Mapineq

State-of-the-art review of spillovers over the life course

Mijail Figueroa González
University of Turku

Jani Erola
University of Turku

Mapineq deliverable D7.1 April 2024

Funded by the European Union

Suggested citation:

Figueroa Gonzalez, M., and Erola, J. (2024). State-of-the-art review of spillovers over the life course. Mapineq deliverables. Turku: INVEST Research Flagship Centre / University of Turku. DOI: 10.5281/zenodo.10216032.

Summary history		
Version	Date	Comments
1.0	09.04.2024	Manuscript for submission

Mapineq – Mapping inequalities through the life course– is a three-year project (2022-2025) that studies the trends and drivers of intergenerational, educational, labour market, and health inequalities over the life course during the last decades. The research is run by a consortium of eight partners: University of Turku, University of Groningen, National Distance Education University, WZB Berlin Social Science Center, Stockholm University, Tallinn University, Max Planck Gesellschaft (Population Europe), and University of Oxford.

Website: www.mapineq.eu

The Mapineq project has received funding from the European Union's Horizon Europe research and innovation programme under the grant agreement No. 101061645.

Acknowledgement:

This document was presented and discussed with consortium members at the Mapineq consortium meeting held in June 2023 in Seili, Finland. The content of the document, including opinions expressed and any remaining errors, is the responsibility of the authors.

Publication information:

Executive summary

Understanding how social inequalities are produces requires acknowledging the complex interplay between various life domains and the multidimensional nature of life courses. This review synthesises evidence on policy spillover effects, focusing on two critical life pathways for social inequalities: childhood to adulthood and education to the labour market. The literature review thus includes empirical causal spillover effects between education, family, and employment domains, wherein changes in one domain exerts influence others.

By scrutinizing policies targeting different life domains and stages, the review sheds light on how inequalities are originated. The review underscores the importance of rigorous empirical research to inform effective policy interventions.

Funded by
the European Union

Content

Tables

Figures

Funded by the European Union

State-of-the-art review of spillovers over the life course

To better understand how social inequalities are produced, scholars should be aware of the multidimensionality of life courses and of the interdependency between life domains. Specifically, how changes introduced in one life domain can affect – sometimes unintentionally – other life domains. In this review, we summarise empirical causal evidence on *policy spillover effects*. We focus on studies covering two life pathways from childhood to adulthood, and from education to the labour market, covering spillover effects between the life domains of education, family, and employment.

The spillovers refer to unintended consequences or externalities, in our case changes in one life domain (such as the family) leading to unforeseen changes in another domain (such as the labour market).

While research studying the interdependencies between life domains, and the consequences of externalities or policies, the term spillover effect is not widely used, which makes it difficult to conduct systematic searches

Some policy spillover effects have been more investigated than others. Under-researched policy spillover effects require theory development to motivate further research on the interdependency of life domains

1. Introduction

Over the last decades, studies applying longitudinal data spanning multiple stages of life have greatly improved our understanding of social inequalities. Partially, this advancement has followed from the maturing of datasets. Currently, there are several survey panels and register datasets that allow researchers to follow the lifespans of individuals and their families across multiple decades in several countries. In addition to allowing us to understand better how life-course stages are interlinked, these datasets provide unique opportunities to study how lives can be influenced by changes in social institutions and policies. These advancements have led to multiple major breakthroughs in social scientific studies on various topics, such as educational attainment, family dynamics, employment careers and health.

As the research has advanced, researchers have also become increasingly aware of the complexities involved. It is not enough to consider that the life course stages and individuals sharing the same social environments are interlinked. In addition, we should consider that lives are multidimensional and life domains are interdependent. Optimally,

Funded by the European Union

the study of social inequalities should deal with the complexity of human life and address how inequality is generated because of the interdependence between life domains. Clearly, establishing associations is not enough; we should also understand the causal direction of such effects.

The necessity of better taking the life sphere's multidimensionality into account is best shown in research results on so-called *spillover effects*. With these effects, we refer to the unintended consequences or externalities, in our case, changes in one life domain leading to unforeseen changes in another domain. For instance, increasing the level of education is expected to increase productivity in the labour market. However, research also suggests that increasing the level of education has a causal positive effect on health – a positive outcome not often explicitly aimed at with the policies increasing the level of education (e.g. Brunello et al., 2016; Mensch et al., 2019).

Finding evidence of such unintended consequences is often exciting for researchers. At the same time, even if research quite often finds evidence of such unintended effects or externalities, they remain highly under-researched, mainly because studies focus on one life domain or life course stage at a time.

To address this caveat, one of the main research questions of the Mapineq project is: *how do changes and spillovers across life domains and over life course contribute to inequalities?*

Spillover effects can be both caused and suppressed by policies and sudden societal shocks. In this review, we focus particularly on policies: finding evidence of the spillover effects of a newly implemented policy can be highly detrimental, especially if the negative unintended results outweigh the intended positive impacts. While the policy spillovers can happen in the short and the long run, this literature review focuses on the long-term spillover effects that are more likely span over multiple life course stages.

In this review we first identify policies targeting different life domains and life stages (e.g. childhood, school years, youth), and then we identify and summarise the empirical causal evidence for instance.

In the next section, we introduce the review methodology followed, including the scope of the review, the challenges faced, and the strategy we followed to identified relevant research. We present the summarised studies by policy domain. In section 3, we introduce empirical evidence of spillovers originated from changes in the family domain. Next in section 4, we focus on the spillovers from policy reforms affecting the education domain. While section 5, looks into the spillover effects of changes introduced on the employment domain. Finally, we provide some concluding remarks.

2. Methodology

2.1. Scope of the review

We have defined spillover effects to the effects that changes in one life domain exert over other(s) life domain(s). Analytically, one could represent the possible spillover effects between life domains as the off-diagonals cells in a matrix in which there are as much rows and columns, as defined life domains. The division between the cells above and below the

diagonal will define the directionality of the spillovers, i.e. in which life domain the change is introduced and in which life they exert changes. The first step is therefore to limit the number of rows and columns of the matrix, as well as the cells – the spillovers – of interest.

To do so, this review focuses on two specific life pathways connecting the life dimensions: education to work, and childhood to family. These two pathways have direct implications for social inequalities.

Furthermore, we focus specifically on policy spillover effects. That is, we are interested on empirical evidence of the effects of changes introduced in one life domain on other life domains.

2.2. Challenges

Summarizing policy spillovers over the life course can be challenging for different reasons. For this review specifically, two main challenges have arisen when trying to identify the empirical evidence.

The first one relates to the term spillover itself, which despite the consensus on its definition, it is not widely used by scholars investigating the interdependency across life domains. The few research that explicitly refers to spillovers, do not directly analyse the effects derived from the implementation of policy changes. This makes difficult to conduct systematic searches in databases. Relying on searches using the term spillover in the queries would have resulted in overlooking important studies. In fact, many of the reviewed literature would have been left out of the review.

The second challenge is the multidimensionality of the policies. From design policies have multiple reasons to be implemented, that is, they do not solely target one life domain, instead they usually have several reasons. For instance, childcare policies might aim to promote equalization from the start of life, reducing inequalities related to family resources, they might also aim to increase labour market participation of the parents.

To overcome these challenges the next section introduced the strategy followed.

2.3. Strategy

Our strategy starts by limiting the scope of the review to life domains of the interest of the project. In this way, we reduce the rows and columns of our crosstabulations, to focus on those domains that are of most relevance for social inequalities. As stated earlier in the text, we focus on policy spillover effects in two important pathways for social inequalities: from education to work, and from childhood to adulthood. Altogether these two life pathways encompass three life domains namely: family, education, and work. Which reveals the and the policy spillover effects of the review (see table 2).

