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The National Work–Life Balance Index : The European Case

Jose Maria Fernandez-Crehuet¹ · J. Ignacio Gimenez-Nadal² · Luisa Eugenia Reyes Recio³

Abstract This paper proposes an index to measure the possibilities individuals have to balance their work and life spheres. Using data for 26 European countries, and principal components analysis, we compute the National Work Life Balance Index© as a combination of five dimensions: Time/Schedule, Work, Family, Health, and Policy. We find that Northern and Central European countries, such as Denmark, the Netherlands, Finland, and Sweden have a higher value of the National Work Life Balance Index©, compared to Southern and Western European countries, such as Spain, Greece, Portugal, Latvia, and Bulgaria. These results are consistent with existing literature showing that there is a lower proportion of individuals reporting difficulty balancing their work and household responsibilities in Northern countries, compared to other European countries. To the extent that international data becomes comparable, the National Work Life Balance Index© may help to guide public policies aimed at improving the work life balance of individuals in countries that are comparatively worse off in this respect.

Keywords Europe · National Work Life Balance Index© · Principal components analysis

JEL Classification H53 · I31 · J81

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1 Introduction

The term “work life balance” was first used in the United Kingdom in the late 1970s, and in the United States in 1986, and refers to the appropriate assignment of priorities between “work” (career and ambition) and “lifestyle” (health, pleasure, leisure, family, and spiritual development). Since then, a significant number of scholarly articles have discussed the importance of work life balance (Caproni 1997). In this ongoing discussion, a special focus has been on women in developed countries as, despite increases in female labor force participation, women continue to specialize in non market work (Bittman 1999; Bianchi et al. 2000; Baxter 2002; Giménez Nadal and Sevilla 2012), thus creating a “second shift” or “dual burden” (Hochschild and Machung 1989; Schor 1991) as women added employment obligations to their previously existing domestic responsibilities.

An imbalance of the “work” and “lifestyle” spheres can lead to negative outcomes for individuals, which include a lesser quality of life and decreased life satisfaction (Kofodimos 1993; Allen et al. 2000; Greenhaus et al. 2003), psychological strain, depression, anxiety, and alcohol abuse (Allen et al. 2000). Work life conflicts are also related to increased stress in marriage, in child parent relationships, and in child development (Gornick and Meyers 2003). The work life conflict is also important for employers, as it can have negative repercussions for the well being and performance of employees in their work place (Alpert and Culbertson 1987; Burke 1988; Googins 1991; Frone et al. 1992; Frone et al. 1996). Furthermore, a work life imbalance can lead to a lack of the time necessary to meet obligations at home and at work, which can in turn to stress at home that then affects performance at work (Greenhaus and Beutell 1985; Kopelman et al. 1983).¹ Thus, the reconciliation of work with private life, or life outside work, is a longstanding goal of EU employment and social policies (OECD 2001; Jacobs and Gerson 2004). It is an element of the Europe 2020 strategy not only to enable more individuals to join the work force, but also to promote greater gender equality.

The OECD proposes a “Better Life” index aimed at visualising and comparing certain key factors, such as education, housing, the environment, and so on, that contribute to individual well being. This index is an interactive tool that allows individuals and institutions to see how countries perform according to the relative importance given to each of eleven topics that together make for a better life (OECD 2014). Among the eleven topics, the OECD defines a “Work Life Balance” index, based on the following variables: The share of the labor force that works very long hours (more than 50 h a week) and the time spent on “leisure and personal care” (defined, in contrast to paid or unpaid work, as spending time with friends, going to movies, pursuing hobbies, sleeping, eating, etc.). McGinnity and Whelan (2009), and related studies, have dealt with the issue of comparative work life conflict in Europe, using the European Social Survey. Other proposed measures to assess work family conflict are the Work Family Strains and Gains (Marshall and Barnett 1993) and the Work Family Balance Scale (Wooden 2003; Zhang et al. 2012). We propose an index (the National Work Life Balance Index©) to analyse individual efforts to balance the work and life spheres, composed of a range of variables that can be measured at a national level. Using data from twenty six European countries, we compute, via principal components analysis (Bellido et al. 2011), the National Work Life Balance

¹ Prior research has shown the existence of both family to work conflict (FWC) and work to family conflict (WFC). In this paper we do not focus on this difference, and we refer to the work life balance that could go either way. See Hill et al. (2001), Grzywacz and Carlson (2007) and McGinnity and Whelan (2009) for a review of the concept of work life balance and its measurement.

Index© as the combination of five dimensions: Time/Schedule, Work, Family, Health, and Policy.

We find that Northern and Central European countries, such as Denmark, the Netherlands, Finland, and Sweden, have a higher score on the National Work Life Balance Index© compared to Southern and Western European countries, such as Spain, Greece, Portugal, Latvia and Bulgaria. These results contrast with those of the OECD's "Work Life Balance" component of the "Better Life" index (OECD 2014). The fact that the National Work Life Balance Index© includes more dimensions for analysis will prove helpful in making international comparisons. We also show that there are large cross country differences in the score given to the different dimensions of the National Work Life Balance Index©, indicating that the work life conflict can be addressed using several policy instruments. Our analysis indicates that efforts towards a better work life balance in countries with comparatively low scores should be focused on family and health issues.

Our proposed index will allow governments, policy makers, and researchers to make international comparisons. Only the OECD has a comparable "Work Life Balance" index as a specific component of a more general "Better Life" index, although it is based on only two variables: employees working long hours, and time devoted to leisure and personal care. The OECD Better Life Initiative focuses on developing statistics to capture aspects of life that matter to people and that shape the quality of their lives. This allows for a better understanding of what drives the well being of individuals and nations, and what needs to be done to achieve greater progress for all. Based on this experience, the OECD chooses 11 topics which they have identified as essential to well being in terms of material living conditions (housing, income, jobs) and quality of life (community, education, environment, governance, health, life satisfaction, safety, and work life balance). Each topic is built based on specific indicators.

Our proposal includes five dimensions with twenty three variables, where other social aspects such as health, and the possibility of changing or adapting work schedules, are taken into account in the computation. As the data become available, our index will allow us to make cross country and over time comparisons at a national level. Furthermore, while the OECD Better Life index has not assigned rankings to countries, given that it is an interactive web based tool created to compare well being across countries according to the importance researchers give to 11 topics, our index allows us to rank the countries according to their conditions for work life balancing. Additionally, an overview of the cross country differences in the five dimensions of the National Work Life Balance Index© will allow specific countries to focus their efforts in public policy to improve the work life balance.

The remainder of the paper is organized as follows. Section 2 describes the theoretical framework used for the inclusion of the five dimensions of the National Work Life Balance Index©. Section 3 presents the main variables measured at the national level that are used to compute the index. Section 4 presents the computation of the National Work Life Balance Index©, and our main results regarding cross country comparisons of both the National Work Life Balance Index© and the five dimensions. Section 5 presents our main conclusions.

2 Background

The National Work Life Balance Index© is a specific tool for documenting and analyzing the multi dimensional nature of the opportunities individuals have to balance their work and life spheres. The underlying nature of the index considers that the work life balance is

a broader concept than simply living conditions, and it addresses the overall well being of individuals in society (Eurofound 2004), and it emphasises the importance and relevance of subjective indicators in complementing more objective information (Stiglitz et al. 2009; Dolan and Metcalfe 2012; Vaughan Whitehead 2012). Hence, our analysis examines the relationship between subjective and objective measures (Eurofound 2009a, b, 2012b, 2013), and an important part of the analysis focuses on the relationship between reported attitudes and preferences on one side, and resources and living conditions on the other (Oláh et al. 2014).

