**B(+)*****
Public sector												

Notes: Entries are results from 66 separate multilevel models, in which contextual variables are introduced in pairs (having controlled for the company level characteristics presented in table 3) A (represents when the variable in column A is significant) B (represents when the variable in column A is significant), n.s. represents when both variables are insignificant.
The letters in bold represents the stronger predictor in the model. Shaded box represents the best fit model (R^2=58.7%)
*** = p < 0.001, ** = p < 0.01, *= p < 0.05, €= p < 0.10

Changes from 2004 to 2009

Examining the company level determinants of the provision of flexitime in 2004 (Table 7) there have not been major changes from 2004 to 2009. The two changes that are worth noting are the importance of being in a good economic situation in explaining the provision of flexitime in 2004, although this variable was insignificant in the 2009 data. On the other hand, having an employee representative does not explain the provision of flexitime in 2004, whereas it has a significant influence in 2009[1].

At the country level, the differences between the two years are more evident. As shown in Table 8, none of the industrial relations context variables influence the cross-national variance in the likelihood of companies providing flexitime in 2004. Family policy expenditure and GDP per capita, both significant in 2009 become insignificant in explaining cross-national variance in the provision of flexitime in 2004. On the other hand, both work centrality and female labour market participation rates remain significant. Unlike what was found for 2009, in 2004 countries with larger public sectors were the ones where companies are more likely to provide flexitime – even if they themselves are not in the public sector. This may be due to the diffusion of company practices, where there are large segments of the labour market more likely to use flexitime there may be a knock-on effect to industries where it was not very common. It is interesting that in 2009 this effect disappears altogether. This could be due to the fact that the provision of flexitime has spread over the 5 years.

Explaining the proportion of workers covered by flexitime in 2004, the results are similar to those found for 2009. The main differences are that GDP growth rate as well as gender norms (at least for the 18 countries included in the model) are significant factors in 2004, while this is not the case in 2009. Countries with more progressive gender norms are those where flexitime is provided to a larger group of workers. Interestingly, countries with a larger GDP growth rate for 2003-2004 are those where companies provide flexitime for a smaller group of workers. In addition, the most important factor for explaining the proportions of workers covered seems to be the female labour market participation, rate rather than GDP per capita as it was in 2009.

In terms of explaining why in certain countries companies are more likely to provide workers the possibility to accumulate hours and take days off, family expenditure and female labour market participation rates are the most important factors in 2004 – similar to the findings for 2009 and not much change is found between the five years.

[1] Note that this is not due to the changes in country samples – this has been tested and big differences can be seen between the analysis using 21 countries versus 27 countries – see Annex.

When context variables are included two at a time (Table 9), the two most important factors that can explain which country has more companies providing flexitime in 2004 are family policy expenditure and the size of the public sector (explaining 42.2%). This is different from the model in 2009 where work centrality, female labour market participation, and GDP per capita were most influential[2]. Having said this, work centrality and female labour market participation are significant in explaining the use of flexitime in 2004 as well, and combined explain for a good proportion of the cross-national variance – but they become insignificant once public sector employment is included in the model.

Similar to what was found for 2009, female labour market participation and GDP per capita are two of the most important factors explaining proportion of workers covered by flexitime. These two variables combined explain the largest amount of variance of all the models shown in Table 10, explaining 61% of the total variance at the country level. However, in 2004 compared to 2009, the industrial relations variables – namely collective bargaining coverage and bargaining centralisation – have greater explanatory power for how many workers are covered by flexitime. When one of the two industrial relations variables (due to multicollinearity issues both cannot be included at the same time) are included in the model – along with female labour market participation and GDP per capita – the explained variance goes up to 71% (for collective bargaining coverage) with all variables being positively significant. Another influential model is the one with female labour market participation and GDP growth rate, explaining up to 66% of the total variance. However, the outcome is puzzling since companies in countries with good or better economic cycles are those who do not provide flexitime to a larger group of workers.

Lastly, it is worth mentioning that the changes between 2004 and 2009 in the most relevant country context factors are not due to the changes in the countries covered in the survey years. This has been tested by running the analysis in 2009 only using the 21 countries from the original 2004 survey. The results are similar, with the most influential factors explaining the use of flexitime being work centrality, female labour market participation and GDP per capita, with the latter two being the most influential factors explaining the proportion of workers covered by flexitime.

[2] Although female labour market participation rate is significant on its own and along with collective bargaining coverage (explaining 37.1% of the variance), it does not yield as high of an explanatory power. When female labour market participation is included in the model along with family policy and size of the public sector, the former becomes insignificant.