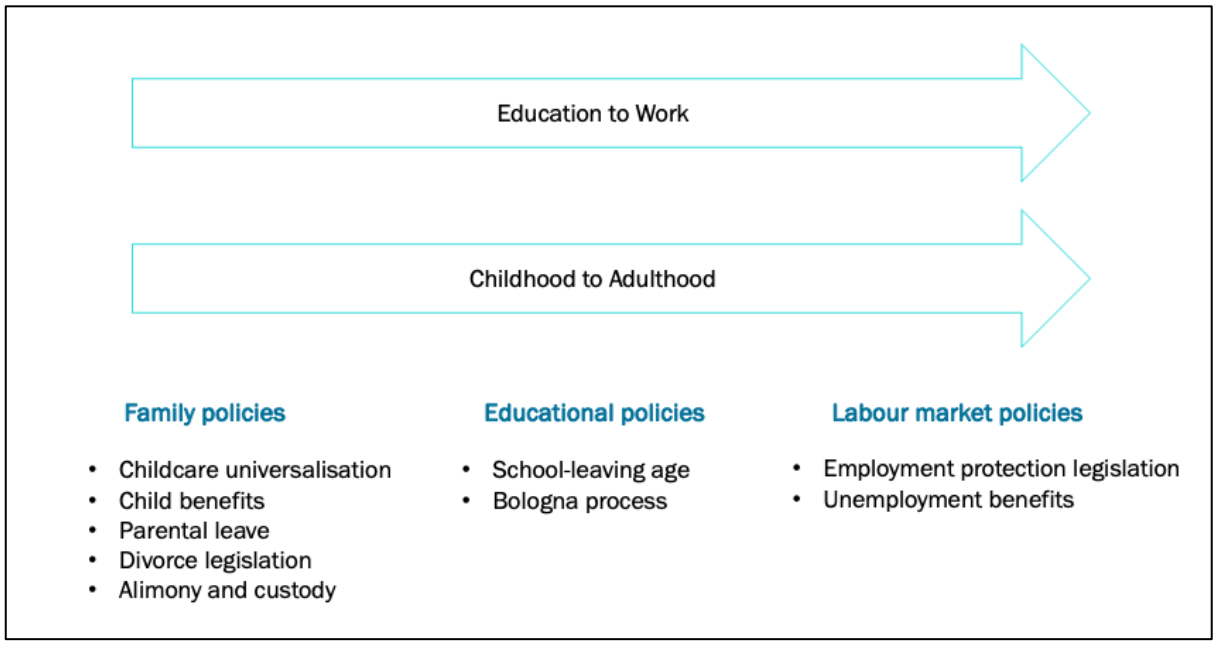
Funded by
the European Union

Table 1. Life domains and policy spillover effects under the scope of the review

	Family	Education	Work
Family		Family to education policy spillovers	Family to work policy spillovers
Education	Education to family policy spillovers		Education to work policy spillovers
Work	Work to family policy spillovers	Work to education policy spillovers	

Subsequently, we identify and describe set of policies targeting different life domains following the life course, from early childhood, school years, post-secondary education years, labour market and unemployment, and family dynamics.

Figure 1. Life pathways and policies influencing the life course



Note: own elaboration.

Finally, we look for the empirical research that has assessed the effects of such policies on other life domains. We decided to restrict our search to studies following causal designs. This restriction allows to present the policy spillover effects with the confidence that the spillovers are truly due to the policy changes and no other endogenous circumstances. We further restrict our search to emphasise the long-term spillover effects induced by policy reforms.

3. Family policies spillovers across the life course

3.1. Childcare policies

Starting with the earliest life stage in life, we identify as relevant those policies concerning the childcare. Childcare policies influence childhood as they aim to regulate the timing

when children -- and their parents -- can access care services, the extension of the services, and the distribution of the costs of it.

Some childcare policies could also be considered educational policies influencing preschool education. However, childcare encompasses a broader set of institutions providing care from a few months after birth until formal education starts, including pre-school education. Preschool refers to a narrower life stage – first stage of organized instruction – that eases the transition from home to school-based environment, and meets educational and developmental needs of children from age three (Garrouste, Christelle, 2010). Due to the overlapping nature of these policies, we have decided to include in this section the evidence of spillover effects of preschool reforms, leaving the section on educational policy spillovers to the set of reforms affecting the compulsory and post compulsory education.

The intentions of childcare policies are also framed within a larger societal context. According to Neyer (2003), childcare services initially began as charity for unattended children. However, during the 19th and early 20th centuries, there was a shift from charity to education, aiming to promote children's development. Since the late 60s and early 70s, there has been a further shift towards promoting female labour market participation and reducing labour force shortages. For instance, Neyer (2003) emphasized that childcare aims "to raise female labor-force participation rates in EU member states by facilitating the reconciliation of family and work life." Additionally, Van Winkle (2020). highlighted that childcare "enables women to balance work, family, and care responsibilities more easily but also facilitates a gender-egalitarian division of labor" (Van Winkle, 2020).

According to Garrouste (2010), policies aiming at the institutionalization of preschool occurred faster in the Soviet part of Europe (1960s) than in the Western block (1970s). In the 1980 the focus of such policies turned to equality access, "to ensure that all children, in particular the most deprived, benefit from effective intervention programmes, European countries have therefore started to make investments so that provision could be increased, access made easier and improvements made in quality" (Garrouste, Christelle, 2010: p. 11).

Changes introduced by childcare and pre-school policies might have spillover effects on children's educational outcomes in later educational stages, and on children's labour market outcomes. Nevertheless, research focuses extensively on the short- and medium-term effects of childcare policies (Van Huizen & Plantenga, 2018; Waldfogel, 2002). Ruhm and Waldfogel (2011), noted that the spillover effects depend on the counterfactual type of childcare, for instance, it might be different if children move to high-quality childcare arrangements from low-quality or informal childcare, rather than if they move from parental care. But family policies related to childcare can also have spillovers effects over parent's – particularly mothers – labour market outcomes.

3.1.1. Spillover effects on children life courses

In 1975, Norway introduced a reform that affected the childcare policies. The Kindergarten Act 'assigned the responsibility for childcare to local municipalities, but included federal provisions on educational content, group size, staff skill composition, and physical environment' (Havnes & Mogstad, 2011, pp. 101). The reform implied quadrupling the

number of childcare places in the following 6 years after the reform was passed. Havnes and Mogstad (2011, 2015) investigated the long-term impacts of such reform. Using a difference-in-differences approach, they compared adult education and labour market outcomes (at age 30-33) of 3–6-year-olds, between municipalities that were affected differently in terms of childcare coverage. They found that spillovers effects on educational outcomes, for instance, each childcare place created implied 0.35 years of education; high-school dropout probability decreased by 6 percent points, while the probability of attending college increased by 7 percent points. Spillover effects were also found on labour market outcomes. Their results showed lower chances of having little to no earnings (-3.6%), while the change of having at least average earnings increased by 5.1%. The reform also reduced the probability of being in welfare by 5 percent points. Furthermore, this policy also impacted fertility, "the children exposed to the reform [were] about 8 percentage points less likely to have a child, and almost 3.5 percentage points more likely to be single with no children" (Havnes & Mogstad, 2011, pp. 115).

Similarly, the Lahnam Act of 1940 in the USA – a temporary emergency measure due to war – aimed at providing universal childcare to children up to 12 years in safe environments so mothers could work, regardless of family income. Herbst's (2017) DiD estimates provided evidence that higher expenditure with the reform led to better long-term outcomes of children exposed to it. For instance, an increase of $100 in the expending led to an increase of 0.7 percent for the currently employed, 0.2 percent in the rate of full-time employed, and 2.5% in annual earnings. While it reduced the fraction of adults receiving public assistance by 0.2 percent.

Both studies found differential effect across subpopulations. For instance, in the Norwegian case, the protection against low to average wages related to girls, while most of the benefits of the reform were associated to children of low educated mothers (Havnes & Mogstad, 2011). Additionally, in a later study (Havnes & Mogstad, 2015), the authors found that the positive spillover effects on labour market outcomes concentrated on the children of low-and middle–income parents, while children from high-income parents experience a loss in adult wages. These results were driven by the improvement in total years of schooling, rather than cognitive skills measured through standardised tests. In the USA case, the study also investigated whether there are different effects between children located at the adult low- and high-income distribution. It is observed that the reform "compressed the adult earnings distribution [notably during the early career stages], relative to the counterfactual distribution, by increasing the earnings of the lowest earners substantially more than their higher-earning counterparts" (Herbst, 2017, pp. 553).

When analysing the mechanisms driving these long-term effects, Herbst (2017) found that the type of childcare replaced by the USA policy corresponded to maternal care, while Havnes and Mogstad (2011) found that in Norway the counterfactual childcare related to informal arrangements. Moreover, in the case of the USA, a second mechanism was the labour market attachment of mothers, and the consequent increase of the family resources. This mechanism was ruled out in Norway given the that the mothers employment was unaffected, which is evident by the type of childcare that was replaced. A third one, corresponded to the improvement of educational attainment due to lower high-

school dropouts and higher college completion. Finally, a fourth mechanism was the fertility impact, more specifically that mothers affected by the policy reduced their fertility, which resulted in more time and resources for their children, impacting their educational outcomes.

Other studies investigated the policy spillovers of the universalisation of childcare on test scores. For Canada, Baker nad colleagues (2019) investigated the effect of a childcare reform in Quebec, which stablished a 'very low-cost' care for children aged 0 to 4 years in 1997. They did not find any impact of the childcare policy on the cognitive skills of children in their adolescence years (i.e., math, language, and science test scores). They did find however, other effects that are out of the scope of this review such as worse health, life satisfaction and higher criminal rates. For Spain, Felfe and colleagues (2015) assessed a reform in 1990 which expanded free high-quality childcare to children aged 3 years, replacing mostly nuclear family care. The researchers found spillover effects of the childcare expansion reform on reading tests scores at the age of 15 years, but not in math test scores. Reading test scores of children living in states that implemented the reform at a higher speed increased by 0.15 standard deviations. The reform had also a positive spillover effect on children's educational trajectories reducing "the incidence of falling behind a grade by 2.4 percentage points in primary school" (Felfe et al., 2015, pp. 411), which represented a decrease of 50% compared to values prior to the reform. No effects were found, however, on falling behind in secondary school. Overall, the positive spillover effects were more favourable for girls and children with les educated parents.