The *Integrated Guidelines for the Europe 2020 strategy* underline the importance of work life balance as a factor in increasing labour market participation (European Commission 2010; ETWF 2012). Alongside the long standing recognition of the significance of gender equality in reconciling work and the private sphere, there is also a greater recognition of the need for a lifecycle approach, where work life balance is an issue for workers throughout their working life. As the OECD (2007) report emphasises, good work life policies enable adequate family income for now and pension security for the future, while contributing to child development outcomes and helping parents to realise labour market aspirations. Among the different policies supporting satisfactory work life balance, workplace practices appear particularly crucial, especially where public policies and care services are less developed. These workplace practices and policies may include attention to childcare or care of the elderly in some, generally larger, workplaces (Eurofound 2011), but mostly address leave arrangements and working time. We include in our index time/schedule arrangements, which include the possibility individuals have to take a day off, or the number of annual holidays. Additionally, commuting is an activity that individuals consider to be onerous (Kahneman and Krueger 2006), and that may negatively contribute to the work life balance of individuals.

The National Work Life Balance Index© identifies five dimensions, Time/Schedule, Work, Family, Policy, and Health, all of which are captured by indicators. Working time (Gershuny and Fisher 2014), its regularity and structure, has proven to be a consistently significant factor influencing satisfaction with the work life balance (Eurofound 2012a). The number of working hours is a fundamental factor influencing quality of life both at, and away from work. However, the distribution, regularity and structuring of working hours (in shifts, night work, weekends, “on call”) are also important influences on the ability to reconcile working with non working life (Eurofound 2012b). Even a little flexibility in work time arrangements may contribute to a better work life balance. It is important to know whether individuals in paid work have access to flexible work time arrangement, which are generally seen as a way to improve the work life balance of employees (Plantenga 2013).

Another factor that affects the work life balance of individuals is that of working conditions. In countries where unemployment rates are high, individuals in work may be concerned about losing their jobs, and thus feel pressure to work more hours, which is detrimental to their work life balance and to their health. In recent years, work intensity has remained at high levels and the European Working Conditions Survey (EWCS) provides evidence of an increase in job insecurity. Workers in the European Quality of Life Survey (EQLS) were asked how likely they felt it was that they might lose their job in the next 6 months; the proportion thinking this ‘very’ or ‘quite’ likely rose from 9 % in the 2007 survey to 13 % in 2011. This response increased dramatically in some EU Member States, particularly Cyprus (from 9 to 32 %), Greece (from 8 to 31 %) and Latvia (from 13 to 25 %). These high levels of perceived job insecurity must create severe pressure for the workers concerned. Thus, we explore the extent to which unemployment rates, both short and long term, are related to the work life balance of individuals.

Furthermore, in countries with high rates of unemployment, workers may find themselves taking part time jobs with low salaries. In some cases, even this part time job may not be enough, and some individuals may have a second job, which will also be negative for the work life balance. In Europe, the average work week is shorter in countries where part time work is common (Eurofound 2012b), and in countries with low rates of unemployment, part time jobs are often quite common and voluntary, as many individuals do not need an extra salary, thus having more time to balance their work and life spheres. Thus, we include in our index the percentage of individuals working part time in order to see the relationship of that to the work life balance in those countries.

Self employment has been shown to be used in some countries as a strategy to cope with work and household responsibilities, as shown by Goffee and Scase (1983), Scott (1986), Kaplan (1988), Buttner (1993), DeMartino and Barbato (2003), Lombard (2007) for the United States, and Gimenez Nadal et al. (2012) for Spain. However, more recent evidence from Sweden (Johansson Sevä and Öun 2015) shows that the self employed generally experience more work family conflict than do employees, although the presence of family/lifestyle motives generally decreases the probability of experiencing work family conflict, particularly among self employed women with employees. Thus, while in some countries self employment may be used to reduce the work family conflict, in others this is not the case.

In some European countries, social norms regarding the gender distribution of household labor stem from a tradition of women bearing the burden of household responsibilities (Sevilla 2010; Molina et al. 2011; Gimenez Nadal et al. 2012). In these circumstances, even when women participate in the labor market, they may still be responsible for the bulk of the household chores, adding work time to their household time. Thus, in some countries, high female employment rates may indicate a lower level of conflict between the work and life spheres, but in other, more traditional countries, it may indicate greater difficulties for women in balancing these spheres. Thus, we include female employment rates, to see how they relate to the work life balance in those countries.

Labour productivity may also be a factor in measuring cross country differences in the work life balance. Data from the OECD show that, while Spanish and Greek workers work 1690 and 2037 h per year, respectively, workers in Germany and the Netherlands work 1413 and 1380 h per year, respectively, even though labour productivity in the latter two countries is higher than in the former two. Thus, a key issue here is not only how many hours individuals work, but also how productive they are. Longer working hours do not necessarily imply greater productivity, but they are negatively related with the work life balance of individuals.

Using data from Europe on what is the ideal family size, the mean ideal, the intended, and the actual number of children (Eurobarometer 2011), we can compare the gap between intended and realized fertility trends. The desired average number of children has remained relatively stable, at or above two children per woman (Bongaarts 2001), with, for preference, one child of each sex (Mills and Begall 2010). This notion prevails in most Western societies, even in very low fertility societies, meaning that actual fertility often deviates substantially from stated preferences. Under this framework, one important question is why citizens do not fulfill their childbearing desires. Some couples would like to have more children, but do not see how they can afford to stop working (Scott and Braun 2006; Testa 2011).

There are various reasons for the existence and size of a gender pay gap and they may differ strongly between European countries, e.g. the kind of jobs held by women, consequences of breaks in career, or part time work due to childbearing, decisions in favour of

family life, etc. (Moreno 2012). Moreover, the proportion of women working and their characteristics differ significantly between countries, particularly because of institutions and attitudes governing the balance between private and work life that impact on the careers and thus the pay of women (Lewis 2009).

Europe has been confronted with a wave of crises affecting the economy and labour market since 2007 (Kahn 2010). The economic recession began in 2007 with the banking crisis. Following this, and in some cases caused by the problems in the banking system, several European countries were faced with significant debt problems, involving the European Union in a sovereign debt crisis. This economic crisis and the related impact on employment and the labour market are changing the world of work in Europe, compared with the situation a few years ago (Naithani 2010). Although not all European countries have experienced the same level of economic downturn or state financial problems, the crisis is having consequences for European working conditions (Dieckhoff 2013). Yet the pattern is of less work, reduced overall working time, less overtime, rising job insecurity, less choice for workers, wage freezes, and wage cuts (Gallie 2013). There is also greater work intensity, deterioration of work life balance, increasing stress at work, greater risk of harassment/bullying, less absenteeism, growth in the informal economy, and changes to migration patterns (Eurofound 2013).”

While the focus of European social policy has been on creating and maintaining employment, it is evident that many key societal roles and responsibilities are undertaken on an unpaid basis. The maintenance of homes and provision of care for children or people with health problems is predominantly done by family members or friends. Individuals in their prime working years are particularly involved in both childcare and care of the elderly (ETWF 2012). Since this unpaid work usually falls to women, there are important implications for gender equality, and particularly for opportunities to take up paid work. The National Work Life Balance Index© considers individual activities outside of paid work, specifically with regard to housework and childcare.

Family policies vary greatly across Europe, although EU level cooperation has evolved, especially in the areas of demographic change and gender equality. Demographic change caused by the postponement of childbirth, declining fertility (Balbo et al. 2013) and the ageing of the population has been a significant concern of both national and EU level policy, signalled by its inclusion as a key element of the Europe 2020 strategy. At the same time, family structures are also undergoing change, especially in terms of stability. The link between marriage and childbirth has weakened, and family breakdown is increasingly common (see for example, Beier et al. 2010). Family and social life is of central importance for the work life balance across the EU, and differences in family policies may affect how individuals balance their work and life spheres. Thus, we consider cross country differences in maternity leave, and expenditure on family policies.