Table 7. Company level characteristics explaining the provision of flexi-time across 21 European countries in 2004/5

	Flexitime		% of workers covered		Accumulate hours		Take days off	
	beta	Std.err.	beta	Std.err.	beta	Std.err.	beta	Std.err.
Composition								
% females	0.003***	0.001	0.066***	0.015	-0.001	0.001	0.001	0.001
% skilled	0.005***	0.000	0.170***	0.012	0.001	0.001	-0.002*	0.001
Size (ref:500+)								
10 to 19	-0.457***	0.066	15.393***	1.478	-0.170	0.107	0.022	0.127
20 to 49	-0.474***	0.063	10.500***	1.416	-0.194 €	0.104	0.046	0.121
50 to 99	-0.411***	0.066	6.151***	1.481	-0.249*	0.107	0.024	0.126
100 to 249	-0.239***	0.066	4.632***	1.456	-0.016	0.109	0.115	0.124
250 to 499	-0.121€	0.073	0.898	1.599	-0.151	0.118	-0.037	0.133
Sector (ref:manufacturing)								
Mining	-0.165	0.200	5.249	5.389	0.073	0.384	0.115	0.477
Electricity	-0.026	0.148	3.795	3.476	-0.269	0.248	0.224	0.302
Construction	-0.387***	0.060	-5.157***	1.611	-0.280**	0.106	0.272€	0.151
Retail	-0.021	0.046	4.864***	1.164	-0.165*	0.077	0.011	0.100
Hotels&res	-0.074	0.082	4.961*	2.157	-0.245€	0.136	0.558**	0.211
Transport	-0.035	0.071	0.174	1.813	-0.253*	0.119	0.199	0.158
Financial	0.395***	0.094	18.084***	2.056	-0.084	0.144	-0.140	0.176
Real estate	0.565***	0.058	14.471***	1.286	-0.198*	0.087	-0.014	0.110
Public admin	0.467***	0.079	8.538***	1.790	0.160	0.127	-0.158	0.146
Education	-0.433***	0.089	-3.006	2.142	-0.385**	0.146	0.041	0.187
Social Svcs	-0.381***	0.082	-6.181**	1.992	0.304*	0.149	0.573**	0.188
Oth svcs	0.466***	0.096	7.666***	2.058	0.214	0.154	0.269	0.183
Public sector	0.054	0.053	0.065	1.241	0.146€	0.086	0.029	0.105
Good econ.	0.130***	0.040	1.215	0.975	0.111	0.068	-0.045	0.086
ER exists	0.059	0.038	-2.244*	0.935	0.174**	0.063	0.025	0.082
constant	-0.319*	0.139	30.261***	3.106	0.967***	0.237	1.215***	0.258
Var. country	0.270**	0.086	126.143**	40.246	0.787**	0.249	0.829**	0.274
Var. individual	$\pi^2/3$		1217.901***	17.739	$\pi^2/3$			
R^2 level 1	n.a.		8.7%		n.a.		n.a.	
R^2 level 2	13.1%		-9.3%		0.0%		-5.4%	

N level 2=27 countries, N1= 20138 (Flexitime), 9449 (proportion), 9607 (accumulation), 6867(days off)

*** = p < 0.001, ** = p < 0.01, * = p < 0.05, € = p < 0.10

R^2 level 2 calculated from the empty model, where no predictors are included in the model

Table 8. Country level characteristics explain the use of flexi-time across 21 European countries in 2004/5

Flexitime	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12
Union density	0.088											
Collective bar. cov.		-0.111										
Centralisation			-0.024									
Gender norm				0.068								
Work Centrality					-0.197**							
Family exp.						0.184€						
Female labour market part.							**0.251***					
GDP/capita								0.130				
GDP growth rate 2009									0.085			
Unempl. %										0.077		
Size of service sector											0.082	
Size of public sector												**0.232***
Constant	-0.329***	-0.329*	-0.318*	-0.236	-0.301*	-0.330*	-0.316*	-0.323*	-0.335*	-0.311*	-0.317*	-0.315*
Var. country	0.261***	0.256**	0.269**	0.273**	0.155**	0.235**	0.209**	0.245**	0.261**	0.265**	0.262**	0.211*
R^2 level 2	3.3%	5.1%	0.3%			13.0%	**22.6%**	9.4%	3.3%	2.1%	3.0%	**21.8%**
Log likelihood	-13034.342	-13034.123	-13034.620	-11257.867	-12239.924	-13033.259	**-13032.118**	-13033.654	-13034.299	-13034.420	-13034.350	**-13032.164**