3.1.2. Reviews and meta-analysis

Ruhm and Waldfogel (2011) reviewed the evidence of spillover effects of universalization policies on children's later outcomes. They found that universal programmes positively affected adult outcomes of children exposed. For instance, in Denmark it was associated to completing schooling, effect that was larger for disadvantaged children; in France was associated positively with test scores, high-school graduation and adult wages, and negatively with grade repetitions; and in Norway was associated positively with educational attainment and labour market participation while negatively with welfare dependency. They also reviewed research focusing on medium-term spillover effects. More specifically in Norway it was positively associated with girls' higher grade point averages at age 16; in Uruguay it was associated with enrolment in school and more grades completed. Finally, the short-term effects were in Argentina, better language and math scores, particularly for disadvantaged children; and in Canada, negative effects on vocabulary scores at age 5 (mostly due to the low quality influenced by the policy reform).

Van Huizen and Plantenga (2018) elaborated a meta-analysis about the long-term effects of policies towards the universalization of childcare based on studies that exploit natural experiments to identity causal effects. The meta-analysis included estimates of long-term outcomes such as educational outcomes in adolescence and labour market outcomes in adulthood, in countries such as US, Canada, Australia, France, Germany, Norway, Spain and the UK. They found that reforms towards universalization of childcare are more likely to benefit children's cognitive outcomes. Similarly, Schmutz (2024) reviewed spillover effects of childcare policies towards universalization on several outcomes across the life

course, with emphasis on differential effects over children from different socioeconomic statuses. Overall, she found that policies towards universalization of childcare benefited more the children from low-SES families in a broad set of educational, employment, cognitive and non-cognitive outcomes. Nevertheless, this was true, only in developed countries.

3.1.3. Spillover effects on mother's life courses

Childcare policies might also have effects on mothers' life courses in the long run, this was evident in studies that used DiD estimation strategies. For USA, Herbst (2017) also analysed the impact of the Lahnam Act of 1940 in the USA on mothers' labour market outcomes. Results showed that compared to women with children not affected by the reform, and childless women, the reform had a positive effect on employment, and hours worked. This was particularly true for mothers with younger children (0-6 years). The study found similar effects of the reform across women with different educational attainment. Similarly, in Canada, Baker and colleagues (2008) found that the implementation of a universal childcare in the province of Quebec in 1997, lead to higher participation in the labour market of women in two-parent families by 7.7 percent points, compared to women in the rest of the country.

In contrast, in the European context, Havnes and Mogstad (2011) only found little impact of the childcare reform in Norway on maternal employment, while in Spain studies provided mixed results, when analysing the 1990 childcare reform that made universal high-quality childcare for children aged 3 years free, replacing care provided by nuclear family (i.e., mothers or grandmothers). For instance, Felfe and colleagues (2015) did not significantly increase mothers' of 3-year-olds labour supply in the fast-implementing states compared to those in the slow-implementing states. They interpreted this results in the framework of the male breadwinner model of Spain, and the country context during the implementation phase characterised by low labour demand. In a different study, nevertheless, when comparing the employment rates against mothers of 2-year-olds, Nollenberger and Rodríguez-Planas (2015) did find an increase of 2.8 percentage points in the likelihood of working for mothers of 3-year-olds after the reform, which represented a relative increase of 9.6% to the average employment rate before the reform. The authors found that the spillover effect was mostly driven by women aged 30 years or older and those with two or more children, who most likely have reached their 'optimal family size' and were most responsive to the reform.

3.2. Child-benefits

These set of policies refers to direct transfers from the state to the parents. Neyer (2003) highlights the diverse set of intentions behinds them, from targeting families in need, or alleviating poverty and malnutrition, to supplementing economic hardship of workers with children, and lastly as child-support systems. In Europe, these child-support systems were implemented after the World War II, and by 1985 most countries have implemented universal cash benefits, except for Southern European countries in which child-benefits are mean-tested (Neyer, 2003).

Child benefits are considered as a compensation for the cost of child rearing. Although they are also considered among the familising policies because they "aim to support the traditional family characterized by relational obligations between husband and wife as well as parents and children", as they "increase the inhibition level of female employment" (Van Winkle, 2020). Child benefits also contribute to avoid social exclusion of mothers, in other words, child benefits are important for mothers "to enjoy an acceptable standard of living, independent of labour market participation" (Lancker et al., 2012), particularly for single mothers. Therefore, one can assume spillover effects of child benefit policies on labour market outcomes (i.e., income, participation, welfare dependency).

3.2.1. Spillover effects on mothers' life courses

Koebel and Schirle (2016) examined the effects of Canada's 2006 introduction of the Universal Child Care Benefit (UCCB), on the labour market outcomes for mothers based on their partnership status. The UCCB consisted of a monthly transfer of $100 given to parents for each child aged 0 to 5 years. They found differential spillover effects on the labour market notably between legally married and single mothers. For instance, the UCCB reduced the likelihood of legally married mothers to participate in the labour force by 1.4%, while the increase was 2% for single mothers, which increased to 2.8% for separated/divorced mothers when disaggregated (Koebel & Schirle, 2016). The policy affected also the likelihood of employment, legally married mothers saw an increase of their likelihood of employment by 1.4%, in contrast separated/divorced mother saw an increase of 1.8%. Common-law and never married women were unaffected by the reform. The weekly working hours were reduced significantly only for legally married and common-law mothers, for the latter the reduction was more pronounced (Koebel & Schirle, 2016).

The authors make sense of the differential spillover effect of the child benefit between legally married and separated/divorced mothers' labour market outcomes, suggesting that mothers in a relationship needed to negotiate childcare arrangements with fathers, who might have showed preference for parental childcare over non-parental childcare. In contrast, single mothers might have had higher control over childcare arrangements and the introduction of the benefit allowed them to have access to better quality childcare. Additionally, single mothers were more likely to use non-parental childcare when they decided to work (Koebel & Schirle, 2016).

Another case of child benefits spillovers on labour market outcomes of mothers relates to a reform in Germany in 1996. Following a Supreme Court resolution criticising the fact that tax allowances did not cover children basic living expense, the government significantly increased child benefits and reduced tax deduction. Hener (2016) analysed the impact of the reform on married mothers labour market behaviour before and after the reform and found that they reduced their weekly working time by 2.3 hours. Furthermore, their engagement in full-time jobs decreased by 5.5%, while the engagement in part-time job and marginal jobs increased by 3.6% and 2.1%. Importantly, it is noted that the effects were stronger on the treatment group that experienced the greater impact by the reform due to their position in the income distribution. While the reform had an effect of labour supply disincentive for married mothers, it was also stressed out that married mothers spent more time on childcare after the reform (Hener, 2016).

3.3. Parental leave

At the intersection of family and work policies, parental leave policies seek to provide employment or/and income protection to workers. Parental leave policies are considered "individualizing or defamilizing policies" that "reduce interdependencies between spouses and generations", because "enable women to work" and "facilitate gender egalitarian division of labour" (Van Winkle, 2020).

These policies, therefore, "reduce the benefits of marriage and parenthood within marriage because traditional care obligations are less institutionalized around marriage" (Van Winkle, 2020). Although, it is also argued that these policies aim "to insentivize women not to entirely abandon their household duties" (Castro-García & Pazos-Moran, 2016).

Parental leave policies encompass different mechanisms: maternity leave, paternity leave, and parental leave. Maternity leave is the right of women to stop work for some weeks before and after a birth, mainly to protect mothers' and children's health. Paternity leave is the right to stop working for some time right after the birth of a child. Parental leave refers to the right to stop working for some time during the first years of life of the children, this might be shared or granted to each parent separately.

The specific setting of its implementation length, remuneration, and transferability varies across different countries' traditions. Maternity leave has been the most stable policy since the past three decades, with the breadwinner-oriented regimes providing access to the most generous leaves. Larger changes have occurred around the parental leave, whose length has increased particularly in Scandinavian countries (the "earner carer strategy"), conservative countries (the "primary earner strategy"), and the Mediterranean countries (the "Mediterranean strategy"). Paternity leave or the weeks reserved for fathers during parental leave have also increased, particularly in conservative countries (the "primary caregiver strategy") and France and Belgium (the "choice strategy") (Ferragina, 2019).

These set of policies can have spillover effects on labour market outcomes of parents. Positive spillover effects are expected given that provision of parental leave might attract women to the labour force (Thévenon & Solaz, 2013). However, the undertake of parental leave by mothers is usually associated with negative effects on labour market outcomes, particularly for those who take long leaves. Households joint decisions about distribution of leaves and work might have impact in labour market participation of the partner (Akgunduz & Plantenga, 2013), thus the spillover effect might be different if fathers share more or less time of the parental leave. Nevertheless, mothers use to take a higher share of the parental leave due to design (more time reserved to mothers), or to avoid household loses (due to higher income of fathers, particularly when parental leave income is low) (Thévenon & Solaz, 2013). Given that mothers use to take most of the parental leave, it is not surprising that most of the research looks at mothers' labour market outcomes, while few cover the labour market outcomes of fathers.