3 Data

3.1 Time/Schedule

Weekly hours in work, measured as the average number of normal weekly hours of work in main job (EUROSTAT 2012). *Commuting time per day*, defined as the average time reported by workers in response to the question “Time spent in getting to and from work or study” (EUROFOUND 2012). *Flexibility to change work schedule*, measured as the

percentage of people who replied “yes” to the question “I can vary my start and finish times” (EUROFOUND 2012). *Flexibility to accumulate hours of work*, measured as the percentage of people who replied “yes” to the question “I can accumulate hours for time off” (EUROFOUND 2012). *Flexibility to take a day off*, measured as the percentage of people who replied “yes” to the question “I can take a day off in the short run if I need it” (EUROFOUND 2012). *Average annual holidays*, measured as the average number of holidays for workers in firms of 10 or more employees, in the industry, construction, or services sectors (EUROSTAT 2010).

3.2 Work

Unemployment rates, defined as the number of unemployed in the total economically active population, expressed as a percentage (EUROSTAT 2012). *Long term unemployment rates*, defined as the share individuals who have been unemployed for more than 12 months, in the total number of unemployed persons, expressed as a percentage (EUROSTAT 2012). *Female employment rates*, defined as the number of unemployed women in the total economically active female population, expressed as a percentage (EUROSTAT 2012). *Percentage of people working part time*, defined as the percentage of people working part time out of the total working population (this distinction between part time and full time is made on the basis of a spontaneous answer given by respondents in all countries, except for the Netherlands and Norway, where part time is determined on the basis of whether the usual hours worked are fewer than 35, while full time on the basis of whether the usual hours worked are 35 or more. In Sweden this criterion is also applied to the self employed [EUROSTAT 2012]). *Labour productivity*, measured as the GDP per employee, intended to give an overall impression of the productivity of national economies expressed in relation to the European Union (EU27) average. If the index of a country is higher than 100, this country’s level of GDP per person employed is higher than the EU average, and vice versa. Basic figures are expressed in PPS (i.e. a common currency that eliminates the differences in price levels between countries, allowing meaningful volume comparisons of GDP between countries). “Persons employed” does not distinguish between full time and part time employment (EUROSTAT 2012). *Self employment rates*, measured as the number (in thousands) of self employed individuals in the country, divided by the number (in thousands) of individuals working, expressed in percentage points (EUROSTAT 2012).

3.3 Family

Ideal number of children for females, obtained from OECD statistics, measures the average response to the question “Generally speaking, what do you think is the ideal number of children for a family?” The main indicator underlying the key findings for this is the mean personal ideal number of children, reflecting the number of children that individuals consider as ideal for themselves, averaged across respondents. Values are referred to the mid 2000s (OECD). *Ideal number of children for males*, a similar definition to the previous indicator, but applied to males (OECD). *Mean average earnings*, measured as the average gross annual earnings of non public workers (EUROSTAT 2010). *Average gender wage gap*, measured as the gender pay gap in unadjusted form, in percent, representing the difference between average gross hourly earnings of male paid employees and that of female paid employees, as a percentage of average gross hourly earnings of male

employees (EUROSTAT 2012). *Percentage of children <3 in formal education*, defined as the average enrolment rate of children under age 3 in formal education (OECD).

3.4 Policy

Duration of maternity leave, measured as the duration in weeks of maternity leave according to employment protected statutory maternity leave (OECD). *Average payment during maternal leave*, measured as the average replacement rate over the length of paid leave entitlement for a person normally on average wages. (If this covers more than one period of leave at two different replacement rates, then a weighted average is calculated based on length for each period [OECD]) *Percentage of GDP spent in family benefits*, measured as the percentage of GDP spent in schemes for family and children (EUROSTAT 2010). Here there is no data for 2012 currently available, and thus we use the year 2010 as reference year. *Debt as percentage of GDP*, defined as the consolidated general government gross debt at nominal value, outstanding at the end of the year in the following categories of government liabilities: currency and deposits, securities other than shares excluding financial derivatives, and loans (EUROSTAT 2012). The general government sector comprises the subsectors: central government, state government, local government, and social security funds. Basic data are expressed in the national currency, converted into euro using end year exchange rates for the euro provided by the European Central Bank (ECB).

3.5 Health

Frequency of participation in care activities, measured as the percentage of individuals responding “Every day” or “Several days a week” to the question “How often are you involved in caring for your children or grandchildren?” (EUROFOUND 2012). *Frequency of participation in chores*, measured as the percentage of individuals responding “Every day” or “Several days a week” to the question “How often are you involved in cooking or housework?” (EUROFOUND 2012).²

4 The National Work–Life Balance Index©

For the construction of any composite index, several issues must be taken into account. The first issue is the normalization of the variables. Table 1 shows the values of each variable in each country, and it can be observed that the variables have very different scales. Thus, the information included in the variables must be homogenized, that is, the variables must be transformed so that they become comparable. Several methods have been proposed to

² The inclusion of subjective indicators may be problematic as they may be endogenous to the Index. We have alternatively computed the Index including the variables “Level of difficulty to concentrate at work due to family responsibilities”, “Level of tiredness to do household chores”, “Level of stress due to work life balance”, and “Satisfaction with life” as they may be endogenous. Information on these variables is obtained from EUROFOUND (2012) and results are available upon request. After computing the five components and the Index, the variables “Level of difficulty to concentrate at work due to family responsibilities”, “Level of tiredness to do household chores”, and “Level of stress due to work life balance” have a negative correlation (e.g., 0.6351, 0.4798 and 0.6447 respectively) with the component “Health”, while the question “Satisfaction with life” has a positive correlation (e.g., 0.5641) with this component.

Table 1 Summary Statistics of variable used for the computation of the National Work–Life Balance Index©

Country	Component 1: Time/schedule					Component 2: Work						
	Weekly hours of work	Commuting time per day	Flexibility to change work schedule	Flexibility to accumulate hours of work	Flexibility to take a day off	Average days of annual holidays	Unemployment rates	Long-term unemployment rates	Female employment rates	% of people working part-time	Labour productivity	Self-employment rate
Austria	37.6	36.5	39.4	56.9	46.8	24.0	4.3	24.8	70.3	25.7	115.1	13.3
Belgium	36.9	38.2	53.5	51.6	75.8	20.0	7.6	44.7	61.7	25.1	134.2	14.3
Bulgaria	40.7	32.3	27.7	30.7	80.2	26.0	12.3	55.2	60.2	2.4	44.4	11.6
Cyprus	39.8	30.1	32.0	25.6	71.2	27.0	11.9	30.1	64.8	10.7	81.8	16.6
Czech Republic	40.9	41.4	30.5	53.7	70.9	24.0	7.0	43.4	62.5	5.8	67.3	18.4
Denmark	33.6	48.0	64.7	64.7	77.2	25.0	7.5	28.0	72.2	25.7	128.6	9.1
Estonia	38.8	46.6	35.9	34.7	68.3	24.0	10.0	54.7	69.3	10.4	61.0	8.6
Finland	37.1	39.5	64.2	49.2	63.9	24.0	7.7	21.2	72.5	15.1	106.8	13.6
France	37.9	37.7	47.1	40.7	73.6	30.0	9.8	42.0	65.1	18.0	129.0	11.5
Germany	35.5	32.8	44.1	51.3	44.1	26.0	5.5	45.2	71.5	26.7	126.1	11.6
Greece	42.0	34.9	35.5	25.7	64.7	23.0	24.5	59.3	45.2	7.7	74.0	36.8
Hungary	39.4	42.0	18.2	38.8	44.5	28.0	10.9	45.0	56.4	7.0	61.9	11.7
Ireland	35.0	54.9	43.7	44.5	76.2	14.0	14.7	61.2	59.4	24.0	129.0	16.4
Italy	37.1	37.8	40.6	42.1	68.5	25.0	10.7	52.5	50.5	17.1	102.5	24.8
Latvia	38.7	50.3	31.0	19.4	31.6	23.0	15.0	52.1	66.4	9.4	56.2	11.4
Lithuania	38.0	36.9	37.1	20.4	53.6	18.0	13.4	49.2	67.9	9.5	65.4	11.1
Luxembourg	37.2	41.4	47.1	47.8	63.8	27.0	5.1	30.3	64.1	19.0	177.0	8.9
Malta	38.6	54.5	31.7	32.5	73.3	23.0	6.3	48.5	46.8	14.0	66.9	13.3
Netherlands	30.3	42.3	55.4	58.1	84.0	19.0	5.3	33.4	71.9	49.8	128.7	15.3
Portugal	39.2	27.9	34.2	29.9	57.8	23.0	15.8	48.7	63.1	14.3	65.3	21.7
Romania	40.3	37.7	30.2	43.4	54.8	26.0	7.0	45.3	56.3	10.2	44.4	32.7
Slovakia	40.8	40.7	29.1	44.2	46.1	25.0	14.0	67.3	57.3	4.1	75.3	16.2