Flexiprop	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12
Union density	5.022*											
Collective bar. cov.		**6.008****										
Centralisation			5.633**									
Gender norm				**6.180****								
Work Centrality					-5.243*							
Family exp.						4.600*						
Female labour market part.							**7.089*****					
GDP/capita								**5.294****				
GDP growth rate 2009									-5.170**			
Unempl. %										-2.817		
Size of service sector											5.297**	
Size of public sector												2.038
Constant	29.738***	30.810***	30.101***	32.393***	31.185***	29.995***	30.369***	30.139***	31.205***	29.967***	30.456***	30.297***
Var. country	98.998**	86.236**	90.932**	93.223**	98.744**	104.168**	77.918**	83.323**	92.156**	117.679**	91.825**	121.900**
R^2 level 2	21.5%	31.6%	27.9%			17.4%	**38.2%**	**33.9%**	26.9%	6.7%	27.2%	3.4%
Log likelihood	-47011.373	-47009.834	-47010.285	-41877.474	-44089.609	-47011.759	**-47008.871**	**-47009.651**	-47010.544	-47012.989	-47010.687	-47013.275

Flexihrs	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12
Union density	0.385*											
Collective bar. cov.		0.108										
Centralisation			0.044									
Gender norm				0.284								
Work Centrality					-0.062							
Family exp.						**0.606****						
Female labour market part.							**0.585****					
GDP/capita								0.213				
GDP growth rate 2009									-0.020			
Unempl. %										-0.004		
Size of service sector											0.112	
Size of public sector												0.224
Constant	0.922***	0.976***	0.965***	1.313***	0.900***	0.929***	0.970***	0.959***	0.970***	0.966***	0.970***	0.970***
Var. country	0.637**	0.774**	0.785**	0.586**	0.745**	0.417**	0.466**	0.721**	0.787**	0.787**	0.773**	0.733**
R^2 level 2	19.1%	1.6%	0.2%			**47.1%**	**40.8%**	8.5%	0.1%	0.0%	1.8%	6.9%
Log likelihood	-4962.057	-4964.023	-4964.164	- 4290.332	-4749.886	**-4957.763**	**-4958.871**	-4963.274	-4964.185	-4964.192	-4964.003	-4963.460

Flexidays	1-1	1-2	1-3	1-4	1-5	1-6	1-7	1-8	1-9	1-10	1-11	1-12
Union density	0.218											
Collective bar. cov.		0.003										
Centralisation			-0.002									
Gender norm				0.128								
Work Centrality					-0.060							
Family exp.						**0.517****						
Female labour market part.							**0.399***					
GDP/capita								0.295€				
GDP growth rate 2009									-0.101			
Unempl. %										-0.087		
Size of service sector											0.153	
Size of public sector												0.180
Constant	1.192***	1.216***	1.215***	1.488***	1.190***	1.188***	1.219***	1.208***	1.234***	1.206***	1.220***	1.218***
Var. country	0.776**	0.829**	0.829**	0.565**	0.624**	0.545**	0.675**	0.698**	0.817**	0.822**	0.800**	0.794**
R^2 level 2	6.5%	0.0%	0.0%			**34.3%**	**18.6%**	15.9%	1.5%	0.9%	3.6%	4.3%
Log likelihood	-3273.500	-3274.103	-3274.103	-2993.543	**-3157.558**	**-3270.099**	**-3272.085**	-3272.400	-3273.947	-3274.011	-3273.769	-3273.667

*** = p < 0.001, ** = p < 0.01, * = p < 0.05, € = p < 0.10

R^2 level 2 calculated from the model in Table3 where company level predictors are included in the model – bold figures represent best fit models. All context variables have been standardized

a : direct comparison not possible with models with gender norm (18 countries included for models with gender norm – excluding Greece, Italy, and Luxembourg) or work centrality (19 countries included for model with work centrality – excluding Austria and Cyprus) due to the different number of country cases for this variable

Table 9. Country level characteristics explain the use of flexi-time across 21 European countries in 2004