The spillover effects of parental leave spread also over children's educational outcomes. The long-term effect of these policies is given via the influence on child development. For instance, longer parental leave schemes could lead to better attachment between child and parents and prolonged breast feeding, etc (Carneiro et al., 2010). In the case of

fathers, the bond between the father and the child during parental leave, could impact the further involvement of the father in childcare tasks. Sharing parental leave also implies opportunities for mothers to come back to the labour market, and thus preventing against negative labour market outcomes.

Bünning (2015) summarises the two set of theories that propose how parental leave impacts fathers' allocation of time between employment and household tasks. On the one hand, the transformative perspective poses that after parenthood men's lives are permanently transformed, which leads to a revalorization of priorities and consequently to a reorganization of life. On the other hand, the bargain theories propose that changes due to parenthood are driven by the bargain power of individuals in the couple. A birth of a child increases the demand of housework and reduces the bargain power of mothers, when men undergo parental leave, it leads to a reduction of bargain power, which thus is reflected in changes in time allocation.

3.3.1. Spillover effects on parents' life courses

Evertsson and Duvander (2011) analysed the effect of the length of the parental leave of mothers on mothers' promotions after reincorporation in their jobs in Sweden. They found that women who took longer leaves, compared to the usual trend in the country of 15 months, are less likely to advance in their careers. In other words, those that came back to work at most 15 months after giving birth were more likely to experience promotions (indicated by changes of at least 10 in the occupational prestige scale). They suggested that these spillover effects could be due to several mechanisms: skill deterioration, the less time women take to go back to work the less deterioration on her productive skills and vice versa; and the signalling effect, by taking longer leaves than the average in the country women show less career ambition to their employers (Evertsson and Duvander, 2011).

Similarly, Joseph and colleagues (2013) analysed the spillover effects of a parental leave reform in France 2004 on mothers' post-birth employment situation and wages. The reform introduced a short-paid parental leave of 6 months after the birth of the first child either on a full- or part-time basis. Before the reform mothers only had access to the mandatory two months, and the parental leave of 6 months was only available from second births. They found that the policy had no effect on post-birth wages, and only a small positive effect on labour market participation, by reducing the likelihood of being out of the labour force on low-educated women. Likewise, low-educated part-time leave takers increased their post-birth employment participation rate. Nevertheless, medium and highly educated mothers saw their post-birth income reduced around 7% of the pre-birth income (Joseph et al., 2013).

If the length women spent out of work due to parental leave matters for mother's later labour market outcomes, parental leave policies aiming at a more balanced redistribution of the parental leave within the couple might also have spillover effects on mother's labour outcomes. In 1995, Sweden introduced a reform to the parental leave which reserved 1 month of the parental leave for fathers. The reform aimed "at increasing male responsibility for child care and household activities, in order to improve female labor market outcomes" (Ekberg et al., 2013, pp. 132). Ekberg and colleagues (2013) analysed

the effect of the reform on the uptake of parental leave of fathers and the possible effect on mothers' employment situation. They found that fathers increased the days they take parental leave after the reform (by reducing the percentage of no takers from 54% to 18% and increasing the percentage of those taking one month from 9% to 47%), showing substantial short-term effects of the reform. However, the spillover effects on the labour market outcomes of parents were limited; no effects on fathers' employment situation, and only small and non-robust long-term effects on mother's earnings (Ekberg et al., 2013).

In 2007, Germany introduced earnings-related parental leave benefits, giving parents 67% of previous earnings instead of the flat rate pre-reform for a length of 12 months. Additionally, the reform included 2 additional paid months if each parent takes at least 2 months of parental leave. This reform aimed to strengthen the father-child relationship and to promote gender equality in the couple. This reform increased the share of fathers undergoing parental leave from 3.6% in 2006 to 21% in 2008 (Bünning, 2015).

Bünning (2015) analysed the effect of this reform, on the time allocation of fathers that went on parental leave in terms of weekly working hours after parental leave. She found that fathers reduced their working hours after having taken parental leave by an averaging of 4 hours less. However, this varied due to the length of the parental leave and whether the leave was taken simultaneously with the mother or alone. Fathers who took only 2 months of leave or at the same time than the mothers only reduced their weekly working time after parental leave by 3 hours, while those fathers who took longer leaves or did it alone reduced their working time by 5 hours per week (Bünning, 2015). These changes are understood in line with the transformative perspective which poses that paternity is a transformative experience itself, which is further reinforced by the undertake of parental leave.

This relationship has been studied as well on the macro-level, however, these studies fall out of the scope of this review (Akgunduz & Plantenga, 2013; Datta Gupta et al., 2008; Thévenon & Solaz, 2013).

3.3.2. Spillovers on children's life courses

Dustmann and Schönberg (2008) analysed spillover effects of three parental leave reforms in Germany between 1979 and 1992 on long-term outcomes of children affected by the reform. The reforms enlarged the paid parental leave from 2 to 6 months (1979), the second one up to 10 months (1989); and the third one increased the unpaid leave from 18 to 36 months (1992). The authors tested several educational and labour market outcomes such as type of school attended at age 13-14, grade attendance and grade repetition, graduation from the academic track, wages, and unemployment. Using a combination of regression discontinuity and difference-in-differences estimates, the authors did not find any significant spillover effects of any of the reform on children's outcomes in the long-term.

Similarly, Rasmussen (2010) analysed the spillover effects on educational outcomes of children in the long run, of a change in Danish parental leave length in 1984. The reform increased the length of parental leave from 14 to 20 weeks. As in the German case, no spillover effects were found on long-term educational outcomes of children such as high

school enrolment or high school GPA (Rasmussen, 2010). In the Danish case, the author makes sense of their results due to the alternative childcare arrangements which is the well stablished publicly subsidised since the 1980s, and the fact that the more children stayed at home because of the reform reduced the ratios of children in day care centres. Although, alternative explanations are the possible compensating behaviour of parents to children unaffected by the parental leave extension, or that the 14 weeks available pre-reform are enough to provide a 'good start' to children.

Also in a Nordic country, Liu and Skans (2009) analysed the effect of a policy reform in Sweden that increased the length of the parental leave from 12 to 15 months of parents of children born after October 1988. Such enlargement shifted the care from public-subsidised childcare to parental-provided care. Specifically, they looked at the mid-term effect of the reform on academic performance at age 16, measured by national test scores on mathematics, Swedish, and English, and compulsory school grades. Overall, they did not find any effect of the change in the parental leave length on academic performance of children. However, they did find that the reform affected differently children from low- and high-educated mothers. For instance, the children for well-educated mothers improved their test scores by 2 percent of a standard deviation for each additional month of parental leave, while scores of children of low-educated mothers remained unaffected.

In contrast, Carneiro and colleagues (2010) investigated the effect of a reform in Norway introduced in 1977, which enlarged maternity leave by four months on average. The authors looked at the effects of the policy change on educational outcomes such as dropout rates at high school and college attendance. Differently from the Swedish and Danish case, in Norway, the public childcare was not widespread meaning that the alternative care was other informal arrangements. They found out that high school dropout rates fell by 2% points, while college attendance increased by 2.7% points after the reform. The authors explained the contrasting results of their study precisely because the alternative way of childcare in Norway, which in Sweden and Denmark were high-quality formal arrangements.

3.4. Divorce legislation

This policy is considered a liberalising policy in that it "aim[s] to reduce restrictions, increase[s] individual autonomy and freedom and shift[s] gendered power relationships surrounding family demographic decisions" (Van Winkle, 2020). Divorce legislation in Europe has experience three main reforms. The first one refers to the one when divorce was first allowed, in most of the cases only after proof of "fault" from one of the spouses. The second reform introduced the "no-fault" gourds for divorce, this was already possible in some countries before 1950's: Austria, Belgium, Denmark, Finland, Germany, Iceland, Luxembourg, Norway, Sweden, and Switzerland; and only between 1971 and 1997 in countries such: France (1976), Greece (1979), Ireland (1997), Italy (1975), Netherlands (1971), Portugal (1976), Spain (1981), and the UK (1971). The third main change allowed divorce unilaterally by initiative of either of the spouses, for instance after a long period of separation, which limit varies across countries (González & Viitanen, 2009). [In this section we focus on the research analysing the effect of the introduction of unilateral divorce,

although we also complemented the review with some research on the legalization of divorce, and other related to policy changes in alimony and custody laws.]

Spillover effects of the right to unilateral of divorce are possible through two main channels: by effectively increasing the divorce, and by modifying the perceived value of marriage and increasing the perceived risks of divorce. Regarding the first channel, it is argued that less restrictive divorce legislation might have increased the divorce rates, and thus affect a series of outcomes of both, couples who divorced (i.e., lower psychological and economic well-being) and children of divorced parents (i.e., obtaining fewer educational qualifications) (Amato & James, 2010). Through the second channel, it is posited that, regardless of the effect on divorce rates, the introduction of unilateral divorce leads to changes the bargaining power within the household, and therefore changes in the investment on activities in and out the household (Stevenson, 2008).

