CSB
WORKING PAPER

centreforsocialpolicy.eu December 2013 No 13 / 05

Great expectations, but how to achieve them? Explaining patterns of inequality in childcare use across 31 developed countries

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Working Paper No. 13 / 05

December 2013

ABSTRACT

Childcare services are increasingly regarded as a major policy lever to mitigate social inequalities. Such services are believed to be effective in reducing poverty and increasing employment rates by allowing both parents to engage in paid employment, as well as to benefit the cognitive and non-cognitive development of young children. This holds in particular for young children from disadvantaged backgrounds, enhancing their future success in education and in the labour market. However, recent studies have shown that the use of formal childcare services is socially stratified, i.e. higher-income families or families with a high-educated mother use childcare services to a much larger extent than lower-income families or families with a low-skilled mother. Due to this social gap in childcare use, government investment in childcare could fail to live up to its inequality-reducing potential or, worse still, may actually exacerbate rather than mitigate social inequalities. Drawing on the comparative social policy literature, this article explores, for the first time, the determinants of inequalities in childcare coverage for a broad set of countries. Our results contribute to a proper understanding of the mechanisms driving inequality in childcare service use, which is crucial to the future of childcare services as an effective policy instrument to mitigate social inequalities in early life.

Keywords: Childcare; ECEC; inequality; comparative; welfare state; education

JEL: I24, I3, H53, J13, J24

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1. Introduction

The provision of early childhood education and care services (hereafter: childcare) is high on the policy agenda. It is increasingly seen as a most promising instrument for mitigating social inequalities and is promoted at the policy level in just about all developed countries. Childcare has been on the agenda of the European Union since the mid-1990s and the adoption of the 1992 Childcare Recommendation. Here, the emphasis was on the potential of childcare services for increasing maternal employment and further gender equality rather than on child development. A decade later, at the 2002 Barcelona Summit, explicit targets to provide childcare by 2010 to at least 33% of children under the age of three and to at least 90% of children between age three and mandatory school age were adopted as part of the Lisbon strategy (Council of the European Union 2002). A new benchmark for at least 95% of children between four years and mandatory school age to participate in childcare was set in 2009. Today, childcare is seen as a means to reach the EU2020 targets for employment, early school leaving, and poverty (European Commission 2011).

When Barack Obama became president of the United States, one of his priorities was to further expand Head Start and Early Head Start programmes and to initiate a so-called Zero to Five plan, emphasizing access to affordable and high-quality childcare. He argued that "study after study proves that children in these programs - especially low-income children - are more likely to score higher in reading and math, more likely to graduate from high school and attend college, more likely to hold a job and more likely to earn more on that job. And for every $1 we invest in these programs, we get $10 back in reduced welfare rolls, fewer health care costs, and less crime" (Obama 2007). The emphasis on childcare fits neatly into the social investment perspective, which is now the dominant approach to social policymaking in Europe and elsewhere (Morel et al. 2012; Cantillon and Vandenbroucke 2013; Esping-Andersen 2002). In this respect, childcare may be regarded as an integral part of 'productive social policy' in which the objective of social inclusion through employment is key (Van Lancker and Ghysels 2013). The underlying idea is that investing in young children by means of high-quality childcare not only yields short and long-term benefits for the children themselves, but also for society as a whole. Indeed, childcare services are expected to contribute to sound public finances and to prepare people for lives as 'productive citizens' by furthering human capital, mitigating social inequalities in early life and fostering maternal employment (Van Lancker 2013). Although these productivity arguments have overshadowed concerns for gender equality and social-pedagogical considerations as a political motive to provide childcare (Jensen 2009), the new childcare logic has led governments to increase public investment in childcare services over the past decade (Van Lancker and Ghysels 2013).

The potential benefits of childcare (throughout this article we use formal childcare, childcare and childcare services as synonyms) are mainly realised through two channels. *First*, childcare is expected to increase maternal employment rates, which in turn leads to greater gender equality by distributing labour and care more equally between partners and by enabling women to earn a wage of their own. Moreover, (child) poverty is reduced because household income increases and families have more resources at their disposal. Empirical research shows that women tend to drop out of the labour market after giving birth, unless they are able to externalise care duties (Uunk et al. 2005; Stier et al. 2001). Indeed, there is a clear association between the availability of formal childcare services and female employment rates (van der Lippe and Van Dijck 2002). *Second*, childcare is seen as beneficial for young children because it enhances human capital and leads to better learning outcomes and school readiness in the short run, and better social and labour market prospects in the longer run (Heckman, 2006). Yet these benefits are conditional on the quality of the childcare services: low-quality services may be harmful and produce detrimental outcomes in terms of child development[1].

It is important to note that the expected returns of childcare are particularly large for disadvantaged families. *First*, it has been meticulously documented how increased female labour market participation has been a socially stratified process, with low-educated women participating to a much smaller extent than their higher-educated counterparts (Cantillon et al., 2001; Evertsson et al., 2009; Konietzka and Kreyenfeld 2010). Moreover, because of the process of educational homogamy, dual earnership has also been adopted in an uneven way in modern societies, exacerbating the labour market disadvantage and the welfare gap between low-skilled and high-skilled families. These families thus have the most to gain in terms of labour market participation. *Second*, children of disadvantaged families in particular are expected to benefit in terms of development because they start from a disadvantaged position and consequently stand to gain the most (Magnusson et al., 2007). It is well established that child poverty has adverse long-term effects on the life chances of these children as well as on their opportunities to become productive adults (Duncan et al. 1998; Hackman et al. 2010). This is partly so because these children grow up in an environment that is less conducive to learning; their parents are also less able to facilitate their school readiness compared to higher-income families. Given the inheritance of social inequality, children growing up in poverty have a high likelihood of becoming poor parents themselves (Corak, 2006). Bestowing upon these children a stimulating learning

[1] Important aspects of quality are the staff-child ratio, the quality of staff-child interactions, staff qualifications, group size, the curriculum and the integration of care and educational elements (for further reading on the issue of quality, see OECD 2012 and Penn 2011).

environment may offset the unequal abilities of parents to stimulate their children's development, language competence and school readiness, and hence to narrow the development gap (Barnett 1995, Currie 2001). Because learning leads to further learning, the effects of equalizing initial endowments are long-lasting, leading to improved chances for school success and social mobility (Brooks-Gunn 2003; Magnusson et al. 2007; Phillips and Lowenstein 2011). To summarize, providing high-quality childcare is expected to enhance the human capital of mothers and children alike, and should in particular yield benefits for children from disadvantaged backgrounds.

If these great expectations are warranted[2], the implication is that in particular children from disadvantaged socio-economic backgrounds should be enrolled in high-quality childcare. After all, their mothers are often out of work, and they have the most to gain in terms of child development. If childcare coverage over socioeconomic groups is unequal and disadvantaged children have less access to childcare services, the opportunity and development gap between them and their better-off counterparts will likely widen rather than narrow (Van Lancker, 2013). This would be the opposite of what governments want to achieve with the expansion of childcare services. In previous work we have shown that inequality in access to and use of formal childcare services is the norm rather than the exception in European countries (Ghysels and Van Lancker, 2011; Van Lancker and Ghysels, 2013; Van Lancker, 2013). Here, our aim is to study patterns of inequality in childcare use from a welfare state perspective. To date, attempts to explain inequality in childcare use have been rather idiosyncratic and have focused on specific countries or regions (e.g. Van Lancker and Ghysels, 2012; Meagher and Szebehely, 2012; Meyers et al., 2004; Spieß et al., 2003; Fuller and Liang, 1996), without much consideration for the broader processes and institutional characteristics that are fundamental to understanding the social context in which childcare services are provided. Because women are still responsible for the bulk of childrearing activities, even in the so-called egalitarian welfare states, the institutional and normative arrangements that structure women's employment and care patterns will be particularly relevant to our endeavour.

What explains the observed inequality in childcare coverage between social groups across countries? This fairly simple yet important question has to date attracted little if any scholarly attention. This lacuna in the literature is unfortunate, as a proper understanding of the mechanisms driving inequality in childcare service use is crucial for its success as a policy instrument to mitigate social inequalities in early life, to further child development and to foster maternal employment. Drawing on the

[2] There is some room for doubt. For lack of space, we will not provide a review of the critical literature here, but refer the reader to Van Lancker, 2013; Vandenbroeck et al., 2012, and Melhuish, 2004.

comparative social policy literature, this article intends to explore the determinants of the observed inequality in childcare coverage for a broad set of countries. Given the lack of both prior theoretical understanding and comparative data (see below), this study is exploratory in nature.

The first section draws on the comparative social policy literature to infer hypotheses on the determinants of childcare inequality. The second describes the data and methodology applied. Subsequently, an overview is provided of childcare coverage and inequality across thirty-two countries. This is followed by a bivariate exploration of the processes underlying the inequality in childcare use, formalized in a simple regression exercise. We conclude with a brief discussion of the results and its caveats.

2. The configuration of welfare states and childcare inequality: theory & expectations

The main aim of this paper is to explore the determinants of inequality in childcare coverage between disadvantaged and advantaged children across welfare states. Hitherto, the field of comparative social policy research has been dominated by the welfare regime approach, which is basically an attempt to flesh out the *content* of welfare states based on the relationship between the market, the state and the family (Esping-Andersen, 1990; see also Abrahamson, 1999; Arts and Gelissen, 2002; and Powell and Barrientos, 2013, for reviews and criticisms). Although the issue of services has been generally neglected in much of the comparative literature (Jensen, 2008), the analytical framework has been effectively applied in understanding patterns of inequality in access to education (Allmendinger & Leibfried, 2003; Willemse and de Beer, 2012; Triventi, 2013) and health care services (Van Doorslaer et al., 2006; Reibling, 2010). Childcare inequality, too, may be expected to be determined by the institutional configuration of welfare states. Drawing on the comparative social policy literature, there are in fact three dimensions of social policy that are potentially related to inequality in childcare use.

Dimension 1: universalism

A key principle in the classification of welfare states, universalism is a complex notion that has been interpreted and applied in different ways (Anttonen, 2002). Esping-Andersen (1990), for instance, discusses universalism in conjunction with social rights and citizenship, in particular the question of whether entitlements to benefit schemes promote equality of status or social stratification. Others have used it to describe a logic of redistribution, referring to the targeting and distribution of (cash) benefits (e.g. Korpi and Palme, 1998). In both cases, universalism is seen as a defining characteristic of the Nordic countries (Kildal and Kuhnle, 2005). In research that tries to connect social services to welfare regimes, universalism is interpreted in terms of accessibility: for a service to be universal, it should be accessible to all in need of that particular service

(Rauch, 2007). Here, too, the Nordic countries are often regarded as having a unique 'Scandinavian social service model' in which social service provision is universally oriented and coverage extends to the entire needy population. Accessibility is determined by multiple aspects of service delivery, however, and a dysfunction in any of these aspect may induce inequality in its use. First and foremost, for a service to be accessible it must obviously be available. Indeed, there is a strong argument that equality in care use will not be achieved when childcare supply is rationed. For instance, there is some evidence that, in a situation of rationing, the availability of childcare will decline disproportionately in more disadvantaged and lower-income neighbourhoods (Henley & Lyons 2000; Vandenbroeck et al., 2008). Moreover, childcare rationing has a discouraging effect on maternal labour supply (Vandelannootte et al., 2013; Del Boca and Vuri, 2007). Given the abovementioned fact that the low-skilled mothers have far fewer labour market opportunities than their higher-skilled counterparts, inequality in childcare use stemming from rationing might result in a negative feedback loop, exacerbating inequalities in the labour market as well.