Table 1 continued

Country	Component 1: Time/schedule					Component 2: Work						
	Weekly hours of work	Commuting time per day	Flexibility to change work schedule	Flexibility to accumulate hours of work	Flexibility to take a day off	Average days of annual holidays	Unemployment rates	Long-term unemployment rates	Female employment rates	% of people working part-time	Labour productivity	Self-employment rate
Slovenia	39.8	34.5	27.6	70.3	67.2	29.0	8.9	47.9	64.6	9.8	86.4	15.4
Spain	38.2	31.5	37.3	24.5	72.7	23.0	24.8	44.4	54.0	14.7	108.0	17.5
Sweden	36.4	51.2	62.5	71.1	76.8	25.0	8.0	18.3	76.8	26.5	116.1	10.4
United Kingdom	36.4	44.6	55.9	45.9	74.9	23.0	7.9	34.7	68.4	27.2	98.2	14.6

Country	Component 3: Family				Component 4: Policy			Component 5: Health			
	Ideal number of children for males	Ideal number of children for females	Mean annual earnings	Average gender wage gap	Percentage of children <3 in formal education	Duration maternity leave	Average payment during maternal leave	% of GDP spent in family policies	Debt as % of GDP	Freq of participation in care activities	Freq of participation in chores
Austria	1.7	1.6	40514.0	23.4	13.9	16.0	100.0	3.1	81.7	23.4	73.0
Belgium	2.1	2.4	45280.0	10.0	39.2	15.0	72.7	2.2	104.0	36.2	76.9
Bulgaria	2.1	2.0	4686.0	14.7	9.6	68.0	90.0	2.0	18.0	33.7	65.0
Cyprus	2.9	2.7	27342.0	16.2	31.4	18.0	75.0	2.1	79.5	41.7	57.9
Czech Republic	1.8	2.2	12283.0	22.0	4.0	28.0	70.0	1.3	45.5	35.6	64.8
Denmark	2.4	2.5	55939.0	14.9	65.7	18.0	51.5	4.3	45.6	26.8	85.4
Estonia	2.2	2.1	10585.0	30.0	23.6	23.0	100.0	2.3	9.7	28.9	86.6
Finland	2.5	2.5	41495.0	19.4	27.7	17.5	80.7	3.3	53.0	28.5	85.1
France	2.5	2.6	39635.0	14.8	48.0	16.0	98.4	2.7	89.2	37.4	79.3
Germany	2.2	2.0	34927.0	22.4	23.1	14.0	100.0	3.2	79.0	23.1	80.4
Greece	2.3	2.3	26106.0	15.0	11.3	17.0	100.0	1.8	156.9	37.0	62.3

Table 1 continued

Country	Component 3: Family				Component 4: Policy				Component 5: Health		
	Ideal number of children for males	Ideal number of children for females	Mean annual earnings	Average gender wage gap	Percentage of children <3 in formal education	Duration maternity leave	Average payment during maternal leave	% of GDP spent in family policies	Debt as % of GDP	Freq of participation in care activities	Freq of participation in chores
Hungary	2.1	2.0	9879.0	20.1	10.9	24.0	70.0	3.0	78.5	37.4	68.9
Ireland	2.2	2.5	44146.0	14.4	28.8	42.0	26.1	3.6	121.7	41.1	88.7
Italy	2.0	2.1	32751.0	6.7	24.2	20.0	80.0	1.3	122.2	44.7	70.7
Latvia	2.0	2.0	8526.0	13.8	17.7	19.0	100.0	1.1	40.9	37.9	86.5
Lithuania	2.1	2.2	7226.0	12.6	15.6	21.0	100.0	2.2	39.9	38.8	83.8
Luxembourg	2.0	2.1	51643.0	8.6	45.8	16.0	100.0	4.0	21.4	39.2	74.0
Malta	1.9	1.9	19656.0	6.1	47.2	14.0	100.0	1.2	67.9	34.7	63.1
Netherlands	2.1	2.3	44965.0	16.9	60.6	16.0	100.0	1.2	66.5	35.1	80.0
Portugal	2.0	1.7	18507.0	15.7	45.9	15.0	100.0	1.4	124.8	35.5	72.2
Romania	1.8	1.9	6139.0	9.7	9.7	21.0	75.0	1.7	37.3	37.0	75.6
Slovakia	1.9	2.0	10321.0	21.5	3.0	34.0	55.0	1.8	52.1	34.4	63.7
Slovenia	2.2	2.3	21162.0	2.5	41.8	15.0	100.0	2.2	53.4	36.7	75.2
Spain	2.3	2.1	27975.0	17.8	39.3	16.0	100.0	1.5	84.4	36.3	72.8
Sweden	2.2	2.7	36470.0	15.9	46.7	10.0	0.0	3.1	36.4	27.1	85.9
United Kingdom	2.5	2.4	37372.0	19.1	42.0	52.0	22.5	1.8	85.8	33.4	84.3

Sources are EUROSTAT, EUROFOUND, and OECD

do this, including Gaussian normalization (subtract the mean from each variable and divide by its standard deviation), relative ranking (order the variable according to its relative values), the distances to the mean or the median, and the ratio between the variable and its mean or median. If we want positive values of all the variables, the Gaussian and the distances to the mean or the median must be excluded, as they could lead to negative values of any variable. Thus, the normalization method we choose is to divide the variable by its median, which would return positive values around 1. According to this normalization, the values that are below the median will have a normalized value between 0 and 1, and those above the median will have a normalized value >1 .

A second issue refers to the interrelationship among the variables included in each of the five dimensions. Before computing the five dimensions and the National Work Life Balance Index[©], we must analyze the extent to which the items included in each component measure the same concept or construct. To that end, we have analyzed the internal consistency of the five dimensions, using Cronbach's alpha (1951), to provide a measure of the internal consistency of a test or scale.³ This is expressed as a number between 0 and 1. Internal consistency is connected to the inter relatedness of the items within the test or scale. Values of Cronbach's alpha equal to or >0.7 ($\alpha \geq 0.7$) indicate an outstanding internal consistency of the variables, $0.7 > \alpha \geq 0.5$ indicates an acceptable internal consistency, while $\alpha < 0.5$ indicates that the internal consistency of the variables is not acceptable for the construction of the scale. For the variables we have considered in the five dimensions, we obtain that $\alpha = 0.66$, $\alpha = 0.75$, $\alpha = 0.64$ and $\alpha = 0.54$ for the dimensions of Time/Schedule, Work, Family and Policy, respectively.