Through the first channel, the change in divorce law introducing unilateral divorce might have spillover effects on the labour market outcomes of couples, particularly for mothers with children. Differential spillover effects on labour market outcomes between divorced men and women, is due to work trajectories before divorce, grater work-family conflict due to higher caring responsibilities, and higher employment and wage discrimination (Amato, 2000). Divorce can also have spillover effects on children's educational outcomes, due to "less effective parenting from the custodial parent, a decrease in the involvement with the noncustodial parent, a decline in economic resources, and other disruptive life events such as moving, changing schools, and additional parental marriages and divorces" (Amato, 2000). Effects are contingent to the adjustment to divorce, such as children standard of living after divorce, and the quality of the relationships with both, residential and non-residential parents (Amato & James, 2010). Nevertheless, some studies in the USA and in Europe have shown a dynamic effect, divorce rates increased for some period after the reform was implemented, after which divorce rates stabilised and even reduced . The same trend was observed more recently in Mexico, where reforms towards allowing unilateral divorced started from 2008 (Aguirre, 2019).

Through the second channel, the liberalization of divorce decreases the perceived value of marriage and increases the perceived risk of marital breakdown. Which introduces changes in the bargain power of married couples (Altindag et al., 2017; Nguyen et al., 2018) "shifting bargaining power toward the party with the greatest options outside the marriage" (Stevenson, 2008, p: 855). Spillover effects on the labour market outcomes of intact-married couples are expected, due to the less interest of married couples on in-household specialization and more on out-household specialization (work) to keep some chances outside the marriage in case a marital breakdown. This is particularly the case for women which traditional position has been on household specialization. However, spillover effects on men are less straightforward (Bargain et al., 2012). Through this channel, changes in divorce legislation could have spillover effects on children life courses due to the behavioural changes within the married couple, mostly attributed to the loss of specialization of the mother in the household (Bargain et al., 2012; Hertegard, 2024; Reinhold et al., 2013).

[It is important to note the difference between the bast research on the effects of divorce or separation of parents into short or long-term effect of children, and the policy spillover effects that the change in the divorce policy might have excerpt to some population. While divorce has been linked to some negative outcomes of children and adults, the mechanisms towards such effects happen are others than the pure change in legislation. Still, some research has analysed the effect of growing up when the legislation changed.]

3.4.1. Spillover effects on parent's life courses

Stevenson (2008) compared labour participation of women across states, using the USA census data from 1970 (when only few states have implemented unilateral divorce) and 1980 (when many states have adopted unilateral divorce), and complemented by the Current Population Survey data (CPS). She found spillover effects of the adoption of unilateral divorce on labour market participation of women. The increase was of 1 percentage point in implementing states; the increase doubled for women in early years of marriage and was very limited for women in longer marriages. She also found that the increase in female labour participation on implementing states affected both married and unmarried women specially in the 5 years following the implementation of the reform.

A similar, but complementary analysis to the spillover effects of the adoption of unilateral divorce in the USA is made by Zhou (2018), who used CPS data for more years and introduced to the analysis state-specific trends. Additionally, she investigated other labour market outcomes such as weeks and hour worked. Compared to previous results, she found stronger spillover effects of the reform on labour market participation of women both, in the short- and long-run. In the short-run, the spillover effects are stronger on married non-mothers women, followed by married women with older children, however spillover effects were found to be strong for all women in the long-run. For the former group, the increase is 5.6 percentage points in the likelihood of participating in the labour force, compared to their counterparts in non-reforming states. For the married mothers with older children the increase was 4.9 percentage points. The author also found stronger spillover effects on low-educated women. Regarding other outcomes, weeks and hours worked by women increased only for women who did not work before. Zhou also found that changes in the labour market participation occurred even one to two years before the implementation of the reform.

Another assessment of the spillover effects of the adoption of unilateral divorce in the USA, but using different data came from Mammen (2008). She used data from the Health and Retirement Study (HRS) to examine how exposure to the implantation of unilateral divorce during young ages affected outcomes later in life by comparing younger and older cohorts across states that implemented the new legislation against states which never implemented it. She found spillover effects of the reform particularly on women exposed to the reform at ages 16-25, who were "more likely to be currently working and view themselves as more likely to work longer" (Mammen, 2008., p. 9). This spillover effect is thought to be driven by the changes in careers, investment in education and work, rather than by the increase on divorces.

In Spain, unilateral divorce was introduced in July of 2005. This new law removed the mandatory separation period between 1 to 5 years required under the previous law. The

reform was unexpected, provided by a terrorist event which changed the electoral results predicted by the pools for the March election 2004. Alonso-Borrego and Pomares Varo (2023) exploited this externality that only affected married women to compare spillover effects on the labour market between them and unmarried women living in cohabitation. Using a DiD approach they estimated the spillover effect of the reform to have increased the labour participation of married women by 7.5%, while the employment rate increased by 6.4%, and the worked hours reduced by 5%. These results were driven by married women with younger children, and with lower educational levels. Contrary to the USA (Stevenson, 2008), Alonso-Borrego and Pomares Varo (2023) did find an effect on the region default marital regime; participation and employment rates increased more in regions with "with the default separate property regime than in provinces with the default community property regime" (pp. 17).

In Egypt women were allowed to file unilateral divorce after a divorce law reform in 2002 called *Khul.* Before that, they could only divorce by fault, a process that could take years. This reform is thought to have changed the bargaining power in favour of the women. The reform affected differently women with younger children, as they would keep the custody and the right to the household house. Corradini and Buccione (2023) found weak evidence of spillover effects of the *Khul* divorce on labour market outcomes, for instance, employed women saw their worked days increased after the reform. However, the authors could not attribute the effect to the divorce reform as they were not able to rule out possible cofounding factors such as the Arab Spring in 2011 (Corradini & Buccione, 2023).

In contrast with the previous research in EU and USA, spillover effects were not found in Mexico (Hoehn-Velasco & Penglase, 2021). Married women did not increase their employment situation following the implementation of unilateral divorce. However, conditionally to being employed, there was a small increase on worked hours of half of an hour. Divergent results in Mexico were understood in line with the cultural context and the strong social norm against female participation in the labour market, in addition to the limited access to formal work arrangements.

Differently from the previous studies, Bargain and colleagues (2012) studied spillover effects of the legalization of divorce in Ireland in 1996, which increased the perceived risk of marital breakdown on married women labour market participation. They found some empirical evidence of a causal link of the increased risk of marital breakdown on married women labour supply. Specifically, they observed a 5-7 percentage points increase in the participation of non-religious married women (treated) compared to religious married women (control) following the legalization of divorce. The increase seemed to reflect an insurance act for women for maintaining options in the labour market in case of divorce (Bargain et al., 2012).

3.5. Alimony modifications and custody law

Divorce law is complemented with the set of regulations that govern the division of property, alimony, and custody. For instance, Germany introduced a reform in 2008 aiming at reducing post-marital solidarity in favour of self-sufficiency post-divorce (Schaubert, 2023). In case of a divorce, spouses would have experienced different level of alimony losses, according to their (pre-reform) marital arrangements. Schaubert (2023) found

spillover effects of the reform as follows: wives in the group that would have loss less due to the alimony reform in case of a divorce, increased their weekly working hours by 2.24 hours after the introduction of the reform. For the wives that would have loss more, the effect was dependent on whether they had assets, in words of the author, "wives who possess marital property seem to be less responsive to the threat of alimony reductions" (Schaubert, 2023, pp., 170). In contrast, husbands did not experience adjustments in working hours due to the reform.

Australia implemented in 2006 the Welfare-to-Work reform with the aim "to reduce welfare dependency and to increase economic participation" (Suziedelyte & Zhu, 2021). One of the changes was the more restrictive eligibility criteria for single parent benefits, specifically for those low-income single parents who separated after the 1 of July 2026. They would only receive the benefits if youngest child was below age 8, compared to those separated before the introduction of the reform who would access the benefit if the youngest children was below age 16. Suziedelyte and Zhu (2021) exploited this discontinuity to assess the spillover effects of the reform on labour market outcomes of mothers. Mothers affected for the reform responded by increasing their earned income (which was significantly higher only in the first year) , by repartnering and increasing family income (persistent increase up to the fifth year after separation), or by accessing to unemployment benefits (16% increase in benefits after the reform) (Suziedelyte & Zhu, 2021).

Changes in the custodial law was also found to have spillover effects on labour market outcomes of married mothers (Altindag et al., 2017; Nguyen et al., 2018). Nguyen and colleagues (2018), for instance, investigated the effect of the introduction of join custody in USA between 1970s to mid-1990 on annual working hours of married couples. They found that living in a state where with join custody positively impacted the annual working hours of married women by about +16 hrs./year, while the effect was negative for husbands by about -20 hrs./year. Additionally, they found similar effects in families with children, particularly if children were born before the reform. They also observed that childless women are not affected or even reduced they annual working hours. Similarly, Altindag and colleagues (2017), found spillover effects of the reform on married mothers time allocated to market activities by 8%, which traduced in 79 hours more per year. Additionally, married fathers reduced their probability to participate in the labour force by 2 pp. Both studies interpret their results in line with the bargaining theory, which possess that the joint custody reform favoured men bargaining power.