Related to this first aspect, and referring to universalism as connected to social rights (supra), is the matter of service guarantee (Rauch, 2007). When access to services is guaranteed and legally enforceable, governments will have to increase childcare availability in instances where demand is not met. Currently, in Finland, Norway, Denmark, Estonia and Sweden, children have a legal right to formal childcare services. Hence, one might expect inequality to be smaller in these countries. Finally, availability also depends on the private costs, i.e. the out-of-pocket fee parents are required to pay for service use. Research has shown that the impact of childcare costs is greater for mothers with a lower earnings potential, such as the low skilled (Baum, 2002). As disposable income determines a household's capacity to obtain childcare, childcare costs may constrain the childcare options of low-income families. Moreover, when out-of-pocket costs exceed the (actual or perceived) gains from paid employment, mothers may decide to stay at home and take care of the children themselves. This might in particular be the case for low-educated mothers, who have a smaller earnings potential and thus face lower opportunity costs to stay at home. High childcare costs might thus increase inequality in childcare use.

Dimension 2: state-market mix

Several authors report an increasing tendency towards marketization of care services (Lloyd & Penn, 2012; Brennan et al., 2012). This evolution is not confined to the liberal welfare regimes where market forces are traditionally seen as the major provider of welfare, but also manifests itself in the Nordic countries. Although the childcare landscape in most countries still reflects a 'mixed economy', where the public sector as well as the private and the voluntary sectors are engaged in providing childcare services, the phenomenon of marketization might increase

inequality in childcare coverage (OECD, 2006). An increasing body of research demonstrates that private childcare provision is generally associated with lower quality, higher private costs and problems of rationing, especially in disadvantaged neighbourhoods (Penn, 2011; OECD, 2012). For instance, the Netherlands has seen a shift from supply-side to demand-side subsidies since its 2005 Child Care Act, which led to a proliferation of for-profit facilities at the expense of not-for-profit facilities. These for-profit facilities tend to be concentrated in affluent neighbourhoods, to the detriment of poorer areas (Noailly and Visser 2009). Obviously, market-based provision does not exclude government involvement, which can range from licensing and regulation, to subsidising of consumers or services, to direct provision. Governments may stimulate demand in various ways, including demand-side subsidies (such as tax rebates, childcare vouchers) or additional funding for childcare suppliers meeting government rules, for instance to give priority to disadvantaged families. In most countries, government involvement consists in a mixed approach (Plantenga & Remery, 2009; White and Friendly, 2012). In the UK and US, for example, a two-tier system is in place. Families are encouraged to satisfy their care requirements in the private market by means of demand-side subsidies such as tax credits or rebates and childcare vouchers. At the same time, in line with the logic of public welfare as a measure of last resort in the liberal welfare regime, services targeted at disadvantaged children, families and neighbourhoods are directly funded and provided by the government (*Sure Start* in UK and *Head Start* in the US being among the most well-known examples). In countries such as Belgium, childcare services are set up by private not-for-profit providers, but these are almost completely publicly funded. A similar system exists in France and Portugal, where the majority of services are independently established but dependent on state funding. In Sweden, most services are provided by the municipalities, centrally regulated and publicly funded, though a minority are privately operated. However, the latter are eligible for public funding to the same extent as the public services are (Van Lancker & Ghysels, 2012).

In conjunction with marketization, the level of government involvement most likely also determines childcare inequality outcomes. If government intervention is low and restricted to licensing, for instance, high-quality facilities will be expensive because they entail high production costs (higher staff wages and qualifications, lower staff-to-child ratio). Consequently, access is restricted to parents who can afford it (OECD, 2006). Lower-income families must therefore rely either on cheaper facilities offering lower quality (if such facilities are at all available) or on informal arrangements. As high quality standards are a precondition for improving child development (OECD, 2012), this could widen rather than close the development gap. This effect may be offset by a higher level of government intervention in the form of subsidies, so that high-quality care becomes affordable, or by directly providing high-quality services (Immervol & Barber, 2005). Other researchers have warned, however,

that demand-side subsidy programmes lead to a higher take-up of lower-quality services rather than enabling parents to buy high-quality care in the market (Sosinsky, 2012). This is because service provision is left to the private sector which is related to lower quality in general, as mentioned above. All in all, considering that the capacity to pay determines access to care facilities and the quality of care received when government involvement is low, the balance between marketization and government involvement is expected to play a role in determining inequality in childcare coverage (Meagher & Szebehely, 2012).

Dimension 3: defamilization

After the publication of his *Three Worlds of Welfare Capitalism* (1990), Esping-Andersen was widely criticized by feminist scholars for neglecting the work-care nexus in classifying welfare states; he was accused of 'gender blindness', as it were (Lewis 1992; Knijn and Ostner 2002). More specifically, critics have argued that welfare regime approach should be supplemented with the concept of defamilization, i.e. the degree to which women are able to uphold an acceptable standard of living independently of their families (Lister 1994). This explicitly takes into account that social policies inherently adopt gendered views on the interplay between family, state and market. The concept of defamilization allows one to understand variations in female employment and care arrangements across welfare states, because it relates to how family and care policies shape employment opportunities for women as well as norms on mothering.

Childcare services and parental leave schemes are generally seen as the most important defamilizing policy tools. Indeed, childcare services relieve women (at least to some extent) from (child) care duties, enabling them to take up paid work in the labour market (Gornick and Meyers, 2003). As a matter of fact, childcare use and maternal labour market participation are highly correlated and the relationship between the two is presumably reciprocal: availability of childcare services enhances the options of mothers of young children to engage in paid employment, which will in turn induce greater demand for childcare services (Haas and Steiber, 2012). Given the fact that labour market opportunities are not evenly distributed across educational levels, one may expect countries with high employment levels among low-skilled mothers, and thus low levels of employment inequality, also to report low levels of childcare inequality. It might also be the case that families who are unable to obtain formal childcare rely on informal care channels instead. Although the availability of informal care is generally on the decline (Ghysels and Van Vlasselaer, 2008), it is often assumed that more disadvantaged families (including low-income families, families with a low-educated mother, minorities, immigrant parents) are more likely to depend on informal arrangements (i.e. the extended family, grandparents, other relatives) as their primary source of childcare (Henley & Lyons, 2000; Meyers & Jordan, 2006). Recent research finds that this might be due to a combination of personal preferences and the availability and affordability of nearby formal care

arrangements (Debacker, 2008). Thus we may expect the availability of informal care arrangements and childcare service to be inversely related. Parental leave, then, enables parents to interrupt employment in order to provide care for their children themselves while fostering parents' bond with the labour market by maintaining the contractual link between employer and employee (Hegewisch and Gornick, 2011; Ray et al., 2011). Short periods of particularly well-paid leave have been shown to be beneficial to female employment rates: young women are encouraged to strengthen their labour market attachment before giving birth in the knowledge that they will suffer only minor income loss and will be able to safely return to their jobs afterwards, especially if the leave period is aligned with the availability of childcare services (De Henau et al., 2007).

However, in countries offering only limited public support for childcare services, long periods of leave act as a disincentive for female employment and provide support for the breadwinner model. This impacts in particular on women with low levels of education, because their lower earnings potential provides fewer financial incentives to return to work (assuming they were in work prior to childbirth), and they often have fewer resources to pay for formal childcare (Hegewisch and Gornick, 2011). It has indeed been shown that women with lower earnings are more likely than high-earning women to make use of long care leaves (Morgan and Zippel, 2003). However, when long leaves are unpaid, mothers in less affluent families may not be able to afford to take them. A similar mechanism is at play in the case of so-called home care allowances or cash-for-care schemes. During the 1980s and 90s, countries such as Finland, France, Hungary and Norway introduced an allowance for parents to stay at home with their children as an alternative to formal childcare services, de facto extending the period of parental leave up to three years. In Finland, this was underpinned by a 'freedom of choice' rhetoric (Sipilä et al. 2010). However, such 'refamilizing' policies actually create an incentive for mothers not to use childcare, especially for those with a low earnings potential and limited employment opportunities. Thus we may expect countries with long parental leaves or home care allowances to exhibit higher levels of inequality in childcare coverage.

Cultural factors should also be taken into account, as they may be the cause or the effect of social policy development and may influence parents' attitudes and decisions concerning care arrangements (Pfau-Effinger, 2004; Keck and Saraceno, 2013). A large body of research has investigated the role of cultural factors on employment decisions of mothers, finding that women with traditional values on motherhood and gender roles report a lower commitment to paid work (Fortin, 2005; Cloïn et al., 2011; Steiber and Haas, 2012). Moreover, several studies show that norms differ along educational lines and that specifically lower-educated women hold more traditional views on gender roles and motherhood. Similar patterns are found among low-income and working-class families (Crompton, 2006a, 2006b; Duncan, 2005; Duncan et al.,

2003). Moreover, it impacts upon decisions regarding the preferred care arrangements of those mothers in much the same manner (Debacker, 2008). There is also some evidence that the role of norms on employment and care decisions of mothers differ between countries. Although the overall picture is one of greater acceptance of working mothers in recent decades, a report on European Union countries suggests that norms on motherhood, employment and care use have become more traditional in several Central and Eastern European countries (Plantenga and Remery 2009), a trend described as 'refamilization' (Saxonberg and Szelewa, 2007). In a context where the dominant cultural norm is against working mothers, it is more difficult to behave differently (Van der Lippe and Siegers 1994), particularly for low-skilled mothers who often have fewer employment opportunities and a low earnings potential. Research has demonstrated that the positive effect of higher education on attitudes towards work and motherhood is greater in countries with less traditional views on maternal employment (Sjöberg, 2004). Moreover, there is evidence that the impact of defamilizing policies such as childcare services and parental leave provision is mitigated if cultural attitudes encourage a traditional gender division of care and employment (Budig et al., 2012). Thus, the difference in views on care and employment between different social groups might (at least partly) explain the observed inequality in childcare coverage.

In table 1, a summary of the dimensions of the welfare state configuration that are potentially related to childcare inequality is provided together with their expected relationship. In the next sections, we will explore which of these dimensions are actually related to inequality in childcare use.

Table 1. Summary of welfare state dimensions potentially related to childcare inequality

Dimension	**Expected relationship**
Universalism	
Coverage	More coverage → less inequality
Cost	Higher costs → more inequality
Social right	Childcare as a social right → less inequality
State-market nexus	
Supply	More public supply → less inequality
Government spending	Higher spending → less inequality
Defamilization	
Low skilled maternal employment	Higher employment rates → less inequality
Leave	Long periods of well-paid leave → more inequality
Attitudes amongst low skilled mothers	More conservative norms on motherhood → more inequality
Informal care use	More use of informal care → more inequality

3. Data, measurement, and analytical strategy

3.1. Data

Data are drawn from the European Union Survey on Income and Living Conditions (EU-SILC), wave 2009. The EU-SILC is the main data source for cross-national research on income and living conditions in the European Union as well as for monitoring progress towards the Barcelona childcare targets. Although sometimes criticized (e.g. Keck and Saraceno 2011), SILC is currently the only database allowing calculation of childcare usage among young children in a 'regular week' for all EU Member States plus Norway and Iceland. The analysis is complemented with data for the US and Australia, drawn from the National Household Education Surveys Program (NHES), wave of 2005, and the Household, Income and Labour Dynamics in Australia (HILDA) Survey (wave 10, reference year 2010) respectively. The NHES includes an Early Childhood Program Participation Survey (ECPP) in which parents are asked about their childcare arrangements. Both surveys allow replication of the EU-SILC variables.