A third issue refers to the weight assigned to each variable included in the composite index. That is, a specific weight must be assigned to each variable, which will determine the importance of the variable in the final value of the index. To assign weights, several methods have been proposed, including arithmetic weighting, geometric weighting, the use of expert opinion (via surveys or the Delphi method), and the use of factorial analysis. We rely on prior research. Bellido et al. (2011) use Principal Components Analysis (PCA) to elaborate a composite index of general satisfaction for the unemployed, and Filmer and Pritchett (2001) reviewed several standard options for valuing different assets, and demonstrated the validity and usefulness of using PCA to generate a wealth index. Thus, we have chosen to employ PCA in generating our National Work Life Balance Index[©], which attempts to more systematically assign weights to the various components. Prior research has shown the adequacy of this method to build composite indices (Krishnakumar and Nagar 2008). Furthermore, the PCA has been used in many cases for the construction of composite indices, including Lai (2000, 2003), Quadrado et al. (2001), Ogwang and Abdou (2003), Bellido et al. (2011), and Jemmali and Sullivan (2014).

We have carried out two steps in creating the National Work Life Balance Index[©]. In the first step, considering the structure of the data, we have applied a PCA to weight each variable within the corresponding component (i.e. Time/Schedule, Work, Family, Health, and Policy). Using this weighting, we have computed the value of the five dimensions. This first step will provide us with five factors, defined at the country level, measuring the ranking of the country regarding work life balance according to our five dimensions.

³ We have not analyzed the internal consistency of the component "Health" given that the 2 variables included in that component come from the same survey (EUROFOUND 2012a, b) and refer to the distribution of time of the sample. When we alternatively include subjective variables as described in footnote 2, the internal consistency of the component "Health" is $\alpha = 0.80$, while the internal consistency of the Index is $\alpha = 0.74$.

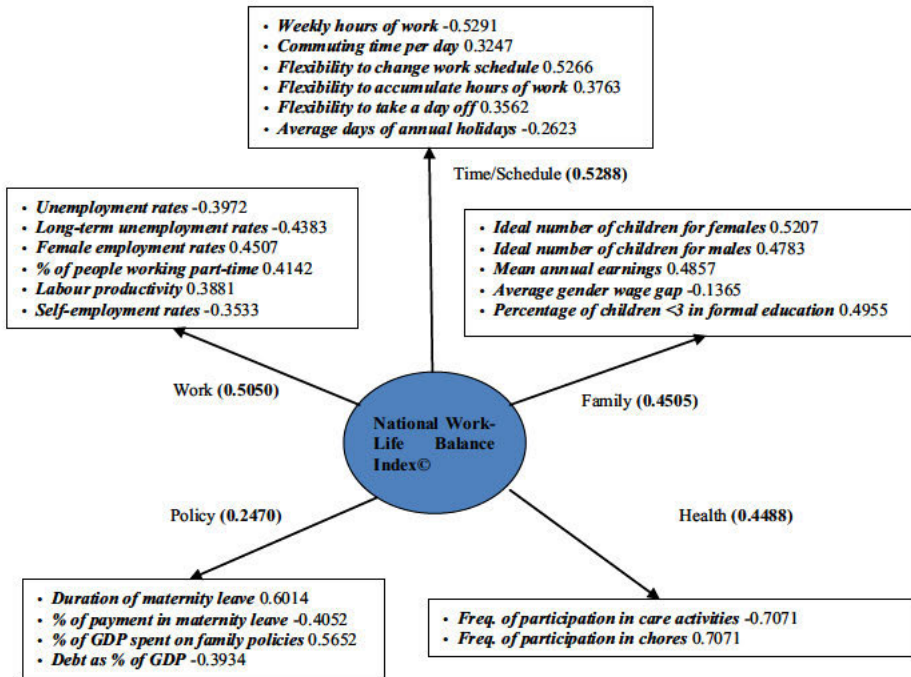


Fig. 1 Factor loadings for the computation of the National Work Life Balance Index©. Notes Authors' calculations

Figure 1 shows the weights applied to each variable included in each component, with the weights being taken from the PCA. In the second step, and considering our five dimensions, we have applied a PCA to obtain the weights to be assigned to each one. Figure 1 shows the weights applied to the five dimensions: 0.5288 for Time/Schedule, 0.5050 for Work, 0.4505 for Family, 0.2470 for Policy, and 0.4488 for Health. In these two steps, the weights are obtained from the first principal component. When we analyze the internal consistency of the five dimensions, the resulting $\alpha = 0.74$ indicates that the five dimensions included in our index measure the same concept of work life balance.

Table 2 shows the results of the computation of the index for selected countries, sorted from the highest to the lowest value of the index. We observe that the top positions of the ranking are occupied by Denmark, Sweden and the Netherlands, while the bottom positions belong to Latvia, Slovakia and Greece. Comparing our results with results from other sources, Crompton and Lyonette (2006) and the OECD "Better Life" index show that Northern European countries are ranked among the top countries in terms of work life balance, results that are consistent with our ranking, as Sweden and Finland hold the second and fifth positions, respectively. A higher value must be interpreted as a better work life balance in the country. From our five dimensions, differences in Time/Schedule and Work seem to be relatively highly weighted, compared to Family, Policy and Health.⁴

⁴ It may appear surprising that higher participation in child care activities is related to a lower work life balance, while a higher participation in chores is related to a higher work life balance. The intuition here is that while outsourced chore activities may be of equal or better quality than activities done by the individuals, parents may be more reluctant to outsource childcare activities (Guryan et al. 2008) as childcare by