3.5.1. Spillover effects on children's life courses

Gruber (2004) analysed the effect of the change in divorce law – that made possible unilateral divorce in some States in the USA – on adult outcomes of youngsters who experienced the change in the divorce law. Having experienced the change in divorce law as a youth had spillover effects on education and labour market life courses. For instance, having been exposed to the unilateral divorce law was associated with 0.6% less years of education for women and 0.7% for men on average, which might be due to their lower likelihood to graduate from High School, and therefore a reduced likelihood of being a college graduate (Gruber, 2004). In regards with labour market outcomes, the author

found that – particularly for women – there is a deterioration in adult income per capita of 3.2% when exposed to the change to unilateral divorce as a youth but concentrated in middle- and high-income families. Moreover, an negative effect on the labour supply was reported for women, whose likelihood of being employed as an adult reduced by 0.48% and earnings fell by 2.3% of the sample means; this effect was not observed for men (Gruber, 2004).

In 1974 Sweden implemented a divorce law reform, which established the unrestricted divorce by eliminated the need of the divorcing spouse to prove long and irreconcilable differences in the marriage before the divorce could be granted (Hertegard, 2024). Nevertheless, spouses with children until age 16 living in the household had to wait a 6-months reconsideration period, an element of the reform that continues until today. Hertegard (2024) used Swedish register data and a difference-in-difference approach to estimate the effect of the exposure to the reform on children's long-term educational and labour market outcomes. He finds spillover effects of the two main elements of the reform, the liberalisation element and the reconsideration element. The spillover effect of the first element decreased children's upper secondary graduation likelihood by 5.6%. However, the reconsideration component of the reform increased the upper secondary school graduation rate by 1.8%. Longer exposure to the reconsideration period also had positive and significant spillover effects on the likelihood of having a university education, higher earnings, and higher probability of employment. These positive spillover effects are more important for sons and for children without a parent with university studies.

Hertegard (2024) stressed that the spillover effects are driven by the parental labour supply of the mothers reducing their hours worked which might indicate more investments in children, which is supported by the stronger correlation between mothers and children educational outcomes following the reform.

Corradini and Buccione(2023) analysed spillover effects from the *Khul* divorce law that allowed women to file unilateral divorce in 2000. The reform affected differently, women with younger children, for instance, women with children younger than 10 could keep the custody and access to the household house, the age was set to 15 later in 2005. The authors compared then the otcomes of children with siblings bellow the age cutoff to those of same age but with siblings older thatn the age cutoff before and after the reform. They found that the reform led to higher children education while lowerling the probability of work among children between 15 and 24 years. School enrolment increased by 5-6 pp which translated in 12% increase in the likelihood of being enrolled, and the changes that child ever worked reduced by 6-8 pp which represented 25% decrease (Corradini & Buccione, 2023). The authors interpreted their results as a the effect of the reform improving the bargain power of women which allowed women to "to allocate more resources to keep older children in school and delay their exit from the parental home" (Corradini & Buccione, 2023. p. 15). Further, it was found that sons, and children of low educated women were the most affected by the reform.

In contrast, Reinhold and colleagues (2013) found negative spillover effects of the adoption of unilateral divorce on educational outcomes in Scandinavian countries. Both studies attribute the spillover effects to the change of the bargaining powers within

married couples (Corradini & Buccione, 2023; Reinhold et al., 2013), in the Egyptian case, 80% of the effect could be attributed to this mechanism.

The above-mentioned Australian Welfare-to-Work reform implemented in 2006, which restricted single parent benefits (mostly mothers), is found to have had spillover effects on children's life courses. Using a regression discontinuity design, Suziedelyte and Zhu (2021), found spillover effects of the reform on young-adults dependency on unemployment benefits up to 5 years after the implementation of the reform. More concretely, children of mothers who separated after the reform have an average unemployment benefits of A$358 lower compared to the children of mothers who separated before the reform (Suziedelyte & Zhu, 2021).

4. Education policies spillovers across the life course

Education plays a crucial role in structuring the lives of individuals. Beginning with compulsory education, this set of policies influences individuals' life course as early as 5 or 6 years old and continues until their early adulthood in the case of post-compulsory education. Therefore, in reviewing the literature on educational policies we make a distinction between compulsory education policies, which govern starting and school-leaving age, as well as the age in which students are sorted into different tracks; and post compulsory education policies influencing the available training after compulsory schools particularly the admission requirements. Most of the research studies the effect of educational policies on educational attainment (Van de Werfhorst & Mijs, 2010). However, when considering the spillover effects of such educational reforms, it is primarily economists who have demonstrated interest in measuring how changes in education affect the returns of education.

4.1. Compulsory education policies

Compulsory education regulates the minimum period of schooling an individuals must have access to. These set of policies are diverse because of the wide range of the life cycle they govern in some countries starting at age 3, although in most countries (OECD countries) it starts between 5-6 and it goes until 14-18 (OECD, 2022). Policies affecting compulsory education regulate the starting- and leaving-school age. They also affect the organization of the curricula, including the number of tracks, the age in which students are separated into tracks, the requisites for each of them, as well as the permeability between them. Beyond the organization of the curricula, these policies also define the requirements of the staff, and the level of decentralization of decision making of schools. Many of the reforms affecting these aspects of the compulsory education took place between the 1960s and 1970s (van de Werfhorst, 2018).

In terms of social inequalities, tracking policies, have received more attention due their believed pivotal role on educational trajectories and subsequent socioeconomic outcomes (Schindler et al., 2023).

In the economic literature, years of education represent investment in human capital, and therefore higher spillover effects on labour market returns are expected for those with higher human capital. Nevertheless, if education is important because of the signalling

effect, an increase in compulsory education might not yield spillover effects, as the one-year increase within the same level of education modifies nothing (Pischke & von Wachter, 2008), underscoring the importance of credentials rather than an additional year in education (Grenet, 2013).

4.1.1. Spillover effects on children's life courses

Previous economic research has assessed the effect of such extensions in compulsory education (Fischer et al., 2020; Grenet, 2013; Oreopoulos, 2006; Pischke & von Wachter, 2008), finding differential spillover effects on individuals' returns. For instance, Oreopoulos (2006) estimated the spillover effect of the reform that increased the school-leaving age in the UK from 14 to 15 years to result in a 10 to 14 percent increase in annual earnings. This effect was slightly of lower magnitude in the USA and Canada. Moreover, he identified spillover effects in other labour market outcomes in all studied countries, such as, reduced likelihood of being in the labour market and looking for a job, and lower likelihood of receiving welfare or being classified as poor. In Germany, however, Pischke and von Wachter (2008), did not find spillover effects of a change in school-leave age, namely, the introduction of a mandatory ninth grade in some German states in the early 1950s. The authors suggested that the contrasting results were given by the difference in skills acquired in early years of education across different schooling systems. In other words, pupils in Germany had learned the relevant skills for the labour market when they graduate from school, in contrast to pupils from the UK and North America, who might have been still learning those skills at ages 14 or 15. Similar results were found in Sweden, where in the late 1930s, compulsory schooling was raised by one year from age 6 to age 7 (Fischer et al., 2020).

These contrasting results were further stressed by Grenet (2013), who compared two reforms in school-leaving age in France in 1967, and in England and Wales in 1972. Using a regression discontinuity design, he analysed the effect of the reform on hourly wages, and found a positive effect in England and Wales, estimated in about 6-7 percentage points, but no effects in France. The contrasting results are understood through the differential effect of the reform on the number of certificates, which increased in England and Wales after the reform, but remained constant in France. The extension of compulsory schooling age in England and Wales led to the development of skills necessary to pass junior school certification among students, thus contributing to improved hourly wages for the affected population (Grenet, 2013). Also in the European context, a reform extending by one year the lower vocational education in 1975 in the Netherlands did not find spillover effects on later hourly wages (Oosterbeek & Webbink, 2007).

However, some studies conducted in Poland and in Finland did find some positive effects of changes in leaving-school age and in increasing the tracking age. For instance, Liwiński (2020) reported that in Poland, there was an spillover effect on hourly wages of around 3.3% increase on average, conditional on having completed the basic vocational track. The effect was larger, about 13-14% for those who actually studied one more year due to the 1999 reform. Using different data, Drucker and colleagues (2022), identified positive spillover effects of the 1999 Polish reform on the probability of employment and on earnings. In the case of Finland, using a different perspective, Pekkarinen and colleagues

(2009), demonstrated that the intergenerational income elasticity reduced by 23% after the implementation of a reform in the 1970s, which pushed the tracking age from 11 to 16 years.

Some studies did find positive spillover effects of the change in school-leaving age in European countries, but only for specific groups. For instance, Meghir and Palme (2005) assessed the effect of a Swedish reform in 1948, which increased the leaving age from 7 to 9 years by implementing a compulsory comprehensive school, on annual earnings. They found positive effects only for the group of pupils from unskilled fathers, who saw their annual earnings increased by 3.4 percent. Surprisingly, they also found a negative effect of -5.6 percent on the earnings of pupils with skilled fathers. The authors posited that such results are given by the change in school composition and the reduced selectivity after the implementation of the reform. In Poland, positive spillover effects were found on wages only for pupils in rural areas but not for those in urban communities (Strawiński & Broniatowska, 2021), and Liwiński (2020) also stressed that the strong effects found are likely due to the focus in the population from low socioeconomic backgrounds.