One of the main obstacles to our research endeavour is the lack of reliable and comparative data to test the hypotheses derived from the literature (supra). We therefore gather country-level data and indicators from different databases to test which determinants may be related to childcare inequality. Our independent variables are drawn mainly from the *OECD Family Database* and the *Multilinks Database*, and from cross-national surveys such as the *International Social Survey Programme* (ISSP) and the *European Values Survey* (EVS). Where necessary, these data are supplemented with country-specific sources. An overview is provided in Table 1.

3.2. Measurement of inequality

The dependent variable is inequality in formal childcare coverage. *Formal care services* include care centres (including (early) Head Start and Sure Start), nursery schools, professional child minders and family daycare providers. To measure formal childcare coverage, we calculate a *full time equivalent (FTE) measure* of formal care service use in order to take into account differences in the intensity of care use (i.e. hours of attendance per week). It is quite obvious that low-intensity use (say for one or two days a week, or for only a few hours a day, as is common in the Netherlands, e.g. Plantenga and Remery 2009) is insufficient for maternal employment and to improve school readiness. Simply relying on average use might obscure this important dimension. Following Meagher and Szebehely (2012), Rauch (2007) and the approach used in the OECD Family Database, FTE care use data represents the proportion of children who would be receiving childcare if all existing care use were full-time (30

hours per week or more). The calculation is as follows: FTE = proportion of children in formal childcare * average number of hours per week (as % of 30 hours per week).

The empirical analysis is limited to children below the age of three. Although research suggests that non-parental care should ideally start around the age of one (e.g. Han *et al.* 2001), children are commonly enrolled much earlier in a number of countries. Furthermore, this age bracket allows for homogenous comparison: over the age of three, the role of educational systems becomes very diverse across developed countries, with some countries achieving full coverage in the education system and others catering for these children in childcare services. As a measure of the socioeconomic status, generally three variables are used in the literature: income, occupational class and education (Mackenbach and Kunst, 1997). Here we use the educational level of the mother, because 1) we are unable to reproduce family income for the US data; and 2) occupation is strongly correlated with childcare use, as will become apparent below. Furthermore, maternal education is critical for children's development and well-being. Not only do high-educated mothers rely on their human capital to select childcare services for their young children, but a large body of research has shown that they also use it to facilitate their children's cognitive and social development (see Augustine et al., 2009, for an overview). Obviously, if low-skilled mothers use childcare services to a lesser extent, their children face a "double disadvantage" (Unicef, 2008). Children in our sample who are under the age of three are allocated to one of three groups (low, medium and high) according to the educational level of the mother (or father in cases where the mother is absent), as measured with the ISCED classification.

To gauge inequality, we compute a *relative index of inequality* (RII) in FTE childcare coverage. The RII is a regression-based inequality index that is often applied in the empirical literature on socioeconomic disparities in health (Kakwani et al., 1997; Keppel et al., 2005). It offers some advantages over other inequality indices, including the ratio used in previous research (Ghysels and Van Lancker, 2011; Van Lancker, 2013): 1) It is sensitive to the distribution of socioeconomic groups over the population and therefore takes into account the different size of educational categories within countries; and 2) it is calculated over the full range of the distribution of educational levels (and not only low and high levels of education, as is the case with the inequality ratio). This allows meaningful comparisons between countries. We proceed as follows. First, for each country in the dataset, we calculate a slope index of inequality (SII) in FTE childcare coverage through a regression in which FTE childcare coverage is the dependent variable and educational level the independent variable, adjusted for age. The age adjustment captures the cross-country differences in the age children usually start being enrolled in childcare services. The SII is in fact the slope of the regression line and should be interpreted as the absolute effect on FTE childcare coverage of

moving from the lowest level of education to the highest. Because the SII is sensitive to the mean FTE coverage of the population[3], we divide the SII by the weighted average FTE childcare coverage of each country in order to obtain the RII in a second step (see Mackenbach and Kunst, 1997; and Keppel et al., 2013, for further reading on inequality measurement). The RII takes a value of 0 if childcare coverage is equal over education levels, a positive value if inequality is biased against lower educational levels and a negative value if inequality favours lower educational levels. Table A1 in annex shows the weighted average FTE childcare coverage and the values of both the SII and RII indices. A drawback of using the RII is that it complicates the interpretation of inequalities. Therefore, we add the distribution of FTE childcare coverage over educational groups to Table A1 in order to facilitate interpretation of inequalities between educational groups within countries.

3.3. Independent variables

Drawing on the relationship between the state, the market and the family, we identify three sets of explanations (universalism, the market-state nexus, and defamilization) for childcare inequality. Table 2 summarizes these dimensions and how they are operationalized. Details of the measures are provided in Table A2 in annex.

[3] Suppose that childcare coverage doubles, then the SII would double as well, even though the relative distance between socioeconomic groups would remain the same. In this article, we are interested in the drivers of inequality per se, not in the drivers of changes in coverage levels.

Table 2. Operationalization of explanatory dimensions

Independent variables	**Operationalization**	**Source**	**Reference year**
Universalism			
Coverage	FTE formal childcare coverage (%)	EU-SILC, HILDA, NHES	2008, 2010, 2005
Cost	Net childcare costs for a low-income couple with two children in full-time 'typical' care (% of average wage)	OECD Tax-Benefit model, see Richardson, 2012 and Immervoll and Barber, 2005	2008 (2002 for US)
Social right	Legal entitlement to childcare services (dummy)	Multilinks Database	2009
State-market nexus			
Supply	The number of publicly provided or subsidized childcare slots per 100 children	Multilinks Database, OECD 2009, Yamauchi 2010	Between 2000 and 2005 for EU countries, AU 2006
Government spending	Spending on childcare (% of GDP)	OECD Social Expenditure database, OECD Family Database	2009 (2005 for US, 2010 for AU)
Defamilization			
Low skilled maternal employment	Employment rate of mothers with a low level of education and a youngest child < 3 (%)	EU-SILC, HILDA, NHES	2008, 2010, 2005
Leave	Length of well-paid (> 60% of average wage) leave (months) + squared leave (centred at 9 months)	Multilinks Database, OECD Family Database (Iceland, Australia, US)	2008, 2010, 2005
Attitudes amongst low skilled mothers	Share of mothers with a low level of education holding traditional beliefs on motherhood (%)	European Values Study 2008, International Social Survey Programme 2002 (US and AU)	2008, (2002 US and AU)
Informal care use	FTE informal childcare use (%)	EU-SILC, HILDA, NHES	2008, 2010, 2005

The dimension of *universalism* relates to the importance of availability in equalizing care use, which may be influenced by the coverage rate and by whether there is a legal entitlement to formal childcare, and private childcare costs. As regards costs, the OECD has calculated 'typical' monthly net childcare costs (fees minus cash government subsidies and tax benefits), i.e. out-of-pocket expenses for full-time care use in a 'typical' formal childcare facility for a low-income family (assuming two children, aged two and three, where the male earns 67% and the female

50% of the average wage respectively, see Richardson, 2012 for details). Finally, information on whether families have a legal entitlement to formal care services is gathered from the Multilinks Database and dummy-coded.

The *state-market nexus* set of explanations relate to the role of government in providing and subsidizing childcare. To obtain a general insight into the extent of government involvement in the childcare market, we also include public spending on childcare services (in % of GDP), calculated on the basis of the OECD Social Expenditures Database. For the few countries lacking detailed information, we relied instead on figures readily available in the Family Database. Finally, we also include a measure of the number of available childcare slots in public, publicly funded or centre-based (for the US and AU) facilities as a share of children aged 0-2 years (no data for Iceland, Malta and Romania). These numbers warrant due caution, because they are based on a variety of data sources that cannot be harmonized. However, to the best of our knowledge, this is the only available cross-country indicator on childcare supply.

To test the dimension of *defamilization*, we calculate the employment rate of low-skilled mothers with a youngest child under the age of three on the basis of EU-SILC. We also construct a measure on traditional beliefs on motherhood amongst low-skilled mothers on the basis of a question on attitudinal values regarding motherhood, asked in the European Values Survey (EVS) wave of 2008 for European countries and the International Social Survey Programme (ISSP) wave of 2002 for the US and AU (no data for Malta). We use the question "A pre-school child is likely to suffer if his or her mother works" and collapse the answer categories "strongly agree" and "agree" into one proportion measuring the degree to which maternal employment is perceived as detrimental to a young child (see Uunk et al., 2005; Steiber and Haas, 2009). For testing the impact of parental leave provisions, we include a measure of 'well-paid leave' drawn from the Multilinks database. Well-paid is defined as amounting to at least 60% of average wage. We use the measure of well-paid leave, and not the total length of (paid or unpaid) leave, because we expect precisely the combination of long duration with reasonable compensation to have an impact on low-skilled mothers' labour market attachment, and thus on inequality in formal care use. We expect the trend to be curvilinear, with short and well-paid leaves associated with lower inequality in childcare coverage and long, well-paid leaves with higher inequality. While the exact tipping point is not known, the literature suggests that the ideal period of leave lasts between 6 months and 1 year. Here, we follow the approach outlined in Keck and Saraceno (2013), where squared leave centred at 9 months is included. Finally, as regards use of informal care, we apply a similar method of measurement as for FTE formal coverage: informal care relates to care provided by grandparents, relatives and friends in a regular week, and we combine intensity and availability of such care arrangements into an FTE measure of informal care.

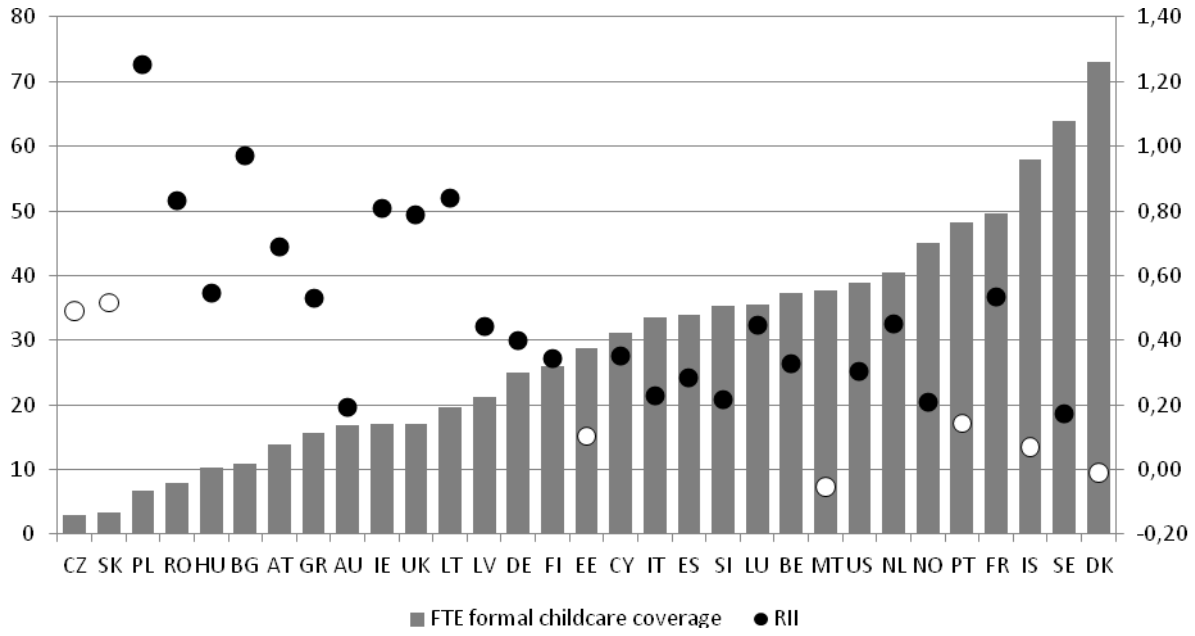
3.4. Analytical strategy

Given the exploratory purpose of our paper, the nature of our data and the small number of observations (n = 31), attention is paid first and foremost to the quality and plausibility of hypotheses (Bonoli, 2013). To this end, we first conduct bivariate explorations to investigate whether the selected indicators are plausible drivers of childcare inequality. Second, as a first and careful attempt to check the robustness of our results, we rely on multivariate regression and test the selected hypotheses against each other.