B	A u. density	Cb coverage	central	Gender norm[a]	Work Centrality	Fam. exp	Fem labour	GDP/capita	GDP growth rate 2004	unemp	Svc sector	Public sector
Union density		n.s.	n.s.	n.s.	A(-)$^{€}$ **B(+)$^{€}$**	n.s.	**A(+)***	n.s.	n.s.	n.s.	n.s.	**A(+)***
Cb coverage			n.s.	n.s.	**A(-)***	**A(+)***	**A(+)**** B(+)*	**A(+)$^{€}$**	n.s.	n.s.	n.s.	**A(+)***
Centralisation				n.s.	**A(-)***	**A(+)$^{€}$**	**A(+)***	n.s.	n.s.	n.s.	n.s.	**A(+)***
Gender norm[a]					**A(-)***	n.s.	**A(+)$^{€}$**	**A(+)$^{€}$**	n.s.	n.s.	n.s.	**A(+)***
Work Centrality						**B(-)***	**A(+)***	**B(-)$^{€}$**	**B(-)***	**B(-)***	n.s.	**A(+)***
Fam. expenditure							**A(+)$^{€}$**	n.s.	**B(+)***	**B(+)***	n.s.	**A(+)**** B(+)**
Fem labour								**B(+)***	**B(+)***	**B(+)****	**B(+)***	n.s.
GDP/capita									A(+)* **B(+)***	**A(+)$^{€}$**	n.s.	**A(+)**** B(+)*
GDP growth rate 2004										n.s.	n.s.	**A(+)***
Unemployment											n.s.	**A(+)***
Svc sector												B(-)$^{€}$
Public sector												

Notes: Entries are results from 66 separate multilevel models, in which contextual variables are introduced in pairs (having controlled for the company level characteristics presented in table 3) A (represents when the variable in column A is significant) B (represents when the variable in column A is significant), n.s. represents when both variables are insignificant.
The letters in bold represents the stronger predictor in the model. Shaded box represents the best fit model (R^2=42.2%)
a : direct comparison not possible with models with gender norm (18 countries included for models with gender norm – excluding Greece, Italy, and Luxembourg) or work centrality (19 countries included for model with work centrality – excluding Austria and Cyprus) due to the different number of country cases for this variable
*** = p < 0.001, ** = p < 0.01, *= p < 0.05, €= p < 0.10

Table 10. Country level characteristics explaining the proportion of workers covered in flexitime across 21 European countries in 2004

B	A u. density	Cb coverage	central	Gender norm[a]	Work Centrality	Fam. exp09	Fem labour	GDP/capita	GDP growth rate 2004	unemp	Svc sector	Public sector
Union density		**A(+)***	**A(+)***	**A(+)**** B(+)$^{€}$	A(+)* **B(+)****	n.s.	**A(+)****	**A(+)****	**A(-)**** B(+)**	**B(+)***	**A(+)**$^{€}$	**B(+)****
Cb coverage			n.s.	**B(+)**$^{€}$	A(+)** **B(+)*****	A(+)$^{€}$**B(+)****	**A(+)**** B(+)**	A(+)** **B(+)****	**B(+)**$^{€}$	**B(+)****	A(+)***B(+)****	**B(+)*****
Centralisation				**A(+)*****B(+)***	A(+)* **B(+)***	A(+)* **B(+)****	**A(+)***** B(+)**	**A(+)****B(+)*	A(-)$^{€}$**B(+)***	**B(+)****	A(+)** **B(+)****	**B(+)*****
Gender norm[a]					A(+)** **B(+)*****	**A(+)****B(+)**	**A(+)***	**A(+)*****B(+)***	A(-)$^{€}$**B(+)***	**B(+)****	**A(+)****B(+)*	**B(+)****
Work Centrality						A(+)* **B(+)***	**A(+)****	**A(+)***B(+)$^{€}$	A(+)*****B(+)*****	**B(+)***	**A(+)***	**B(+)***
Fam. exp09							**A(+)****	**A(+)***	**A(-)***B(+)$^{€}$	**B(+)**$^{€}$	**A(+)**$^{€}$	**B(+)***
Fem labour								A(+)*** **B(+)*****	A(-)*** **B(+)*****	**B(+)*****	A(+)* **B(+)****	**B(+)*****
GDP/capita									**B(+)***	**B(+)****	n.s.	A(+)***B(+)*****
GDP growth rate 2004										**B(-)***	**A(+)**$^{€}$B(-)$^{€}$	A(+)** **B(+)*****
Unemployment											**A(+)***	**B(-)**$^{€}$
Svc sector												**B(+)****
Public sector												

Notes: Entries are results from 66 separate multilevel models, in which contextual variables are introduced in pairs (having controlled for the company level characteristics presented in Table 3) A (represents when the variable in column A is significant) B (represents when the variable in column A is significant), n.s. represents when both variables are insignificant.
The letters in bold represents the stronger predictor in the model. Shaded box represents the best fit model (Female labour market participation + GDP/capitaR^2=60.8%) (Female labour market participation+ GDP growth rate 66.1%)
a : direct comparison not possible with models with gender norm (18 countries included for models with gender norm – excluding Greece, Italy, and Luxembourg) or work centrality (19 countries included for model with work centrality – excluding Austria and Cyprus) due to the different number of country cases for this variable
*** = p < 0.001, ** = p < 0.01, *= p < 0.05, €= p < 0.10