Table 2 Ranking of countries according to the National Work Life Balance Index©

Country	Index	Ranking index	Time/schedule	Work	Family	Policy	Health
Denmark	3.396	1	1.535 (2)	0.959 (4)	3.154 (1)	2.145 (1)	0.331 (1)
Sweden	2.993	2	1.545 (1)	1.002 (2)	2.473 (5)	1.805 (2)	0.245 (4)
Netherlands	2.792	3	1.446 (3)	1.530 (1)	2.738 (2)	0.053 (21)	0.076 (10)
Luxembourg	2.359	4	0.944 (8)	0.999 (3)	2.598 (4)	0.947 (11)	0.110 (19)
Finland	2.290	5	1.217 (5)	0.511 (9)	2.217 (9)	1.112 (9)	0.257 (3)
Belgium	2.284	6	1.184 (7)	0.594 (8)	2.453 (6)	0.860 (12)	0.090 (8)
United Kingdom	2.095	7	1.192 (6)	0.626 (7)	2.374 (7)	0.024 (20)	0.164 (7)
Germany	2.055	8	0.792 (12)	0.827 (6)	1.805 (16)	1.151 (8)	0.269 (2)
Ireland	2.001	9	1.218 (4)	0.009 (11)	2.259 (8)	1.324 (6)	0.016 (12)
France	1.898	10	0.861 (9)	0.397 (10)	2.605 (3)	0.215 (17)	0.034 (11)
Austria	1.759	11	0.811 (11)	0.950 (5)	1.522 (18)	0.358 (16)	0.171 (6)
Slovenia	1.604	12	0.763 (15)	0.138 (15)	2.141 (11)	1.339 (5)	0.057 (17)
Malta	1.246	13	0.778 (14)	0.067 (12)	2.012 (13)	0.061 (22)	0.051 (16)
Estonia	1.218	14	0.750 (16)	0.135 (14)	1.343 (19)	0.719 (14)	0.237 (5)
Lithuania	1.059	15	0.564 (18)	0.307 (17)	1.300 (20)	1.418 (3)	0.045 (15)
Cyprus	1.044	16	0.447 (24)	0.115 (13)	2.201 (10)	0.065 (19)	0.317 (26)
Italy	1.020	17	0.821 (10)	0.320 (18)	1.904 (14)	0.267 (24)	0.100 (18)
Spain	0.882	18	0.599 (17)	0.676 (23)	2.055 (12)	0.079 (23)	0.002 (13)
Czech Republic	0.754	19	0.778 (13)	0.299 (16)	1.033 (25)	0.376 (15)	0.143 (22)
Portugal	0.709	20	0.479 (23)	0.569 (21)	1.858 (15)	0.342 (25)	0.022 (14)
Bulgaria	0.689	21	0.494 (22)	0.676 (22)	1.083 (23)	1.386 (4)	0.135 (21)
Romania	0.678	22	0.557 (19)	0.693 (24)	1.062 (24)	1.259 (7)	0.123 (20)
Hungary	0.633	23	0.321 (26)	0.341 (19)	1.149 (22)	0.780 (13)	0.165 (23)
Latvia	0.608	24	0.402 (25)	0.462 (20)	1.277 (21)	0.071 (18)	0.081 (9)
Slovakia	0.460	25	0.532 (20)	0.824 (25)	0.960 (26)	0.984 (10)	0.179 (24)
Greece	0.053	26	0.517 (21)	1.701 (26)	1.604 (17)	0.424 (26)	0.190 (25)
E. Union average	1.480		0.829	0.042	1.891	0.658	0.013

Authors' calculations. Sources are EUROSTAT, EUROFOUND, and OECD. See Fig. 1 for a description of the information included in each component, and the weights assigned to each variable and component. In parentheses the ranking of the country according to each component of the index. Rankings for the five components are obtained from the highest to the lowest values as they enter with positive sign in the index

If we look at the relationship between the National Work Life Balance Index© and the five components, we observe that the five components are positively related with the work life balance, which means that aspects like the possibility to change work schedule, flexibility to accumulate hours of work, the duration of maternity leave, the percentage of

Footnote 4 continued

parents has been shown to be very important in child development (Leibowitz 1972, 1974, 1977). Thus, while individuals may have a certain degree of choice for chores activities, it may not be the case for childcare activities. Consequently, higher participation in chores may indicate that individuals have more available time and thus they devote more time to these activities because they want to, which is related to a lower conflict between work and household responsibilities. However, parents may feel that childcare are their responsibility as they have to do these child care activities, and thus higher participation in childcare activities imposes more restrictions on their daily lives, leading to higher participation in these activities being related to a higher conflict between work and family life.

children under age 3 in formal education and the percentage of GDP spent on family policies, are all factors related to a better work life balance. On the other hand, higher unemployment rates and long term unemployment rates, the gender wage gap, the average weekly hours of work, and the debt as a percentage of the GDP of the country, are all related to problems with the work life balance of individuals. Furthermore, countries that are highly ranked on our index are highly ranked also in all the components of the index, while countries that are low ranked according to our index are also low ranked in all the components of the index. For instance, Denmark and Sweden rank in the top positions according to the five components, while Slovakia and Greece rank in the bottom positions according to the five components. It is also interesting that in the case of the Netherlands, despite that they rank in the third position according to the index, they rank in position 21 according to the Policy component, indicating that the work life balance of individuals in that country could be improved by focusing on the policy dimension.

Figure 2 shows differences across countries, according to our five dimensions. We observe that there are significant cross country differences in the component of Family, as countries with a better work life balance have comparatively high values, compared to other countries, and also in the component of Health, as countries with better work life balance have comparatively low values compared to countries. Thus, our analysis of the five dimensions of the National Work Life Balance Index© indicates that efforts towards improving individual work life balance in countries with comparatively low scores should

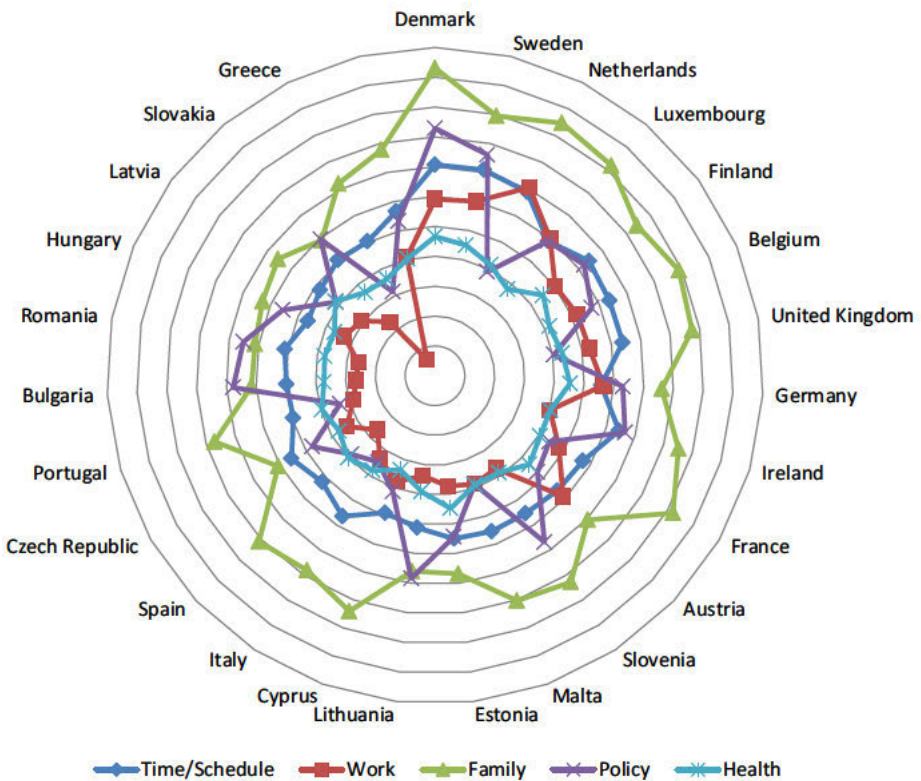


Fig. 2 Comparison of the five dimensions of the National Work Life Balance Index©. Notes Authors' calculations

be focused on Family and Health issues, and not so much effort should be expended on Work and Policy.

5 Conclusions

The increased popularity of workplace flexibility programs and supportive work family policies among developed countries reflects the intensification of the conflict between work and household responsibilities, in a world where dual earner households have increasingly become the norm. An imbalance of the “work” and “lifestyle” spheres may lead to negative outcomes for individuals in the work place and in the family. Thus, it is important to analyze the difficulties individuals have in balancing their work and life spheres, and to discover in which countries (if any) individuals are worse off. Thus, the creation of an index for country comparisons, and to discern differences in a range of factors, should be of great interest to politicians, employers, and individuals.

We propose the National Work Life Balance Index[©] as an instrument to measure the problems and possibilities individuals have in balancing their work and life spheres. The index is a combination of five dimensions: Time/Schedule, Work, Family, Health, and Policy. Using data from twenty six European countries, we find that Northern and Central European countries, such as Denmark, the Netherlands, Finland, and Sweden have a higher score of the National Work Life Balance Index[©] compared to Southern and Western European countries, such as Spain, Greece, Portugal, Latvia, and Slovakia. These results are in contrast with those of the OECD “Work Life Balance” dimension of the “Better Life” index (OECD 2014). The fact that our index includes more dimensions of analysis may prove helpful in carrying out international comparisons.