4. Empirical results

4.1. Inequality in childcare coverage

Figure 1. FTE formal childcare coverage (left axis) and RII (right axis), children 0-2, %



Source: Own calculations based on EU-SILC 2009, HILDA 2010, NHES ECPP 2005. Black dots indicate significant differences between maternal educational levels ($p < 0.05$), white dots indicate non-significance.

Figure 1 shows that the diversity in FTE childcare coverage of 0 to 2 year-olds is huge, ranging from more than 70% of young children enrolled in FTE formal care arrangements in Denmark, and around 60% in Iceland and Sweden, to 10% or less in Central and Eastern European countries such as Bulgaria, Hungary, Romania, Poland, and the Slovak and Czech Republics. Despite their common legacy of high female employment rates facilitated by the extensive availability of daycare provisions for pre-school children, the current coverage rates are indicative of a refamilization trend

(*supra*). One exception is Slovenia, where FTE childcare use is similar to that in Luxembourg and Belgium. Two observations are in place here: 1) FTE childcare coverage rates do not adhere to the traditional welfare regimes typology. The Baltic countries, alongside the liberal welfare states of Australia, Ireland and the United Kingdom, report FTE coverage rates between 20 and 30%, similar to the conservative countries of Germany and Austria, the Mediterranean country of Greece, and even the Nordic country Finland. The other Mediterranean welfare states, namely Italy, Cyprus and Spain, seem to flock together with FTE coverage rates between 30% and 35%, while Portugal, with its FTE coverage rate of about 48%, joins France, a conservative welfare state, and Norway, a Nordic welfare state. Malta, for its part, resembles the conservative countries of Luxembourg, the Netherlands and Belgium, as well as the liberal United States and also Slovenia, with FTE coverage rates between 35% and 40%. In sum, the thirty-one countries in our sample are primarily characterized by diversity with regard to formal childcare use; 2) Even in the high-coverage countries, FTE formal care use is not universal. A significant portion of children are not catered for by formal childcare facilities. Only Denmark and (to a lesser extent) Iceland succeed in ensuring equality at high levels of care use.

The black dots in Figure 1 represent the RII of FTE formal childcare coverage. In just a few countries are we unable to discern a significant difference in FTE coverage: in Denmark, Iceland, Portugal, Malta and Estonia, children from different social backgrounds are more or less equally represented in formal childcare services. The fact that the difference between social groups in calculating our RII is not significant means that we cannot reject the null hypothesis that there is no difference in coverage according to social background, but it does not necessarily follow that there is no *actual* difference. However, that only seems to be a genuine explanation for the Czech and the Slovak Republics, where the low level of average FTE formal childcare coverage increases the risk for type-II errors. In all other countries in our sample, children with a low-educated mother are significantly less likely to use formal childcare services than children with a higher-educated mother. The inequalities are particularly striking in low-coverage countries such as Poland, Romania, and Bulgaria, but also in countries with high levels of FTE formal care use such as France, the Netherlands, Luxembourg and the US (see Table A1 in annex for coverage rates across levels of education). Such outcomes cast doubt on the efficiency of childcare as an instrument for mitigating social inequalities.

Given the fact that 1) no country has succeeded in expanding FTE formal childcare coverage to cover all children; and 2) most countries display (often huge) inequalities between social groups in FTE formal childcare coverage, we cannot expect childcare to mitigate social inequalities just yet. In the next section we set out to explore how the institutional

configuration of the welfare state is related to the observed inequalities in FTE childcare coverage.

4.2. Bivariate correlations

The set of explanations related to the dimension of universality concern the availability and accessibility of childcare facilities. We expect higher FTE coverage to be associated with lower levels of inequality, and higher out-of-pocket fees with higher levels of inequality. Figures 2 and 3 show the bivariate relationship between these independent variables and RII. We also expect countries with legal entitlement to childcare to exhibit lower levels of inequality.

Figure 2. FTE formal childcare coverage and RII (r = -0.69)

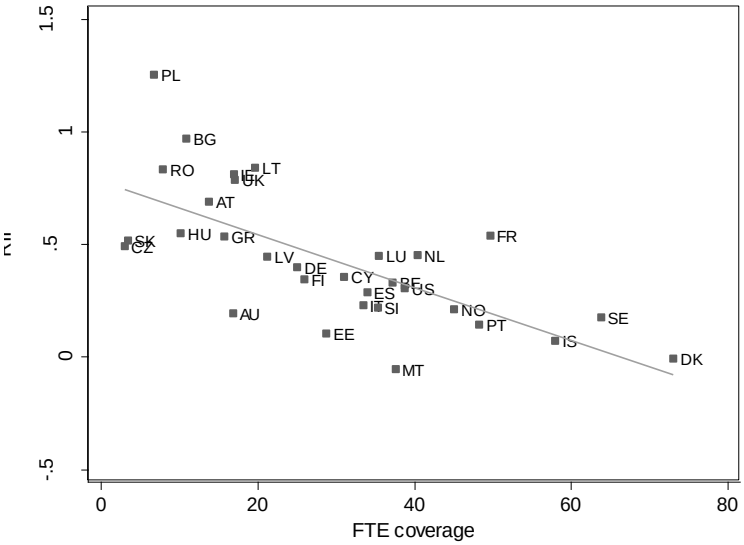
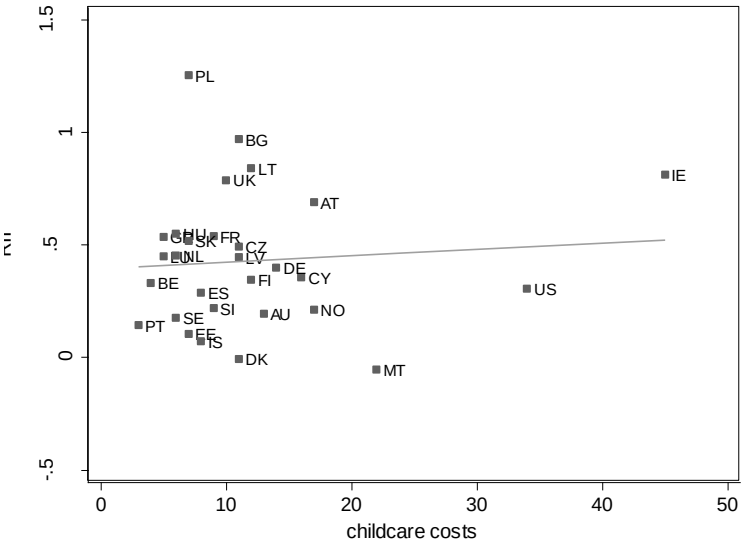


Figure 3. Out-of-pocket childcare costs and RII (r = 0.08)



It should be noted first and foremost that Figure 2 shows a strong and negative association between FTE coverage and RII (r = -0.69). The higher the coverage rate, i.e. the more children are covered through formal childcare facilities, the more equal its distribution becomes. This suggests that universalism, i.e. universalizing childcare coverage, is indeed a major precondition for equality promotion (e.g. Korpi and Palme, 1998).

Second, Figure 3 shows the relationship between childcare costs and RII. Essentially, there is no association between the two (r = 0.08); if we discard outlier Ireland, the association actually becomes negative (r = -0.13). This *prima facie* suggests that childcare cost has little explanatory value for childcare inequality. A rather low net childcare cost does not preclude high levels of inequality, and vice versa. Finally, we also expected legal entitlement to childcare to be inversely related to childcare inequality. As it turns out, the average RII in countries where childcare is a 'social right' is indeed significantly (RII: 0.16; 95% CI[0.05-0.28]) lower than in countries without such entitlement (RII: 0.49; 95% CI [0.37-60.5]).

We also hypothesized that the state-market balance in childcare provision would be associated with childcare inequality. In particular, we expected a larger role for government in providing and or subsidizing childcare facilities to be related with lower inequality. Figure 4 shows that the correlation between our indicator of childcare supply (the number of slots in publicly operated or subsidized facilities) and RII is indeed negative and rather strong (r = -0.56). The more slots that are publicly provided and/or funded by government, the more equal care use becomes. Similarly, Figure 5 shows a negative, albeit weak, relationship between government expenditures for childcare and RII (r = -0.25). This suggests that governments have to spend more in order to equalize access, yet that high spending does not preclude inequality (France is a case in point. All in all, state involvement in childcare provision does seems to be determinative of childcare inequality.

Figure 4. Childcare supply and RII (r = -0.56)

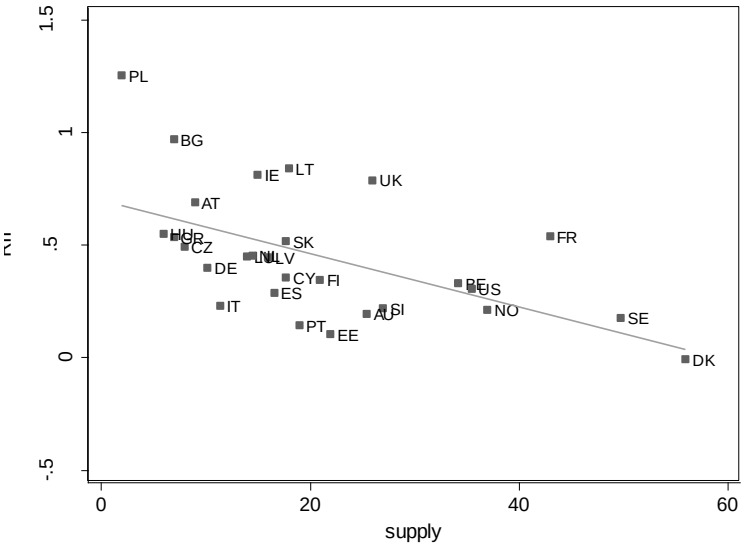
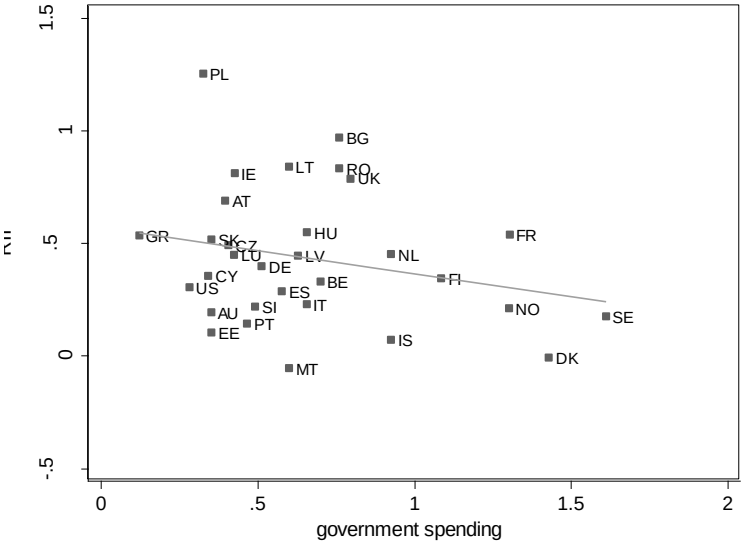


Figure 5. Government expenditure on childcare services and RII (r = -0.25)



Finally, we also expected the manner in which women's employment is structured to play a role in explaining childcare inequality. Higher employment rates amongst low-skilled mothers ought to be associated with lower levels of childcare inequality, given the close link between the two. Conservative norms on motherhood are expected to coincide with higher levels of childcare inequality, while well-paid parental leave provision should have a U-curved relationship with childcare inequality. In Figure 6, low-skilled maternal employment shows the expected relationship with RII (r = -0.39). The more low-skilled mothers of young children are employed, the more their children tend to be enrolled in formal childcare facilities, and the lower inequality in childcare coverage. Figure 7 suggests that the more low-skilled mothers hold conservative

views on motherhood and employment, the less they are likely to use formal childcare (r = 0.29). Although the strength of the relationship is weak, suggests that cultural explanations must be taken into account.