Conclusion

Despite the increase in the attention flexitime has been gaining over the years, not much is known about its provision at the company level especially using recent data in a cross-national perspective, incorporating various relevant context factors. This paper contributes to the existing literature by examining which company and country level characteristics can best explain why companies provide flexitime using establishment level data set from 2009. In addition, it examines whether there has been a change in the main characteristics that drive the provision of flexitime in the past five years by comparing the result to that of 2004.

What the paper finds is that, at the company level, both demand and structural factors influence the way in which flexitime is provided. The factors that explain why companies provide flexitime to at least one of its employees are not necessarily similar to factors that explain why companies provide flexitime to a larger group of workers, nor why companies provide a more flexible use of the hours for workers when flexitime is being used. In addition, not much change is observed for the company level drivers in the provision of flexitime across 2004 to 2009.

At the country level, the most important factors that explain the provision of flexitime – as in whether the company provides flexitime at all as well as the proportion of workers covered when flexitime is provided – are national level demands measured through female labour market participation rate, and affluence of the country (measured as GDP per capita). In addition, countries where workers on average feel that work is not as central to life compared others are the ones where companies are more likely to provide flexitime. Taking it together, the most important factor driving flexitime provision at the company level is the demand workers have for flexible work arrangements and other arrangements that allow for a better work-life balance. Both female labour market participation rate and work centrality variables measure demand-side drivers of flexitime provision both indicating changes in cultural attitude towards work and life. Affluence of the country can be interpreted as affecting flexitime provision as having more resources allows for such arrangements to be made more easily. These associated resource could be the resources of companies that allow the introduction of these policies without much effect to company's finances, or could also indicate the resources of individuals, in terms of higher wages where workers could forego wage increases for increase in autonomy over one's own work. While according to Mincer (1962) and Präg and Mills (2014) affluence is yet another indicator that indirectly measures national work culture towards a larger preference to leisure, the influence of affluence still remains even having controlled for work centrality culture, a similar variable.

It is worth noting that national level factors regarding work-life balance issues – measured here through family policy expenditure – are also shown to be significant in explaining provision of flexitime and the more flexible use of flexitime – as in providing workers the ability to accumulate hours and take days off. This confirms the institutional theory where it was hypothesised that coercive powers of national level institutions impact company level policies. It also provides evidence to reject the crowding out theory, where it was assumed that national level efforts for a better work-life balance would decrease occupational welfare efforts made at the company level. However, the impact of family policies disappears when combined with female labour market participation rate. The two indicators are highly correlated, and thus could be interpreted as female labour market participation fully mediating the impact of family policies on flexitime provision. In other words, family policies increase female labour market participation which then increases the demand for flexitime. Similarly, most industrial relations variables become insignificant when the more dominant variables are included in the model – however, this could also be understood in terms of mediating relationships, where industrial relations impact the centrality of work, which then has a more direct impact on the provision of flexitime. More needs to be done to test these relationships further.

Finally, there are some changes in the country level dynamics from 2004 to 2009. GDP per capita does not seem to be as influential in 2004. This is somewhat due to the fact that the countries under investigation are more similar in terms of their affluence, but it goes beyond just country case selection (See Annex Tables A-3, A-4). What is more, the size of the public sector is an important factor driving the use of flexitime at the company level in 2004, while not being of much relevance in 2009.

The results of this study are somewhat different from the previous analyses that explain the cross-national variance in flexitime. This could be due to the countries and years under investigation, the fact that this study looks at establishment level data, or due to the wide range of context variables that have been examined. However, some similarities exists. It remains that the Nordic countries are the champions of flexitime use, while the Southern European countries still lag behind. In addition, working culture, demands for flexitime and resources of the country are all important factors in why certain country's companies will take up flexitime while not in others.