Most of the research has focused on high-income countries, however in recent years, new studies with preliminary results from middle- and low-income countries are dropping with contrasting results. In Mexico, a change from 12 to 15 years in the school-leaving age in 1993 is not found to have spillover effects on labour market outcomes (Leon-Bravo, 2022). In Egypt, by contrast, a reduction of one year in compulsory school in 1988 from 6 to 5 years, is found to have had negative spillover effects particularly for men born in rural areas with low-educated fathers (Assaad et al., 2023).

Other compulsory education reforms which had spillover effects on labour market outcomes are those that modified the length of the term. Fischer and colleagues (2020), evaluated the effect of a policy change in Sweden, which increased the length of the term from 34.5 to 39 weeks, starting from the late 1930s. The increased in weeks implied one more year of instruction for pupils at the end of primary school. The authors found this change to have strong positive spillover effects on later wages, results that were driven mostly by women.

4.2. Post-compulsory education policies

In the European context, perhaps the most important change was the implementation of the European Higher Education Area after the Bologna declaration in 1999, which modified the organization of tertiary education (Krücken, 2014). With the so-called Bologna process, a two-cycle degree structure was introduced, the 1st university degrees – Bachelor, and the 2nd university degrees –Master. The reform led to modification in the length of some bachelor programmes, in many cases shortening the pre-reform bachelor degrees by one year. The reform led to a compositional change in the higher education students (Kroher et al., 2021), it also changed the composition withing field of studies and affected the composition of VET. Although the reform clearly specified the goal of enhancing graduates employability (Canal Domínguez & Rodríguez Gutiérrez, 2023), it is evident the lack of

research establishing causal links between this structural post-compulsory reform and spillover effects on labour market outcomes (Kroher et al., 2021).[1]

Among the first countries to implement the change in the university system were Italy (2001) and Portugal (2006). For Italy, Bosio and Leonardi (2011), assed the effect of the reform by comparing labour market outcomes of graduates and non-graduates aged 25-34. They found positive spillover effects on the employment probability in all regions, but only for males. A different story occurred for women, for which in southern Italy the reform had negative spillover effects on their employment probability. Further, the authors also provided evidence of a negative effect on the reform, reflected in the higher probability of being employed in temporary contracts, lower wages for those graduating after the reform. For Portugal, Garra (2013) investigated the effect of the reform on the labour market outcomes by comparing results of graduates from programmes affected by the reform, to graduates from programmes unaffected by the reform (i.e. medical programmes, architecture, etc). Garra's MA theses found a positive spillover effect of the reform on wages of about 3%, but only for women.

Contrasting results come from the analysis of the implementation of the reform in Slovenia where Farčnik and Domadenik (2012) found that withing different fields of study, graduates from post-Bologna programs had lower probability of being employed in the three months after graduation than the pre-Bologna graduates.

In Spain, the implementation of the Bologna process meant a reduction of one-year from the 5-year pre-reform degrees to the new 4-year degrees. Canal Domínguez and Rodríguez Gutiérrez (2023) studied the causal link between this change and the labour market outcomes by comparing results of pre- and post-Bologna graduates. They failed to find evidence of any effect of the educational policy on the probability of employment. However, the authors did find evidence of negative spillover effects such as reduced probability of getting a permanent contract and having jobs with lower wags than the pre-Bologna graduates. They also estimated that 64% of the wages differences is due to the reform and only he 36% to individual differences. It seemed that in the Spanish context, shortening degrees by one year was perceived negatively by the labour market. For Russia, Avdeev (2020) did not find spillover effects of the Bologna process on hourly wages neither on the probability of employment. The author suggested that results were driven by the 'irrelevance' of the specific skills that used to be learned in the old 5-year degrees, in the labour market, in contrast with the more general skills learned within the four-year of the new degrees.

More recently, some attempts have been made to measure the spillover effects of the reform across four European countries, namely, Belgium, France, the Netherlands and Germany (Cunico, 2023). Although, taken together there seemed to be positive effects on income after the implementation, this is not the case at the country level. Estimation problems might have rose from the violation of the parallel trend assumption.

[1] While one could question the suitability of categorise labour market effect of the policy as spillover effects given that the policy explicitly aimed at having this effect. In line with our definition, we include this literature as it corresponds to policy changes introduced in one life domain (education) with effects on another life domain (the labour market).

Beyond the big post-compulsory educational reform such as the bologna process, there are also other specific examples of changes in educational policies that had spillover effects on labour market outcomes of individuals. For instance, the students' protests in France in 1968 which resulted in lower thresholds for examinations allowing access to higher education in that year, and change impacted the years of education of middle-class students, and ultimately translated in better wages and occupational attainment (Maurin & McNally, 2008). Another case is the reform of the Dutch university education in 1982, which reduced one-year of university education, and was evaluated to reduce the earnings by 7-11% (Webbink, 2007). Finally, a reform in Finland in the 1990s to transform vocational colleges to polytechnics improved the labour market outcomes (Böckerman et al., 2009).

5. Labour market policies spillovers across the life course

A common taxonomy of labour market policies includes active and passive policies, and employment protection legislation. The former refer to policies aiming to foster employability and to help finding employment (e.g., training). The second aim at providing income protection during unemployment stages (e.g., unemployment benefit). Finally, the employment protection legislation aims at providing protection against fluctuations in the labour market.

Reforms towards these policies usually happen at the same time. In recent years it has been noted a tendency to more deregulation and lower benefits. In this review we focus on the last set of policies, which spillover effects usually encompass changes in active and passive labour market policies.

5.1. Employment protection legislation (EPL)

Employment protection legislation (ELP) refer to the policies intended to provide protection to employees against fluctuations in individuals' income due to loss of job (Skedinger, 2010). In other words, it encloses "a set for norms and procedures that essentially govern hiring and firing practices within a specific labour market" (Barbieri & Cutuli, 2016).

This is achieved by imposing some limits to the employers' ability to dismiss employees and to use temporary contracts. According to Skedinger (2010), a key element of these set of policies is the definition of what is consider an "unfair dismissal" and the consequences for employers of such dismissals. The main areas regulated by this set of policies are: 1) regular – or permanent – employment, 2) fix-term – or temporary – employment, and 3) collective dismissals. For the first area, there are sub-areas related to procedural inconveniences – what must happen in the time between a decision and the dismissal, notice periods and severance payments – the cost of a dismissal, difficulty of the dismissals – what is considered a just dismissal. In regard to the temporary employment, important regulations refer to the use of temporary contracts – from valid reasons to maximum concatenation or time for temporary contracts, and the use of temporary work agencies.

Common institutions influencing these set of policies are trade unions, collective bargain systems, active and passive labour market policies and statutory minimum wages (Skedinger, 2010).

Based on the OECD indicators of employment protection, which measures from 0-6 the stringency of the regulation, one can cluster four groups of somehow similar countries: the Southern Europe, the Nordic countries, Continental Europe and the Anglo-Saxon countries (Skedinger, 2010). Although, it is noted a trend since towards the liberalization of the employment protection regulation in many European countries since 1980s for liberal market economies, and since 1990s for coordinated market economies (Ferragina & Filetti, 2022; Skedinger, 2010), particularly in regards fixed-term employments and targeting youngsters (Gebel & Giesecke, 2016).

Possible spillover effects of these set of policies are likely to affect the family domain. For instance, strict EPL could improve job security influencing family planning in all its facets from entering a partnership, to family formation, family extension and ultimately separation processes. Some argue that the spillover effects might be different between male and female populations due to the different social norm regarding stable full-time employment (Schmitt, 2021). Additionally, spillovers of EPL might be more pronounced on youth population in reproductive ages, given that the liberalization of EPL has been directed towards those ages.

While there is extensive literature on how employment situation affect fertility behaviours (see for instance the research summarised in Table 1 in Schmitt (2021), and a meta-analysis by Alderotti and colleagues (2021)), the research investigating specific policy shocks and its spillover effects is scarce.

5.1.1. Spillover effects on parent's life courses

Few studies that have investigated the spillover effects of changes in the employment protection legislation on fertility in Italy (Cerruti et al., 2023; De Paola et al., 2021; Pieroni et al., 2023; Prifti & Vuri, 2013), Spain (Nieto, 2022), and France (Clark & Lepinteur, 2022).

In 1990, Italy introduced the costs for dismissal to workers on open-ended contracts in small firms. Prifti and Vuri (2013) assessed the possible spillover effect of having strengthened the Employment Protection Legislation on the fertility behavior of women, by comparing women employed in in small firms *versus* women employed in large firms. By using a combination of difference-in-differences and instrumental variable estimators, the authors provided empirical evidence of a positive effect on the propensity to have a child between 0.9 and 2.5 percentage points.