Figure 6. Low skilled maternal employment and RII (r = -0.39)

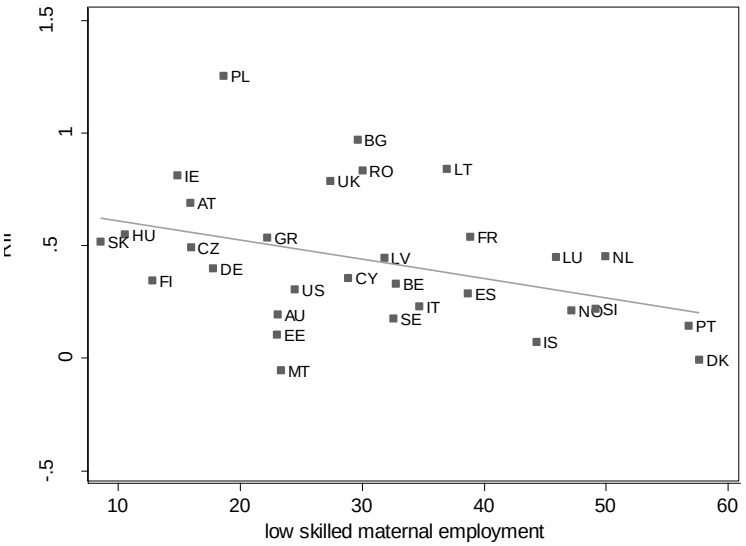
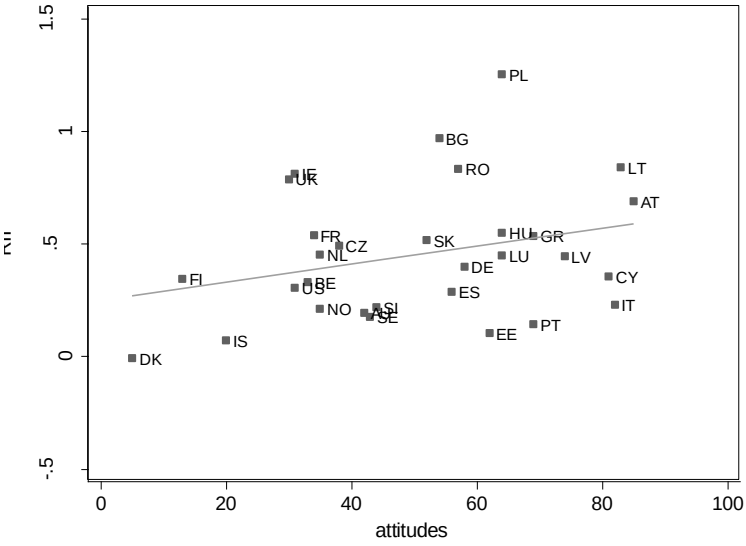


Figure 7. Attitudes on motherhood and RII (r = 0.29)



We consider the relationship between the length of well-paid parental leave (including cash-for-care schemes) and childcare inequality in figure 8. We expect the relationship to be curvilinear, and the quadratic fit indeed suggests that RII is higher when leave is either very short or very long (r = 0.24). Long periods of remunerated leave seem to act as a disincentive for low-skilled women to (re)enter the labour market. Finally, figure 9 shows that the relationship between RII in FTE formal care and the number of children using informal care arrangements is positive (r =

0.33), as expected. Generally speaking, the use of informal care arrangements seems to be associated with higher inequality in formal care arrangements.

Figure 8. Length of well-paid parental leave and RII (r = 0.24)

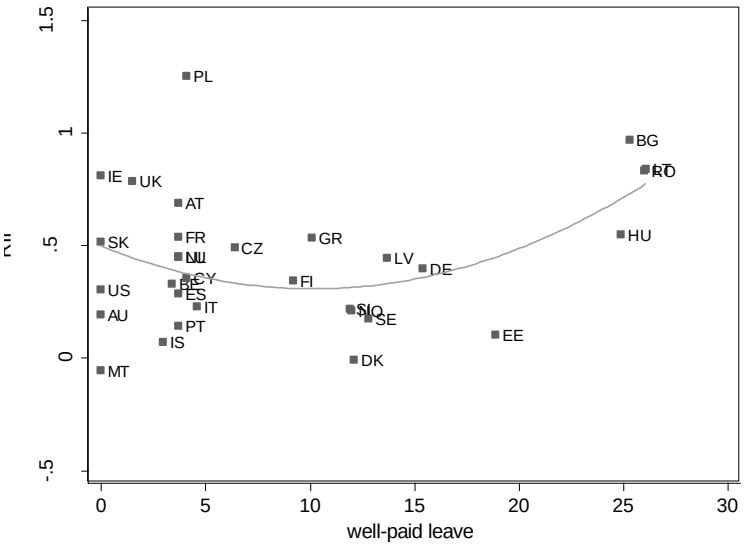
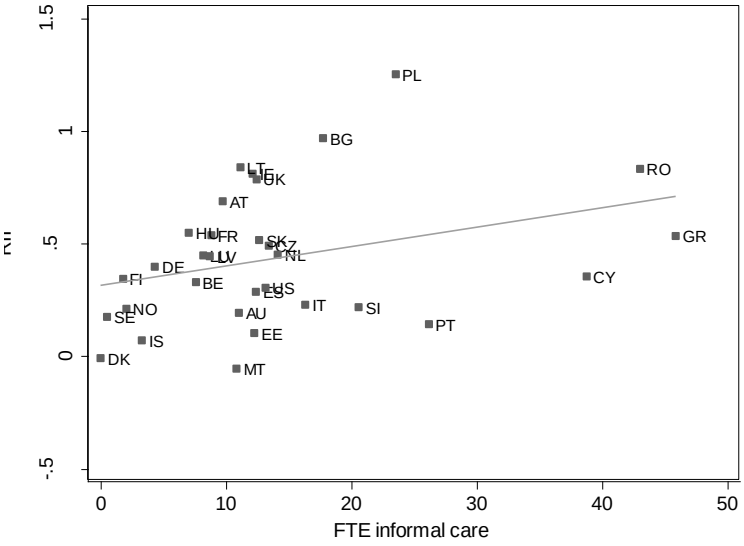


Figure 9. Informal care arrangements and RII (r = 0.33)



Thus, *prima facie*, it seems that all three dimensions identified on a theoretical basis are related to inequality in childcare coverage across children from different social backgrounds. We find meaningful associations between RII and FTE childcare coverage, government spending and public childcare supply, parental leave schemes, informal care arrangements, and attitudes on motherhood. We find no evidence of an impact of private childcare costs.

4.3. Regression results

The above bivariate explorations provide preliminary evidence for the role of universalism, government involvement, and defamilization policies. To test the robustness of these explanations, we conduct OLS regression analyses in which RII is regressed on the explanatory variables. Ideally, we would like to test the independent effect of all explanatory variables in a single model. Table 3 however shows that low-skilled maternal employment and the number of publicly provided childcare slots are highly correlated with childcare coverage ($r = 0.75$ and 0.82 respectively). The simultaneous inclusion of these variables in the same regression model would lead to problems of multicollinearity. To overcome this, we follow our theoretical approach and include every explanatory dimension separately in the regression model. As such we clarify within every dimension the explanatory weight of the country characteristics we distinguished earlier. Given the small sample size and some minor issues of heteroskedasticity, we adjust the standard errors using the Huber-White sandwich estimator[4].

Yet even so, when interpreting the results, one should be aware that the small number of observations reduces the explanatory power of the model and increases the risk of type-II errors. The results should thus be regarded as an exploratory and tentative attempt at explaining childcare use inequality. We performed several sensitivity analyses (not shown) to assess the robustness of our findings. First, to check for outliers, we re-estimated all models using a jack-knife procedure omitting one country in each estimation (see Kenworthy 1999 for a similar approach). Second, Poland and Ireland were identified as potentially influential cases, hence we also estimated all three models without these countries. Finally, we estimated the models including per-capita gross domestic product (GDP) to control for differences in wealth and economic development. In all three cases, the interpretation of the results was unaffected. Figure 10 shows the standardized coefficients of the independent variables; full models with robust standard errors are provided in Table A3 in annex.

[4] Regression diagnostics are available from the authors upon simple request.

Table 3. Correlations between explanatory variables

	FTE Coverage	Cost	Social right	Supply	Expenditures	Maternal employment	Attitudes	Parental Leave
Cost	-0.09							
Social right	0.52	-0.06						
Supply	0.82	0.05	0.56					
Expenditures	0.67	-0.15	0.63	0.71				
Maternal employment	0.75	-0.27	0.16	0.48	0.41			
Attitudes	-0.40	-0.22	-0.43	-0.60	-0.55	-0.14		
Parental leave	-0.05	-0.24	0.26	-0.12	0.20	0.02	0.27	
FTE Informal care	-0.29	-0.09	-0.45	-0.45	-0.61	-0.03	0.48	-0.15

Note: for data sources and definitions, see table 1.

In the first model, we regressed explanations relating to the dimension of universality on RII. Figure 10 shows that coverage is strongly related to RII. An increase in FTE coverage with one standard deviation is associated with 0.62 standard deviation decrease in RII. In contrast, neither legal entitlement to a childcare slot nor private childcare costs are related to childcare inequality.