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Annex

Table A-1. Correlation of context variables in 2009

	density	cbcov	central	gennorm	Work cen	famexp09	femlab	GDP~1000	GDP gr.	unemp	svcsec~r	public~r
Union density	1.00											
Cb coverage	**0.45**	1.00										
Central	0.33	**0.80**	1.00									
Gender norm	0.14	**0.41**	**0.39**	1.00								
Work Centrality	-0.20	-0.12	0.02	0.05	1.00							
Family exp09	**0.42**	0.13	0.06	**0.38**	-0.01	1.00						
Female lab.par.	0.11	0.17	0.17	0.33	**-0.39**	**0.41**	1.00					
GDP/capita	**0.44**	**0.42**	0.27	0.32	-0.21	**0.65**	0.26	1.00				
GDP growth rate 2009	0.13	**0.38**	0.25	0.17	0.17	-0.26	-0.32	0.11	1.00			
Unemployment rate	**-0.41**	**-0.40**	-0.31	-0.07	-0.11	-0.14	0.05	**-0.37**	**-0.51**	1.00		
Svc sector employment	**0.46**	0.15	0.00	0.20	**-0.45**	**0.51**	0.33	**0.70**	-0.04	-0.11	1.00	
Public sector employment	0.06	-0.06	-0.02	0.11	**-0.58**	-0.12	0.23	-0.19	-0.07	0.02	-0.08	1.00

Those in bold have significance of 0.05 or higher

Table A-2. Correlation of context variables in 2004

	density	cbcov	central	gennorm	Work Cen.	famexp09	femlab	GDP~1000	GDPgr.	unemp	svcsec~r	public~r
density	1.00											
cbcov	0.40	1.00										
central	0.34	**0.63**	1.00									
gennorm	0.22	**0.54**	0.03	1.00								
Work Centrality	-0.22	0.00	-0.17	-0.08	1.00							
famexp09	**0.53**	0.16	0.13	0.34	-0.07	1.00						
femlab	**0.51**	0.29	0.14	**0.60**	**-0.48**	0.36	1.00					
GDPcapi~1000	0.41	0.27	0.30	0.29	-0.33	**0.68**	0.18	1.00				
GDP growth rate	-0.06	**-0.56**	-0.39	-0.36	-0.12	-0.20	-0.01	**-0.49**	1.00			
unemp	-0.31	-0.15	-0.16	0.03	0.30	-0.37	-0.21	**-0.47**	0.31	1.00		
svcsector	**0.44**	0.24	0.08	0.32	**-0.59**	**0.55**	0.28	**0.82**	-0.40	**-0.51**	1.00	
publicsector	0.05	-0.05	-0.18	0.20	-0.35	-0.19	**0.47**	-0.24	-0.24	0.36	-0.15	1.00

Those in bold have significance of 0.05 or higher

Table A-3. Country level characteristics explain the use of flexi-time across the original ESWT 21 European countries in 2009

B	A u. density	Cb coverage	central	Gender norm	Work Centrality	Fam. exp09	Fem labour	GDP/capita	GDP growth rate 2009	unemp	Svc sector	Public sector
Union density		n.s. - **B(+)$^{€}$**	**B(+)***	**B(+)***	**A(-)***** B(+)* //**A(-)**** B(+)$^{€}$	n.s.	n.converge // **A(+)****	**A(+)***// n.s.	**B(+)***	**B(+)***	**A(+)$^{€}$** - n.s.	**B(+)***
Cb coverage			**B(+)****// **B(+)***	**B(+)$^{€}$ //** n.s.	**A(-)***** B(+)* **//A(-)****	**A(+)*** B(+)*// n.s.	**A(+)***** B(+)$^{€}$// **A(+)*****	**A(+)***// n.s.	**B(+)***// n.s.	**B(+)$^{€}$**// n.s.	**A(+)*** B(+)$^{€}$// **A(+)***	**B(+)***// n.s.
Centralisation				n.s.	**A(-)*** // A(-)****	**A(+)* //A(+)$^{€}$**	**A(+)*****	**A(+)** //A(+)***	n.s.	n.s.	**A(+)**//A(+)***	n.s.
Gender norm					**A(-)*** //A(-)****	**A(+)*//A(+)$^{€}$**	**A(+)*****	**A(+)**// A(+)$^{€}$**	n.s.	n.s.	**A(+)***	n.s.
Work centrality						A(+)** **B(-)*****	A(+)* **B(-)**** // **A(+)**** B(-)$^{€}$	A(+)** **B(-)***** // A(+)$^{€}$ **B(-)****	**B(-)***** // **B(+)****	**B(-)***** // **B(+)****	**B(-)**// B(+)***	**B(-)***// B(+)****
Fam. exp09							**A(+)**// A(+)*****	**A(+)***// n.s.	**B(+)*// B(+)$^{€}$**	**B(+)*// B(+)$^{€}$**	**A(+)$^{€}$**- n.s.	**B(+)***
Fem labour								A(+)** **B(+)** //** A(+)$^{€}$ **B(+)*****	**B(+)*****	**B(+)*****	A(+)$^{€}$**B(+)** // B(+)****	**B(+)*****
GDP/capita									**B(+)*** //B(+)***	**B(+)** // B(+)$^{€}$**	n.s.	**B(+)*** // B(+)***
GDP growth rate 2009										n.s.	**A(+)**// A(+)***	n.s.
Unemployment											**A(+)**// A(+)***	n.s.
Svc sector												**B(+)****
Public sector												