We also demonstrate that there are significant cross country differences in the scores assigned to the different dimensions of the index, indicating that the work life conflict can be addressed using a range of policy instruments. Our analysis indicates that efforts towards a better work life balance, in countries with comparatively low scores, should be focused on family and health issues. For instance, increasing the average earnings of individuals, or reducing the gender wage gap in countries with comparatively low work life balance, or increasing the coverage of formal, free or subsidised education for young children, may serve to improve the work life balance of individuals. These policies have, traditionally, especially in EU countries, been considered as measures aimed at decreasing gender inequality; by the same token, they can be regarded as helping to redress individual work life imbalances.

Another dimension that could be included in the National Work Life Balance Index[©] is altruism in society. Prior research has shown that individuals make transfers among the members of their households (Molina 2013, 2014), both money and time. Money transfers may help individuals to outsource household production activities, and time transfers may help individuals with their childcare responsibilities. However, there are no datasets currently that cover altruism issues for all the countries analyzed, and thus we leave this issue as a future line of research.

References

- Allen, T. D., Herst, D. E. L., Bruck, C. S., & Sutton, M. (2000). Consequences associated with work to family conflict: A review and agenda for future research. *Journal of Occupational Health Psychology*, 5, 278–308.

-
- Alpert, D., & Culbertson, A. (1987). Daily hassles and coping strategies of dual earner and non dual earner women. *Psychology of Women Quarterly*, 1, 359-366.
- Balbo, N., Billari, F. C., & Mills, M. (2013). Fertility in advanced societies: A review of research. *European Journal of Population*, 29(1), 1-38.
- Baxter, J. (2002). Patterns of change and stability in the gender division of household labour in Australia, 1996-1997. *Journal of Sociology*, 38, 399-424.
- Beier, L., Hofäcker, D., Marchese, E., & Rupp, M. (2010). *Family structures and family forms in the European Union: An overview of major trends and developments*. Dortmund: FAMILYPLATFORM.
- Bellido, H., Gimenez Nadal, J. I., & Ortega, R. (2011). Measuring satisfaction of the unemployed: A composite indicator and policy implications. *Applied Economics Letters*, 18, 1687-1690.
- Bianchi, S., Milkie, M., Sayer, L., & Robinson, J. P. (2000). Is anyone doing the housework? Trends in the gender division of household labor. *Social Forces*, 79, 191-228.
- Bittman, M. (1999). "Now that the future has arrived: A retrospective of Gershuny's theory of social innovation," Social Policy Research Centre, Discussion Paper, No. 110.
- Bongaarts, J. (2001). Fertility and reproductive preferences in post transitional societies. *Population and Development Review*, 27, 260-281.
- Burke, R. J. (1988). Some antecedents and consequences for work family conflict. *Journal of Social Behavior and Personality*, 3, 287-302.
- Buttner, E. (1993). Female entrepreneurs: How far have they come? *Business Horizons*, 2, 59-65.
- Caproni, P. J. (1997). Work/life balance: You can't get there from here. *Journal of Applied Behavioral Science*, 33, 46-56.
- Crompton, R., & Lyonette, C. (2006). Work life 'balance' in Europe. *Acta Sociologica*, 49, 379-393.
- Cronbach, L. J. (1951). Coefficient alpha and the internal structure of tests. *Psychometrika*, 16, 297-334.
- DeMartino, R., & Barbato, R. (2003). Differences between women and men MBA entrepreneurs: Exploring family flexibility and wealth creation as career motivators. *Journal of Business Venturing*, 18, 815-832.
- Dieckhoff, M. (2013). 'Continuing training in times of economic crisis', summary paper, Economic Crisis, Quality of Work and Social Integration: The European Experience in the Great Recession, European Social Survey and Organisation of Economic Co operation and Development policy seminar, 2013, Paris.
- Dolan, P., & Metcalfe, R. (2012). Measuring subjective well being: Recommendations on measures for use by national governments. *Journal of Social Policy*, 41, 409-427.
- ETWF (European Transport Workers' Federation), UITP (International Association of Public Transport) and VDV Akademie. (2012). *Project report: The employment of women in the urban transport sector*. Luxembourg: Publications Office of the European Union.
- Eurobarometer. (2011). *Eurobarometer on fertility and social climate Evidence on family sizes in Europe*, European Commission.
- Eurofound. (2004). Delhey, J., *Life satisfaction in an enlarged Europe*. Luxembourg: Publications Office of the European Union.
- Eurofound. (2009a). *Second European quality of life survey: Overview*. Luxembourg: Publications Office of the European Union.
- Eurofound. (2009b). *Second European quality of life survey, quality of life in Europe 2003-2007*. Luxembourg: Publications Office of the European Union.
- Eurofound. (2011). Cullen, K., Gareis, K., Peters, P., Byrne, P., Mueller, S., Dolphin, C. et al. *Company initiatives for workers with care responsibilities for disabled children or adults. Working paper*, Eurofound, Dublin.
- Eurofound. (2012a). Parent Thirion, A., Vermeylen, G., Van Houten, G., Lyly Yrjänäinen, M., Biletta, I., & Cabrita, J. *Fifth European working conditions survey: Overview report*. Luxembourg: Publications Office of the European Union.
- Eurofound. (2012b). *Third European quality of life survey quality of life in Europe: Impacts of the crisis*. Luxembourg: Publications Office of the European Union.
- Eurofound. (2013). *Impact of the crisis on working conditions in Europe*. Dublin: EUROFOUND.
- European Commission. (2010). *Europe 2020: A strategy for smart, sustainable and inclusive growth*. COM 2020 final, Brussels.
- Filmer, D., & Pritchett, L. (2001). Estimating wealth effects without expenditure data or tears: An application to educational enrollments in states of India. *Demography*, 38, 115-132.
- Frone, M. R., Russell, M., & Barnes, G. M. (1996). Work family conflict, gender, and health related outcomes: A study of employed parents in two community samples. *Journal of Occupational Psychology*, 1, 57-69.