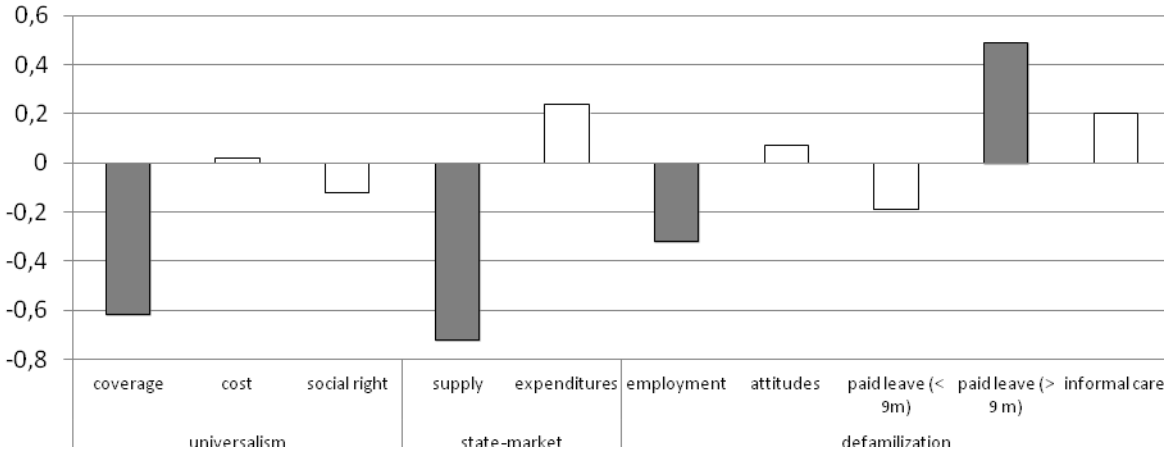
Model 2 shows the standardized coefficients of the independent variables relating to government involvement in childcare provision. The supply of public or subsidized childcare slots per 100 children is significantly and negatively related to RII. An increase in supply with one standard deviation is associated with a 0.72 standard deviation decrease in RII. Although the coefficient for government expenditures is not significant, its positive sign suggests that spending is associated with greater inequality, not less. This may be a reflection of the simultaneous influence of the measure of public supply and government expenditures (r = 0.71), because supply ought to be a proxy for government supply side spending. The two coefficients together suggest that it is not spending *per se*, but *the manner in which* resources are spent that matters. In other words, what matters is the number of childcare slots that are created. From a public spending point of view, this result calls for further research on the role of the private sector in childcare service provision, as it suggests that some countries are more efficient than others in the provision or support of childcare services that are equally distributed over the population.

The third model, finally, shows the standardized coefficient for the indicators reflecting the dimension of defamilization. The coefficients confirm the association between employment and childcare inequality. A standard deviation increase in the employment rate of low-skilled mothers results in a 0.3 standard deviation decrease in childcare inequality. The

role of culture cannot be confirmed in this model. The share of low-skilled mothers believing that "a pre-school child is likely to suffer if his or her mother works" is not significantly related to childcare inequality. The coefficients of well-paid leave and squared leave show that, ceteris paribus, a standard deviation increase in the duration of well-paid leave that initially lasts longer than 9 months is associated with a 0.5 standard deviation increase in childcare inequality. Shorter periods of leave are not significantly associated with childcare inequality. Finally, although the bivariate procedure described above suggests that the use of informal care arrangements was associated with higher inequality, its actual impact on RII is negligible.

In sum, the regression models only provide evidence for the role of childcare coverage and public supply, maternal employment and parental leave policies. The prima facie evidence provided through bivariate associations for informal care use, cultural values, government expenditures, and the legal entitlement to a childcare slot are not confirmed. Both bivariate and multivariate exercises did not confirm any meaningful relationship between childcare costs and inequality.

Figure 10. Standardized regression coefficients on age-standardized RII



Note: figure shows standardized coefficients of three separate models (full estimates in Table A3 in annex). Shaded bars are significant ($p < 0.05$), blank bars are not significant.

We should however take care not to jump to conclusions on the basis of these regression models. As the three explanatory dimensions and their underlying indicators are substantively interwoven, we risk rejecting a hypothesis regarding a direct impact while the relationship might be of an indirect nature. Consider the case of the impact of cultural values on childcare inequality. Insofar as long and well-paid parental leave policies are a reflection of the dominant norm regarding motherhood, the impact of cultural values might be important yet uncaptured by our model. This cannot be accounted for given the methodology applied and the data at hand. Similarly, the impact of a legal entitlement to a childcare slot might be of a second order in that it ensures the provision of sufficient supply,

which in turn has a significant impact on childcare inequality. For example, the good results of Denmark and Iceland, and the relatively low inequalities in Sweden, may be due to the fact that in these countries all children from the age of one onwards are legally entitled to a childcare slot and government is obliged to meet demand.

Our finding that private childcare costs are not associated with childcare inequality should also be qualified. Most of the early research on childcare in the 1970s and 1980s was economic in nature and focused in particular on the role of childcare costs in the US, i.e. the fees parents had to pay themselves, in explaining female labour supply and childcare demand (Blau and Robbins 1988; Connelly 1992). These studies invariably indicated (though not always to the same extent) that mothers' decision to take on employment and to purchase childcare was highly sensitive to childcare costs. More recent inquiries for a broader set of countries, however, tend to find that childcare costs are important only in interaction with availability and childcare supply, and that primarily the latter determines childcare use in European countries where childcare is often heavily subsidized and regulated but rationed (Del Boca and Pasqua 2005; Wrohlich 2011). Detailed country studies have indeed shown that several of the European countries have implemented an income-related tariff system for their publicly provided or subsidized childcare services (European Parliament, 2007; UNICEF, 2008; Van Lancker & Ghysels, 2012). Even in countries where childcare services are mostly privately provided, such as the US or the UK, parents with low incomes almost always qualify for government subsidies via targeted benefits or tax exemptions.

Our results confirm the truism that ensuring the affordability of childcare is futile if there are not enough slots available anyway. That is not to say that costs are irrelevant, particularly in the case of low-income families and/or in specific countries (notably Ireland and the United States). Moreover, the affordability of childcare depends not only on childcare costs as such, but also on the broader tax-benefit system and labour market policies and how these affect family income. OECD analyses have shown that in some countries employment is unattractive to low-income families, irrespective of childcare costs (Immervoll and Barber, 2005). Hence cost is by no means the only relevant factor when it comes to affordability. Our results should therefore be qualified as shedding light on the *direct* drivers of childcare inequality, reflecting the current institutional setting of countries.

5. Conclusion

In one of its first comprehensive reports on childcare, the OECD noted that "a public supply-side investment model managed by public authorities brings more uniform quality and superior coverage of childhood populations than parent subsidy models" (OECD 2006:114). We may now add that they also bring more equality. Achieving equality in childcare coverage is a necessary condition for childcare services to be effective in facilitating maternal employment and breaking the intergenerational chain of child poverty by furthering human capital and child development. In the majority of countries, however, childcare coverage is stratified by maternal educational level. Children from families with a low-educated mother use formal childcare to a much lesser extent than children living in families with a high-educated mother. The only countries succeeding in equalizing use at high coverage levels are Denmark and Iceland. All other countries in our sample report low rates of formal childcare usage, high levels of inequality in formal care use, and in most cases a combination of both.

How can this childcare inequality be explained? Our results shed light on the impact of (aspects of) the welfare state configuration on inequality in childcare use. We find that childcare coverage and supply, maternal employment, and well-paid parental leave schemes are associated with inequality in childcare coverage. For a country to increase equal coverage across social groups, our results suggest that the number of available childcare slots should be increased, in particular by means of public provision or supply-side subsidies. Governments should also pursue a coherent set of labour market and family policies. The latter is an important observation, as the objectives of family and labour market policies may be at odds. We find, for instance, that long periods of well-paid parental leave can increase inequality in childcare coverage, because low-skilled mothers are encouraged to become home carers. At the same time, our results demonstrate that a high share of low-skilled maternal employment can decrease inequality in childcare coverage. Policymakers should be well aware of such incoherencies when implementing social policy.

Some caveats are in place though. Our explanatory power is limited because of the exploratory nature of our analysis and because we are constrained by data availability. Some possible explanations, such as the local and regional distribution of childcare slots, the complex systems of government subsidies and the specific rules and regulations (for instance regarding quality regulations, priority rules for disadvantaged families) might be very country-specific. Moreover, the lack of reliable and comparative data on service characteristics (in particular relating to the quality of services), and the inability to reliably distinguish private from public care facilities impedes our endeavour. It is also questionable whether all dimensions of welfare states identified on the basis of the

literature are appropriately measured by the available indicators. Despite these drawbacks, this study constitutes a first attempt at improving our understanding of the important issue of inequality in childcare use. Hopefully it has paved the way for further research.

Acknowledgment

Comments and suggestions by the participants in the ISA RC19 2012 Annual Conference, the 13th Annual ESPAnet Conference, and by Sarah Marchal and Stephen Windross are gratefully acknowledged. All remaining errors are our own.

References

Abrahamson, Peter. 1999. "The Welfare Modelling Business." *Social Policy & Administration* 33: 394-415.

Allmendinger, J., and S. Leibfried. 2003. "Education and the welfare state: the four worlds of competence production." *Journal of European Social Policy* 13: 63-81.

Anttonen, Anneli. 2002. "Universalism and social policy: A Nordic feminist revaluation." *NORA -Nordic Journal of Feminist and Gender Research*, 10 (2): 71-80.

Arts, Wil, and John Gelissen. 2002. "Three worlds of welfare capitalism or more?: a state-of-the-art report." *Journal of European Social Policy*, 12 (2): 137-158.

Augustine, Jennifer M., Shannon E. Cavanagh, and Robert Crosnoe. 2009. "Maternal Education, Early Child Care and the Reproduction of Advantage." *Social Forces* 88 (1): 1-30.

Baum, Charles L. II. 2002. "A Dynamic Analysis of the Effect of Child Care Costs on the Work Decisions of Low-Income Mothers with Infants." *Demography* 39 (1): 139-164.

Barnett, W. Steven. 1995. "Long-Term Effects of Early Childhood Programs on Cognitive and School Outcomes." *The Future of Children* 5: 25-50.

Blau, D. M., and P. K. Robins. 1988. "Child-Care Costs and Family Labor Supply." *The Review of Economics and Statistics* 70 (3): 374-381.

Bonoli, Giuliano. 2013. The Origins of Active Social Policy: Labour Market and Childcare Policies in Comparative Perspective. Oxford University Press.

Brennan, Deborah, Bettina Cass, Susan Himmelweit, and Marta Szebehely. 2012. "The marketization of care: rationales and

consequences in Nordic and liberal care regimes." *Journal of European Social Policy* 22 (4): 377–391.

Brooks-Gunn, Jeanne. 2003. "Do you believe in magic?: What we can expect from early childhood intervention programs." *Society for Research in Child Development Social Policy Report*, 17.

Budig, Michelle J., Joya Misra, and Irene Boeckmann. 2012. "The Motherhood Penalty in Cross-National Perspective: The Importance of Work–Family Policies and Cultural Attitudes." *Social Politics* 19 (2): 163-193.

Cantillon, Bea, Joris Ghysels, Ninke Mussche, and Rudi van Dam. 2001. "Female Employment Differences, Poverty and Care Provisions." *European Societies* 3: 447-469.

Cantillon, Bea, and Frank Vandenbroucke. 2013. *Reconciling Work and Poverty Reduction: How Successful Are European Welfare States?* Oxford University Press.

Cloïn, Mariëlle, Saskia Keuzenkamp, and Janneke Plantenga. 2011. "A matter of culture and cost? A comparison of the employment decisions made by mothers with a lower, intermediate and higher level of education in the Netherlands." *Work, Employment & Society* 25 (3): 468-486.

Connelly, Rachel. 1992. "The Effect of Child Care Costs on Married Women's Labor Force Participation." *The Review of Economics and Statistics* 74 (1): 83-90.

Corak, Miles. 2006. "Do Poor Children Become Poor Adults? Lessons from a Cross-Country Comparison of Generational Earnings Mobility", in John Creedy, Guyonne Kalb (ed.) *Dynamics of Inequality and Poverty*, Emerald Group Publishing, pp.143-188.