Notes: Entries are results from 66 separate multilevel models, in which contextual variables are introduced in pairs (having controlled for the company level characteristics presented in table 3) A (represents when the variable in column A is significant) B (represents when the variable in column A is significant), n.s. represents when both variables are insignificant.
The letters in bold represents the stronger predictor in the model. Shaded box represents the best fit model. Those marked in red indicate the models where there were changes from the model with 27 and 21 countries.
*** = p < 0.001, ** = p < 0.01, *= p < 0.05, €= p < 0.10

Table A-4. Country level characteristics explaining the proportion of workers covered in flexitime across the original ESWT 21 European countries in 2009

B	A u. density	Cb coverage	central	Gender norm	Work Centrality	Fam. exp09	Fem labour	GDP/capita	GDP growth rate 2009	unemp	Svc sector	Public sector
Union density		A(+)$^{€}$ **B(+)$^{€}$** // **B(+)***	**B(+)***	**B(+)**** // **B(+)***	**A(-)**** B(+)*	**A(+)$^{€}$** B(+)$^{€}$ // n.s.	**A(+)**** B(+)** // **A(+)*** B(+)	**A(+)***** // **A(+)****	**B(+)****	**B(+)***	**A(+)****	**B(+)****
Cb coverage			**B(+)$^{€}$** // **n.s.**	**B(+)***	**A(-)**** B(+)****	**A(+)**** B(+)****	**A(+)**** B(+)***	**A(+)*****	**B(+)****	**B(+)***	**A(+)***** B(+)****	**B(+)****
Centralisation				**B(+)$^{€}$**	**A(-)**** B(+)***	**A(+)**** B(+)*** // **A(+)***	**A(+)**** B(+)$^{€}$** // **A(+)****	**A(+)*****	**B(+)***	**B(+)$^{€}$**	**A(+)***** B(+)**** (43)	**B(+)***
Gender norm					**A(-)****	**A(+)****	**A(+)****	**A(+)*****	n.s.	n.s.	**A(+)*****	n.s.
Work centrality						A(+)*** **B(-)*****	**A(+)*** B(-)***	**A(+)***** B(-)****	**B(-)****	**B(-)****	**A(-)****	A(+)* **B(-)*****
Fam. exp09							**A(+)*** B(+)$^{€}$** // **A(+)**** B(+)***	**A(+)*****	**B(+)****	**B(+)****	**A(+)****	**B(+)****
Fem labour								**A(+)***** B(+)****	**B(+)*****	**B(+)*****	**A(+)***** B(+)*** (43)	**B(+)*****
GDP/capita										**B(+)*****	**B(+)***	**B(+)*****
GDP growth rate 2009										n.s.	**A(+)*****	n.s.
Unemployment											**A(+)*****	n.s.
Svc sector												**B(+)*****
Public sector												

Notes: Entries are results from 66 separate multilevel models, in which contextual variables are introduced in pairs (having controlled for the company level characteristics presented in table 3) A (represents when the variable in column A is significant) B (represents when the variable in column A is significant), n.s. represents when both variables are insignificant.
The letters in bold represents the stronger predictor in the model. Shaded box represents the best fit model.Those marked in red indicate the models where there were changes from the model with 27 and 21 countries.
*** = p < 0.001, ** = p < 0.01, *= p < 0.05, €= p < 0.10

Appendix

Variable definitions and data sources

- Institutions
  - Family policy expenditure: Family policy expenditure as a percentage of GDP for years 2004 and 2009 (Source: Eurostat - http://ec.europa.eu/eurostat/data/database)