-
- Frone, M. R., Russell, M., & Cooper, M. L. (1992). Antecedents and outcomes of work family conflict: Testing a model of the work family interface. *Journal of Applied Psychology, 77*, 65-78.
- Gallie, D. (2013). 'Job control, work intensity and work stress', summary paper, Economic Crisis, Quality of Work and Social Integration: the European Experience in the Great Recession, European Social Survey and Organisation of Economic Co operation and Development policy seminar, 2013, Paris.
- Gershuny, J., & Fisher, K. (2014). "Post industrious society: Why work time not disappear for our grandchildren". Sociology Working Papers No. 2014 03 (pp. 1-43). University of Oxford.
- Gimenez Nadal, J. I., Molina, J. A., & Ortega, R. (2012). Self employed mothers and the work family conflict. *Applied Economics, 44*, 2133-2148.
- Gimenez Nadal, J. I., Molina, J. A., & Sevilla, A. (2012). Social norms, partnerships and children. *Review of Economics of the Household, 10*, 215-236.
- Gimenez Nadal, J. I., & Sevilla, A. (2012). Trends in time allocation: A cross country analysis. *European Economic Review, 56*, 1338-1359.
- Goffee, R., & Scase, R. (1983). Business ownership and women's subordination: A preliminary study of female proprietors. *The Sociological Review, 31*, 625-648.
- Googins, B. K. (1991). *Work/family conflicts: Private lives public responses*. New York: Auburn House.
- Gornick, J. C., & Meyers, M. K. (2003). *Families that Work*. New York: Sage.
- Greenhaus, J. H., & Beutell, H. J. (1985). Sources of conflict between work and family roles. *Academy of Management Review, 10*, 76-88.
- Greenhaus, J. H., Collins, K. M., & Shaw, J. D. (2003). The relation between work family balance and quality of life. *Journal of Vocational Behavior, 63*, 510-531.
- Grzywacz, J. G., & Carlson, D. S. (2007). Conceptualizing work family balance: Implications for practice and research. *Advances in Developing Human Resources, 9*, 455-471.
- Guryan, J., Hurst, E., & Kearney, M. (2008). Parental Education and Parental Time with Children. *Journal of Economic Perspectives, 22*, 23-46.
- Hill, E. J., Hawkins, A. J., Ferris, M., & Weitzman, M. (2001). Finding an extra day a week: The positive influence of perceived job flexibility on work and family life balance. *Family Relations, 50*, 49-58.
- Hochschild, A. R., & Machung, A. (1989). *The second shift*. New York: Avon Books.
- Jacobs, J. A., & Gerson, K. (2004). *The Time Divide*. Cambridge: Harvard University Press.
- Jemmali, H., & Sullivan, C. A. (2014). Multidimensional analysis of water poverty in MENA region: An empirical comparison with physical indicators. *Social Indicators Research, 115*, 253-277.
- Johansson Sevä, I., & Öun, I. (2015). Self employment as a strategy for dealing with the competing demands of work and family? The importance of family/lifestyle motives. *Gender, Work & Organization*. doi:10.1111/gwao.12076.
- Kahn, L. B. (2010). The long term labor market consequences of graduating from college in a bad economy. *Labour Economics, 17*(2), 303-316.
- Kahneman, D., & Krueger, A. B. (2006). Developments in the measurement of subjective well being. *Journal of Economic Perspectives, 20*, 3-24.
- Kaplan, E. (1988). *Women entrepreneurs: Constructing a framework to examine venture success and business failure*. *Frontiers of Entrepreneurship Research*. Wellesley, MA: Babson College.
- Kofodimos, J. (1993). *Balancing act: How managers can integrate successful careers and fulfilling personal lives*. San Francisco: Jossey Bass.
- Kopelman, R. E., Greenhaus, J. H., & Connolly, T. F. (1983). A model of work, family, and interrole conflict: A construct validation study. *Organizational Behavior and Human Performance, 32*, 198-215.
- Krishnakumar, J., & Nagar, A. L. (2008). On exact statistical properties of multidimensional indices based on principal components, factor analysis, MIMIC and structural equation models. *Social Indicators Research, 86*, 481-496.
- Lai, D. (2000). Temporal analysis of human development indicators: Principal components approach. *Social Indicators Research, 51*, 331-366.
- Lai, D. (2003). Principal component analysis on human development indicators in China. *Social Indicators Research, 61*, 319-330.
- Leibowitz, A. (1972). "Women's allocation of time to market and nonmarket activities: Differences by education." Ph.D. dissertation, Columbia University, 1972.
- Leibowitz, A. (1974). Home investments in children. *Journal of Political Economy, 82*, 111-131.
- Leibowitz, A. (1977). Parental inputs and children's achievement. *Journal of Human Resources, 12*, 243-251.
- Lewis, J. (2009). *Work family balance, gender and policy*. UK: Edward Elgar.
- Lombard, K. (2007). Female self employment and demand for flexible, nonstandard work schedules. *Economic Inquiry, 39*, 214-237.

-
- Marshall, N. L., & Barnett, R. C. (1993). Work family strains and gains among two earner couples. *Journal of Community Psychology*, 21, 64-78.
- McGinnity, F., & Whelan, C. T. (2009). Comparing work life conflict in Europe: Evidence from the European social survey. *Social Indicators Research*, 93, 433-444.
- Mills, M., & Begall, K. (2010). Preferences for the sex composition of children in Europe: A multilevel examination of its effect on progression to a third child. *Population Studies*, 64, 77-95.
- Molina, J. A. (2013). Altruism in the household: In kind transfers in the context of kin selection. *Review of Economics of the Household*, 11, 309-312.
- Molina, J. A. (2014). Altruism and monetary transfers in the household: Inter and intra generational issues. *Review of Economics of the Household*, 12, 407-410.
- Molina, A., Garcia, I., & Montuenga, V. (2011). Gender differences in childcare: Time allocation in five European countries. *Feminist Economics*, 17, 119-150.
- Moreno, A. (2012). "Family well being: European perspectives". *Social indicators research series* (Vol. 49). New York: Springer.
- Naithani, P. (2010). Recession and work life balance initiatives. *The Romanian Economic Journal*, 13, 55-68.
- OECD. (2001). *Balancing work and family life: Helping parents into paid employment, Chapter 4*. Employment Outlook.
- OECD. (2007). *Matching work and family commitments: Issues, outcomes, policy objectives and recommendations*. Paris: OECD.
- OECD. (2014). *Work life balance*. <http://www.oecdbetterlifeindex.org/topics/work-life-balance>.
- Ogwang, T., & Abdou, A. (2003). The choice of principal variables for computing some measures of human well being. *Social Indicators Research*, 64, 139-152.
- Oláh, L. S., Richter, R., & Kotowska, I. E. (2014). *The new roles of men and women and implications for families and societies*. Families and societies. Working Paper Series.
- Plantenga, J. (2013). 'Flexibiliteit en de kosten van onzekerheid' [Flexibility and the price of uncertainty]. In Ministry of Social Affairs and Employment (the Netherlands) (ed.), *Flexibiliteit en zekerheid op een dynamische arbeidsmarkt: de balans in beweging* [Flexibility and security in a dynamic labour market: The shifting balance], Vijfkeerblauw, the Netherlands.
- Quadrado, L., Heijman, W., & Folmer, H. (2001). Multidimensional analysis of regional inequality: The case of Hungary. *Social Indicators Research*, 56, 21-42.
- Schor, J. (1991). *The overworked American: The unexpected decline of leisure*. New York: Basic Books.
- Scott, C. E. (1986). Why more women are becoming entrepreneurs. *Journal of Small Business Management*, 24, 37-44.
- Scott, J., & Braun, M. (2006). Individualization of family values? In P. Ester, M. Braun, & P. Mohler (Eds.), *Globalization, value changes and generations*. Leiden: Brill.
- Sevilla, A. (2010). Household division of labor and cross country differences in household formation rates. *Journal of Population Economics*, 23, 225-249.
- Stiglitz, J. E., Sen, A., & Fitoussi, J. P. (2009). *Report by the commission on the measurement of economic performance and social progress*. Paris: Commission on the Measurement of Economic Performance and Social Progress.
- Testa, M. R. (2011). "Family sizes in Europe: Evidence from the 2011 Eurobarometer survey," Vienna Institute of Demography, Austrian Academy of Sciences.
- Vaughan Whitehead, D. (Ed.). (2012). *Work inequalities in the crisis: Evidence from Europe*. Geneva: International Labour Organization.
- Wooden, M. (2003). *Balancing work and family at the start of the 21st century: Evidence from wave 1 of the HILDA survey*. (Paper presented to the pursuing opportunity and prosperity: The 2003 Melbourne Institute Economic and Social Outlook Conference, Melbourne).
- Zhang, H., Yip, P. S. F., Chi, P., Chan, K., Cheung, Y. T., & Zhang, X. (2012). Factor structure and psychometric properties of the work family balance scale in an Urban Chinese sample. *Social Indicators Research*, 105, 409-418.

Data Sources

- EUROFOUND. (2012). European Quality of Life Survey 2012.
- EUROSTAT. (2010, 2012). EUROSTAT Statistics web page.
- OECD. OECD Family Database.