Council of the European Union. 2002.

Crompton, Rosemary. 2006a. *Employment and the Family*.Cambridge University Press.

Crompton, Rosemary. 2006b. "Class and family." *The Sociological Review* 54 (4): 658-677.

Currie, Janet. 2001. "Early Childhood Education Programs." *The Journal of Economic Perspectives* 15 (2): 213-238.

Del Boca, Daniela and S. Pasqua. 2005. "Labour supply and fertility in European and the US." In Tito Boeri, Daniela Del Boca and C. Pissarides (eds.) *Women at Work: An Economic Perspective*, Oxford University Press.

Del Boca, Daniela, and Daniela Vuri. 2007. "The mismatch between employment and child care in Italy: the impact of rationing." *Journal of Population Economics* 20: 805-832.

De Henau, Jérôme, Danièle Meulders and Síle O'Dorchai. 2007. "Making time for working parents: comparing public childcare provision." In:

Daniela Del Boca and Cécile Wetzels (eds). *Social Policies, Labour Markets and Motherhood*. Cambridge University Press.

Debacker, Maja. 2008. "Care strategies among high- and low-skilled mothers: a world of difference?" *Work, Employment & Society* 22 (3): 527-545.

Duncan, Greg J., W. Jean Yeung, Jeanne Brooks-Gunn, and Judith R. Smith. 1998. "How Much Does Childhood Poverty Affect the Life Chances of Children?" *American Sociological Review* 63(3): 406-423.

Duncan, Simon, Rosalind Edwards, Tracey Reynolds, and Pam Alldred. 2003. "Motherhood, paid work and partnering: values and theories." *Work, Employment & Society* 17 (2): 309-330.

Duncan, Simon. 2005. "Mothering, class and rationality." *The Sociological Review* 53 (1): 50-76.

Esping-Andersen, Gøsta. 1990. *The Three Worlds of Welfare Capitalism*. Princeton University Press.

Esping-Andersen, Gøsta. 2002. *Why We Need a New Welfare State*. Oxford University Press.

European Commission. 2011. Study on Social Services of General Interest. Final report, Employment, Social Affairs and Inclusion Directorate General of the European Commission.

European Parliament. 2007. The cost of childcare. Country Reports. Part 2 of 2. IP/A/EMPL/FWC/SC/2006-05/SC1.

Evertsson, Marie, Paula England, Irma Mooi-Reci, Joan Hermsen, Jeanne De Bruijn, and David Cotter. 2009. "Is Gender Inequality Greater at Lower or Higher Educational Levels? Common Patterns in the Netherlands, Sweden, and the United States." *Social Politics* 16 (2): 210-241.

Fortin, Nicole M. 2005. "Gender role attitudes and the labour market outcomes of women across countries." *Oxford Review of Economic Policy* 21 (3): 416-438.

Fuller, B. and L. Xiaoyan. 1996. "Market Failure? Estimating Inequality in Preschool Availability." *Educational Evaluation And Policy Analysis* 18(1): 31-49.

Ghysels Joris, and Evelien Van Vlasselaer. 2008. "Child well-being in Flanders: a multidimensional account." *Social indicators research* 89 (2): 283-304.

Ghysels, Joris, and Wim Van Lancker. 2011. "The unequal benefits of activation: an analysis of the social distribution of family policy among families with young children." *Journal of European Social Policy* 21 (5): 472-485.

Gornick, Janet C., and Marcia K. Meyers. 2003. Families That Work: Policies for Reconciling Parenthood and Employment. Russell Sage.

Hackman, Daniel A., Martha J. Farah, and Michael J. Meaney. 2010. "Science and society: Socioeconomic status and the brain: mechanistic insights from human and animal research." *Nature Reviews Neuroscience* 11, 651-659.

Han, Wen-Jui, Jane Waldfogel, and Jeanne Brooks-Gunn. 2001. "The effects of early maternal employment on later cognitive and behavioral outcomes." *Journal of Marriage and Family* 63: 336–354.

Heckman, James J. 2006. "Skill Formation and the Economics of Investing in Disadvantaged Children." *Science* 312: 1900-1902.

Hegewisch, A. and Janet C. Gornick. 2011. "The impact of work-family policies on women's employment: a review of research from OECD countries." *Community, Work & Family* 14 (2): 119-138.

Henley, Julia R., and Sandra Lyons. 2000. "The Negotiation of Child Care and Employment Demands Among Low-Income Parents." *Journal of Social Issues* 56 (4): 683-706.

Immervoll, Herwig, and David Barber. 2005. Can Parents Afford to Work? Childcare Costs, Tax-Benefit Policies and Work Incentives. *OECD Social, Employment and Migration Working Papers* No. 31.

Jensen, Carsten. 2008. "Worlds of welfare services and transfers." *Journal of European Social Policy* 18: 151-162.

Jensen, Carsten. 2009. "Institutions and the politics of childcare services." *Journal of European Social Policy* 19: 7-18.

Kakwani, Nanak, Adam Wagstaff, and Eddy van Doorslaer. 1997. "Socioeconomic inequalities in health: Measurement, computation, and statistical inference." *Journal of Econometrics* 77: 87-103.

Keck, Wolfgang, and Chiara Saraceno. 2013. "The Impact of Different Social-Policy Frameworks on Social Inequalities among Women in the European Union: The Labour-Market Participation of Mothers." *Social Politics* 0: 1-32.

Kenworthy, Lane. 1999. "Do Social-Welfare Policies Reduce Poverty? A Cross-National Assessment." *Social Forces* 77 (3): 1119-39.

Keppel, Kenneth, Elsie Pamuk, John Lynch, Olivia Carter-Pokras, Insun Kim, Vickie Mays, Jeffrey Pearcy, Victor Schoenbach, and Joel S. Weissman. 2005. "Methodological Issues in Measuring Health Disparities." *Vital Health Stat* 141: 1-16.

Kildal, Nanna, and Stein Kuhnle. 2005. "The Nordic welfare model and the idea of universalism." Pp. 13-33. In Kildal, Nanna, and Stein Kuhnle (eds.), *Normative Foundations of the Welfare State*, Routledge.

Knijn, Trudie, and Ilona Ostner. 2002. "Commodification and de-commodification." Pp. 141-169. In Barbara Hobson, Jane Lewis, and Birte Siim (eds.) *Contested Concepts in Gender and Social Politics*, Edward Elgar.

Konietzka, D. and M. Kreyenfeld. 2010. "The growing educational divide in mothers' employment: an investigation based on the German micro-censuses 1976-2004." *Work Employment & Society* 24: 260-278.

Korpi, Walter, and Joakim Palme. 1998. "The paradox of redistribution and strategies of equality: Welfare state institutions, inequality, and poverty in the Western countries." *American Sociological Review* 63: 661-687.

Lewis, Jane. 1992. "Gender and the development of welfare regimes." *Journal of European Social Policy* 2 (3):159-173.

Lister, Ruth. 1994. "She has other duties' - women, citizenship and social security." In Sally Baldwin and Jane Falkingham (eds.) *Social Security and Social Change: New Challenges to the Beveridge Model*, Harvester Wheatsheaf.

Lloyd, Eva, and Helen Penn. 2012. *Childcare markets: Can they deliver an equitable service?* The Policy Press.

Mackenbach, Johan P. and Anton E. Kunst. 1997. "Measuring the magnitude of socio-economic inequalities in health: an overview of available measures illustrated with two examples from Europe." *Social Science and Medicine* 44 (6): 757-771.

Magnuson, K.A., Ruhm, C. & Waldfogel, J. (2007). "Does prekindergarten improve school preparation and performance?" *Economics of Education Review* 26: 33-51.

Meagher, Gabrielle, and Marta Szebehely. 2012. "Equality in the social service state: Nordic childcare models in comparative perspective", in Jon Kvist, J, Johan Fritzell, Bjørn Hvinden, and Olli Kangas (eds.) *Changing Social Equality. The Nordic welfare model in the 21st century*, The Policy Press.

Melhuish, Edward C. 2004. A literature review of the impact of early years provision upon young children, with emphasis given to children from disadvantaged backgrounds. Report to the Comptroller and Auditor General, National Audit Office.

Meyers, Marcia K., D. Rosenbaum, C. Ruhm and Jane Waldfogel. 2004. "Inequality in early childhood education and care: what do we know?" In: K. Neckerman (ed.) *Social Inequality*, Russell Sage Foundation.

Meyers, Marcia. and Jordan, P. 2006. "Choice and Accommodation in Parental Child Care Decisions." *Community Development* 37 (2): 53-70.

Morel, Nathalie, Bruno Palier, and Joakim Palme. 2012. *Towards a social investment welfare state? Ideas, policies and challenges*. The Policy Press.

Morgan, Kimberly J., and Kathrin Zippel. 2003. "Paid to Care: The Origins and Effects of Care Leave Policies in Western Europe." *Social Politics* 10 (1): 49-85.

Noailly, Joëlle, and Sabine Visser. 2009. "The Impact of Market Forces on Child Care Provision: Insights from the 2005 Child Care Act in the Netherlands." *Journal of Social Policy* 38 (3): 477-498.

Obama, Barack. 2007. "Our Kids, Our Future. Full Text of Remarks by Sen. Barack Obama November 20, 2007 in Manchester, New Hampshire." Available at: http://usliberals.about.com/od/education/a/ObamaEdPlan.htm.

OECD. 2006. *Starting Strong II: Early Childhood Education and Care*, OECD.

OECD. 2012. *Starting Strong III - A Quality Toolbox for Early Childhood Education and Care*. OECD.

Penn, Helen. 2011. *Quality In Early Childhood Services: An International Perspective*. Open University Press.

Pfau-Effinger, Birgit. 2004. Development of Culture, Welfare States and. Women's Employment in Europe, Ashgate.

Phillips, Deborah A., and Amy E. Lowenstein. 2011. "Early Care, Education, and Child Development." *Annual Review of Psychology* 62: 483-500.

Plantenga, Janneke, and Chantal Remery. 2009. *The provision of childcare services. A comparative review of 30 European countries*. Office for Official Publications of the European Communities.

Powell, M. and Armando Barrientos. 2011. "An Audit of the Welfare Modelling Business." *Social Policy & Administration* 45 (1): 69-84.

Rauch, Dietmar. 2007. "Is There Really a Scandinavian Social Service Model? A Comparison of Childcare and Elderlycare in Six European Countries." *Acta Sociologica* 50: 249-269.

Ray, Rebecca, Janet C. Gornick, and John Schmitt. 2010. "Who cares? assessing generosity and gender equality in parental leave policy designs in 21 countries." *Journal of European Social Policy* 20 (3): 196-216.

Reibling, Nadine. 2010. "Healthcare systems in Europe: towards an incorporation of patient access." *Journal of European Social Policy* 20: 5-18.

Richardson, Linda L. 2012. "Can parents afford to work? An update." Paper presented at the 2012 European Population Conference, Stockholm, Sweden.

Saxonberg, Steven, and Dorota Szelewa. 2007. "The Continuing Legacy of the Communist Legacy? The development of family policies in Poland and the Czech Republic." *Social Politics* 14 (3): 351-379.

Sipilä, Jorma, Katja Repo, and Tapio Rissanen. 2010. *Cash-for-Childcare. The consequences for caring mothers*, Edward Elgar.

Sjöberg, Ola. 2004. "The Role of Family Policy Institutions in Explaining Gender-Role Attitudes: A Comparative Multilevel Analysis of Thirteen

Industrialized Countries." *Journal of European Social Policy* 14 (2): 107-123.