- Industrial relations/agency – for years 2004 and 2009 or closest year available (Source: ICTWSS (Database on Institutional Characteristics of Trade Unions, Wage Setting, State Intervention and Social Pacts in 34 countries between 1960 and 2012)- http://www.uva-aias.net/208
  - Union density: net union membership as a proportion of wage and salary earners in employment, based on national surveys
  - Collective bargaining coverage: employees covered by collective (wage) bargaining agreements as a proportion of all wage and salary earners in employment with the right to bargaining, expressed as percentage, adjusted for the possibility that some sectors or occupations are excluded from the right to bargain
  - Bargaining Level/Centralisation: The predominant level(s)(two-thirds of the total bargaining coverage rate) at which wage bargaining takes place (5 = bargaining predominantly takes place at central or cross-industry level and there are centrally determined binding norms or ceilings to be respected by agreements negotiated at lower levels; 4 = intermediate or alternating between central and industry bargaining; 3 = bargaining predominantly takes place at the sector or industry level; 2 = intermediate or alternating between sector and company bargaining; 1 = bargaining predominantly takes place at the local or company level)

- National level demand and gender cultures
  - Female labour market participation : active female population as a percentage of population aged between 15 and 64 for years 2004 and 2009 (Source: Eurostat, based on EU-Labour Force Survey)
  - Progressive gender views on mother's employment
    - For year 2004 - A composite indicator summing up 10 gender egalitarian items from International Social Survey Programme 2002 (http://www.issp.org): "A working mother can establish just as warm and secure a relationship with her children as a mother who does not work", "A pre-school child is likely to suffer if his or her mother works", "All in all, family life suffers when the woman has a full-time job", "A job is all right, but what most women really want is a home and children", "Being a housewife is just as fulfilling as working for pay", "Having a job is the best way for a woman to be an independent person" Both the man and woman should contribute to the household income", "A man's job is to earn money; a woman's job is to look after the home and family", "Men ought to do a larger share of household work than they do now", and "Men ought to do a

larger share of childcare than they do now" – respondents could answer in a five point scale of "strongly disagree" to "strongly agree". All variables have been coded so positive scores indicate egalitarian values. The Chronbach's alpha, testing internal consistency, was 0.7 for the 10 items in ISSP 2002.

  - For year 2009 – a composite indicator summing up 8 items from the European Value Study 2008 (http://www.europeanvaluesstudy.eu/) : "A working mother can establish just as warm and secure a relationship with her children as a mother who does not work", "A pre-school child is likely to suffer if his or her mother works", "A job is alright but what most women really want is a home and children", "Being a housewife is just as fulfilling as working for pay", "Having a job is the best way for a woman to be an independent person", "Both the husband and wife should contribute to household income", "In general, fathers are as well suited to look after their children as mothers", "Men should take as much responsibility as women for the home and children" – the respondent could answer in a four point scale of "strongly disagree" to "strongly agree". All variables have been coded so positive scores indicate egalitarian values. The Chronbach's alpha, testing internal consistency was 0.6 for the 8 items for EVS in 2008.

- Economic resources and work culture
  - Affluence – GDP/capita: Gross Domestic Product at current market prices, Euros per inhabitant (source: Eurostat)
  - Work centrality culture: Work centrality is derived from den Dulk (2013) and is based on the work ethics index (Stam et al., 2013; Van Oorschot, 2006).
    - For year 2004 – A composite mean of five variables asking the importance of work is derived from the European Value Study of 1999/2000. "To fully develop your talents you need to have a job", "It is humiliating to receive money without having to work for it", "People who don't work turn lazy", "Work is a duty towards society", "Work should always come first, even if it means less spare time" – the respondents could answer on a 5-point scale from "disagree strongly" to "agree strongly". All variables have been coded so positive scores indicate a more work central value. The Chronbach's Alpha of is 0.69 for these five items.
    - For year 2009 - A composite mean of five variables asking the importance of work is derived from the European Value Study of 2008. The same items were used, with the same response scale. The Cronbach's Alpha score was 0.72 for 2008.

- Economic and labour market conditions
  - Market condition/cycle 1: GDP growth rate - Real Gross Domestic Product per capita percentage change over previous period for years 2004 and 2009 is used. (source: Eurostat)

  - Market condition: Unemployment rate for years 2004 and 2009 – Using the ILO definition of unemployment, the total number of people unemployed as a percentage of the labour force aged 15-64. (source: Eurostat – EU LFS)

- Structure of the economy
  - Proportion of the service sector for years 2004 and 2009: The total number of people employed in the services sector (as defined by NACE Rev. 2) as a percentage of the total employed aged 15-64. (source: Eurostat – EU LFS)
  - Proportion of the public sector for years 2004 and 2009:
    - Aggregate measure derived through the European Company Survey 2004, 2009. Total number of companies that have responded that they are a public company weighted by the establishment and employee weight. This results in the total number of employees employed in public companies as a percentage of the total employed (representative of the population of companies of each country).