Steiber, Nadia and Barbara Haas. 2009. "Ideals or Compromises? The Attitude-Behaviour Relationship in Mothers' Employment." *Socio-Economic Review* 7 (4): 639-668.

Steiber, Nadia, and Barbara Haas. 2012. "State of the Art. Advances in Explaining Women's Employment Patterns." *Socio-Economic Review* 10 (2): 343-367.

Stier, Haya, Noah Lewin-Epstein, and Michael Braun. 2001. "Welfare Regime, Family-Supportive Policy, and Women's Employment Along the Life Course." *American Journal of Sociology*, 106: 1731-60.

Sosinsky, Laura S. 2012. "Childcare markets in the US: Supply and demand, quality and cost, and public policy." Pp. 131-152. In Eva Lloyd and Helen Penn (eds.), *Childcare markets: Can they deliver an equitable service?* The Policy Press.

Spieß, C. K., M. Kreyenfeld, and G.G. Wagner. 2003. "Distributional analysis of child care subsidies in Germany." *European Early Childhood Education Research Journal* 11 (2): 159-175.

Triventi, Moris. 2013. "The role of higher education stratification in the reproduction of social inequality in the labor market." *Research in Social Stratification and Mobility* 32: 45–63.

UNICEF. 2008. *The Childcare Transition*. Innocenti Report Card 8. UNICEF Innocenti Reserarch Centre.

Uunk, Wilfried, Matthijs Kalmijn, and Ruud J.A. Muffels. 2005. "The impact of young children on women's labor supply. A reassessment of institutional effects in Europe." *Acta Sociologica* 48: 41-62.

van der Lippe, Tanja, and Jacques J. Siegers. 2004. "Division of Household and Paid Labour between Partners: Effects of Relative Wage Rates and Social Norms." *Kyklos* 47 (1): 109-136.

van der Lippe, Tanja, and Liset van Dijk. 2002. "Comparative Research on Women's Employment." *Annual Review of Sociology* 28: 221-241.

Van Doorslaer, Eddy, C. Masseria, and X. Koolman. 2006. "Inequalities in Access to Medical Care by Income in Developed Countries." *Canadian Medical Association Journal* 174 (2): 177–83.

Vandelannoote, Dieter, Pieter Vanleenhove, André Decoster, Joris Ghysels, and Gerlinde Verbist. 2013. Maternal Employment: the Impact of Triple Rationing in Childcare in Flanders. Flemosi Discussion Paper No. 18.

Vandenbroeck, Michel, Sven De Visscher, and Karen Van Nuffel. 2008. "Mothers' Search for Infant Child Care: The Dynamic Relationship between Availability and Desirability in a Continental European Welfare State." *Early Childhood Research Quarterly* 23 (2): 245-258.

Vandenbroeck, Michel, Griet Roets, and Rudi Roose. 2012. "Why the evidence based paradigm in early childhood education and care is anything but evident." *European Early Childhood Education Research Journal* 20 (4): 537-552.

Van Lancker, Wim, and Joris Ghysels. 2012. "Who benefits? The social distribution of subsidized childcare in Sweden and Flanders." *Acta Sociologica* 55 (2): 125-142.

Van Lancker, Wim, and Joris Ghysels. 2013. "Who Benefits from Investment Policies? The Case of Family Activation in European Countries." Pp. 212-237. In *Reconciling Work and Poverty Reduction: How Successful Are European Welfare States?,* edited by Bea Cantillon and Frank Vandenbroucke, Oxford University Press.

Van Lancker, Wim. 2013. "Putting the child-centred investment strategy to the test: Evidence for EU27." *European Journal of Social Security* 15: 4-27.

White, Linda A., and Martha Friendly. 2012. "Public Funding, Private Delivery: States, Markets, and Early Childhood Education and Care in Liberal Welfare States – A Comparison of Australia, the UK, Quebec, and New Zealand." *Journal of Comparative Policy Analysis: Research and Practice* 14 (4): 292-310.

Willemse, Nienke, and Paul de Beer. 2012. "Three worlds of educational welfare states? A comparative study of higher education." *Journal of European Social Policy* 22: 105-117.

Wrohlich, Katharina. 2011. Labor Supply and Child Care Choices in a Rationed Child Care Market. DIW Discussion Papers 1169. Berlin.

Annex

Table A1. FTE formal childcare coverage across educational levels, and inequality indices

	FTE formal childcare coverage				Age-adjusted SII		RII	N
	Educational level			Weighted mean				
	Low	Medium	High		coef	(SE)		
AT	8.0	10.9	24.6	13.8	9.52655	(2.02658)	0.68921	458
AU	10.7	17.2	18.3	16.9	3.24208	(1.35729)	0.19218	809
BE	18.5	38.4	44.8	37.3	12.22198	(1.95927)	0.32781	622
BG	3.8	7.9	31.1	10.9	10.59721	(2.15789)	0.96918	308
CY	21.2	27.4	35.3	31.1	10.97333	(4.34418)	0.35299	230
CZ	2.7	2.7	4.4	3.0	1.49385	(0.99828)	0.49154	695
DE	18.1	21.7	31.3	25.0	9.95168	(2.20442)	0.39737	725
DK	75.8	74.0	75.2	73.1	-0.75795	(2.35774)	-0.01037	499
EE	36.5	23.0	32.1	28.8	2.98888	(2.45906)	0.10372	403
ES	24.0	33.5	41.5	34.0	9.71805	(1.41736)	0.28588	1057
FI	11.7	21.7	31.3	26.0	8.8939	(1.98272)	0.34201	857
FR	17.2	40.7	70.7	49.7	26.65449	(1.87108)	0.53619	864
GR	15.1	7.0	24.8	15.8	8.38121	(2.01153)	0.53170	557
HU	6.3	9.0	16.0	10.2	5.58502	(1.64723)	0.54614	626
IE	6.7	9.5	28.6	17.0	13.72489	(2.05009)	0.80825	418
IS	57.4	56.7	59.1	58.0	4.10682	(2.17755)	0.07081	400
IT	26.3	36.3	38.5	33.5	7.60225	(1.25977)	0.22706	1681
LT	2.4	9.6	32.5	19.7	16.54654	(3.4768)	0.83959	207
LU	21.2	27.2	50.6	35.5	15.84113	(1.78975)	0.44623	645
LV	13.8	18.5	30.8	21.2	9.40331	(2.19506)	0.44306	461
MT	40.2	34.4	36.5	37.6	-2.04939	(3.15843)	-0.05449	295
NL	18.3	34.7	53.5	40.4	18.14004	(1.59715)	0.44891	909
NO	35.2	41.9	53.6	45.1	9.48216	(2.45641)	0.21013	507
PL	2.1	3.2	14.0	6.8	8.55798	(1.20407)	1.25320	1195
PT	42.5	64.0	50.8	48.3	6.91108	(3.68117)	0.14312	243
RO	3.5	9.0	14.4	8.0	6.61782	(2.05689)	0.83176	275
SE	42.1	63.6	69.4	63.9	11.15744	(2.46088)	0.17474	596
SI	19.7	33.4	40.4	35.3	7.69188	(2.15444)	0.21768	803
SK	-	3.8	3.6	3.5	1.77921	(1.68212)	0.51559	356
UK	8.6	10.9	30.1	17.2	13.49341	(1.95538)	0.78650	525
US	20.3	33.0	44.3	38.8	11.80007	(1.04251)	0.30410	3855

Source: own calculations on EU-SILC 2009, HILDA 2010 and NHES ECPP 2005. Selection: children under three years old. (-) = no observations.

Table A2. Overview of indicators

	FTE Informal care (%)	Cost (% of average wage)	Social right	Supply (slots per 100 children)	Expenditure (% of GDP)	Well-paid leave (duration in months)	Well-paid leave (months, centered & squared)	Low-skilled maternal employment (%)	Attitudes (% of low-skilled mothers)
AT	9.7	17		9	0.4	3.7	28.1	16.0	85
AU	11.0	13		25.45	0.4	0	81.0	23.1	42
BE	7.6	4		34.2	0.7	3.4	31.4	32.8	33
BG	17.7	11		7	0.8	25.3	265.7	29.7	54
CY	38.7	16		17.7	0.3	4.1	24.0	28.9	81
CZ	13.4	11		8	0.4	6.4	6.8	16.0	38
DE	4.3	14		10.2	0.5	15.4	41.0	17.8	58
DK	0.0	11	Yes	56	1.4	12.1	9.6	57.7	5
EE	12.3	7	Yes	22	0.4	18.9	98.0	23.0	62
ES	12.4	8		16.6	0.6	3.7	28.1	38.7	56
FI	1.8	12	Yes	21	1.8	9.2	0.0	12.9	13
FR	8.8	9		43	1.3	3.7	28.1	38.9	34
GR	45.9	5		7	0.1	10.1	1.2	22.3	69
HU	7.0	6		6	0.7	24.9	252.8	10.6	64
IE	12.1	45		15	0.4	0	81.0	14.9	31
IS	3.3	8		-	0.9	3.0	36.2	44.3	20
IT	16.3	-		11.4	0.7	4.6	19.4	34.7	82
LT	11.1	12		18	0.6	26.1	292.4	37.0	83
LU	8.1	5		14	0.4	3.7	28.1	45.9	64
LV	8.7	11		16	0.6	13.7	22.1	31.9	74
MT	10.8	22		-	0.6	0	81.0	23.4	-
NL	14.1	6		14.5	0.9	3.7	28.1	50.0	35
NO	2.0	17	Yes	37	1.3	12.0	9.0	47.2	35
PL	23.5	7		2	0.3	4.1	24.0	18.7	64
PT	26.2	3		19	0.5	3.7	28.1	56.8	69
RO	43.0	-		-	0.8	26.0	289.0	30.1	57
SE	0.5	6	Yes	49.8	1.6	12.8	14.4	32.6	43
SI	20.6	9		27	0.5	11.9	8.4	49.2	44
SK	12.7	7		17.7	0.4	0.0	81.0	8.6	52
UK	12.4	10		26	0.8	1.5	56.3	27.4	30
US	13.1	34		35.5	0.3	0	81.0	24.5	31
Mean	*13.4*	*11.9*		*20.9*	*0.6*	*8.6*	*66.9*	*30.5*	*50.3*
SD	*29.4*	*8.9*		*13.6*	*0.3*	*8.3*	*85.9*	*13.5*	*21.3*
N	*31*	*29*	*31*	*28*	*31*	*31*	*31*	*31*	*30*

Note: (-) = no information available. Sources and operationalization of these indicator in table 1. Indicator 'coverage' can be found in Table A1.

Table A3. Unstandardized and standardized coefficients from OLS regression models predicting RII (robust standard errors)

	Model 1			Model 2			Model 3		
	b	(SE)	β	b	(SE)	β	b	(SE)	β
Coverage	-1.037 *	(.289)	-.618						
Cost	.001	(.005)	-.019						
Social right	-.096	(.096)	-.122						
Supply				-.015 *	(.005)	-.723			
Government spending				.178	(.130)	.236			
Maternal employment							-.683 *	(.290)	-.319
Attitudes							.100	(.176)	.073
Parental leave							-.007	(.007)	-.190
Parental leave²							.002 *	(.001)	.490
Informal care							.508	(.297)	.200
R^2		.468			.341			.419	
N		29			28			30	

Note: Significance: * $p < 0.05$.