Two other changes in the Labour Protection Legislation in Italy, and introduced in early 2000s were explored by Pieroni and colleagues (2023). The first one eased the use of fixed-term contracts and the second one increased the age threshold and duration for apprenticeship contracts for young workers. Using a propensity score matching in a difference-in-differences framework they were able to provide empirical evidence of spillover effects on women's fertility behaviour. Women affected by the former reform are less likely to have their first child by minus 4 percentage points, and less likely to have any child by 3 percentage points. The second reform reduced women's probability of having

their first child by 4 percentage points, and by 1.5 percentage points their probability of having any child. The authors also find heterogeneous effects related to the partner's type of contract, ranging from a positive when it is permanent one, no effect for having the first child when the contract is temporary, but negative for having more children. Spillover effects on fertility were found to be driven by a combination of increased instability and wage volatility, the reduced probability of getting marriage, and finally, the postponement of family extension (Pieroni et al., 2023).

A later reform in Italy happened 2015, the *'Jobs Act'*, which reduced employment protection but only for employees of larger firms, leaving employees of smaller firms unaffected. This variation is exploited by De Paola and colleagues (2021) to analyse the spillover effects on fertility. Using a difference-in-differences approach they estimated the impact of the reduced employment protection induced by the reform on the propensity to have a child. The authors found a negative effect on fertility by 1.4 percentage points that in the context of low fertility in Italy, translates to a reduction of 38% in fertility. Youngest, singles, and childless women were the most affected by the reform; as well as those with lower levels of education, wages under the media, lower job positions, and in the South (De Paola et al., 2021). Interestingly, women married to employed women are unaffected, but those married to unemployed men are strongly affected by around 4.2 percentage points.

A later study by Cerruti and colleagues (2023), analyses the spillover effects of the Italian *'Job Act'* from 2015, on household formation and fertility intentions of young Italians. Similarly, they relied on a difference-in-difference strategy, although they exploited a different source of variation, namely, the court efficiency across districts which influenced the degree of employment protection. The authors found that in less efficient districts – providing better employment protection – both, household formation and fertility intentions, improved; an increase of one year in the average length of disputes translated in an increase of 3.8 percentage points in the share of youth with positive household formation intentions and an increase of 4 percentage points regarding fertility intentions. Further, the impact of the reform was mainly driven by older youths, graduated from tertiary education, and from the Norden and Central regions characterised by lower youth unemployment rates (Cerruti et al., 2023).

For Spain, Nieto (2022) looked into an intervention in 1997 where employers received subsidies for transforming temporary contracts into permanent ones. The author exploited the variation on subsidies between regions to estimate a causal effect following a difference-in-difference strategy. He found spillover effects on fertility both for female and male employees. For female employees, the Spanish subsidy –averaging 2800 euros– increased their likelihood of having a second child by 3.11% but had no effect on the probability of having a first child. For male employees, both outcomes were positively affected. The probability of entering parenthood increased by 4.34%, while the probability of having a second child increased by 2.7%. The effects on ferlitily were smaller for young, highly educated and those who were not in cohabitation with a partner (Nieto, 2022).

Finally, for France, Clark and Lepinteur (2022) exploited the 1999 reform which raised the layoff taxes in big firms making youngster workers working those large firms more

insecure. The authors then compared the fertility decisions between young employees working in large firms –affected– against those of the employees in smaller firms which remained unaffected. Their difference-in-differences strategy estimated a reduced job security for youngsters in big firms, as a well as a reduced probability of having a new child by 3.7 percentage points, which represented a mean probability of 52% of the mean probability before the reform.

6. Conclusions

From the review is evident that most of the research on spillovers following a causal design originates from economic scholarship

Above, we have reviewed some of the evidence on the spill-over effects across the life domains and across the life-course stages. While finding this evidence has rarely been an explicit aim of research, the number of findings is huge. This suggests that research has inadequately taken into account the multimodality of life courses. This has a major impact on the successful implementation of policies aiming at reducing social inequalities.

It should also be noted that because we assume that calling an effect of one life-domain policy change on another domain a spillover effect requires that these impacts are unanticipated and unintended, we should expect that finding such evidence should become less commonplace if the multimodality is better understood and properly accounted for in research that is exhausted for implementing policies.

Although most of the empirical research is interested in the intended effects of such policies, almost all discuss the possible unintended effects, which offers a first step to theorize and hypothesise the unintended consequences of such policies for other life domains. This apparently tangential part of the papers can be a potential trigger for further research lines.

Funded by
the European Union

References

Aguirre, E. (2019). Do changes in divorce legislation have an impact on divorce rates? The case of unilateral divorce in Mexico. *Latin American Economic Review*, *28*(1), 9. https://doi.org/10.1186/s40503-019-0071-7

Akgunduz, Y. E., & Plantenga, J. (2013). Labour market effects of parental leave in Europe. *Cambridge Journal of Economics*, *37*(4), 845–862. https://doi.org/10.1093/cje/bes052

Alderotti, G., Vignoli, D., Baccini, M., & Matysiak, A. (2021). Employment Instability and Fertility in Europe: A Meta-Analysis. *Demography*, *58*(3), 871–900. https://doi.org/10.1215/00703370-9164737

Alonso-Borrego, C., & Pomares Varo, G. (2023). Breaking the marriage trap: Unilateral divorce and its effects on labor supply of married women. *DE - Working Papers. Economics. WE*. http://hdl.handle.net/10016/37157

Altindag, D. T., Nunley, J., & Seals, A. (2017). Child-custody reform and the division of labor in the household. *Review of Economics of the Household*, *15*(3), 833–856. https://doi.org/10.1007/s11150-015-9282-0

Amato, P. R. (2000). The Consequences of Divorce for Adults and Children. *Journal of Marriage and Family*, *62*(4), 1269–1287. https://doi.org/10.1111/j.1741-3737.2000.01269.x

Amato, P. R., & James, S. (2010). Divorce in Europe and the United States: Commonalities and differences across nations. *Family Science*, *1*(1), 2–13. https://doi.org/10.1080/19424620903381583

Assaad, R., Aydemir, A. B., Dayıoğlu, M., & Kırdar, M. G. (2023). Wage Returns to Human Capital Resulting from an Extra Year of Primary School: Evidence from Egypt. *IZA Discussion Paper Series*.

Avdeev, S. (2020). Zero Returns To Higher Education: Evidence From A Natural Experiment. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.3697338

Baker, M., Gruber, J., & Milligan, K. (2008). Universal Child Care, Maternal Labor Supply, and Family Well-Being. *Journal of Political Economy*, *116*(4), 709–745. https://doi.org/10.1086/591908

Baker, M., Gruber, J., & Milligan, K. (2019). The Long-Run Impacts of a Universal Child Care Program. *American Economic Journal: Economic Policy*, *11*(3), 1–26. https://doi.org/10.1257/pol.20170603

Barbieri, P., & Cutuli, G. (2016). Employment Protection Legislation, Labour Market Dualism, and Inequality in Europe. *European Sociological Review*, *32*(4), 501–516. https://doi.org/10.1093/esr/jcv058

Bargain, O., González, L., Keane, C., & Özcan, B. (2012). Female labor supply and divorce: New evidence from Ireland. *European Economic Review*, *56*(8), 1675–1691. https://doi.org/10.1016/j.euroecorev.2012.08.007

Böckerman, P., Hämäläinen, U., & Uusitalo, R. (2009). Labour market effects of the polytechnic education reform: The Finnish experience. *Economics of Education Review*, *28*(6), 672–681. https://doi.org/10.1016/j.econedurev.2009.02.004

Bosio, G., & Leonardi, M. (2011). The Impact of Bologna Process on the Graduate Labour Market: Demand and Supply. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1872737

Funded by the European Union

Brunello, G., Fort, M., Schneeweis, N., & Winter-Ebmer, R. (2016). The Causal Effect of Education on Health: What is the Role of Health Behaviors? *Health Economics*, *25*(3), 314–336. https://doi.org/10.1002/hec.3141

Bünning, M. (2015). What Happens after the 'Daddy Months'? Fathers' Involvement in Paid Work, Childcare, and Housework after Taking Parental Leave in Germany. *European Sociological Review*, *31*(6), 738–748. https://doi.org/10.1093/esr/jcv072

Canal Domínguez, J. F., & Rodríguez Gutiérrez, C. (2023). Bologna Process and Its Impact on Spanish Graduates Employability: Good News Yet to Come. *Higher Education Policy*, *36*(3), 556–577. https://doi.org/10.1057/s41307-022-00274-0

Carneiro, P., Løken, K. V., & Salvanes, K. G. (2010). A Flying Start? Long Term Consequences of Maternal Time Investments in Children During Their First Year of Life. *IZA Discussion Paper*, *5362*.

Castro-García, C., & Pazos-Moran, M. (2016). Parental Leave Policy and Gender Equality in Europe. *Feminist Economics*, *22*(3), 51–73. https://doi.org/10.1080/13545701.2015.1082033

Cerruti, G., Mazzarella, G., & Migliavacca, M. (2023). Employment protection legislation and household formation: Evidence from Italy. *Review of Economics of the Household*, *21*(3), 913–939. https://doi.org/10.1007/s11150-022-09626-6

Clark, A. E., & Lepinteur, A. (2022). A Natural Experiment on Job Insecurity and Fertility in France. *The Review of Economics and Statistics*, *104*(2), 386–398. https://doi.org/10.1162/rest_a_00964

Corradini, V., & Buccione, G. (2023). Unilateral divorce rights, domestic violence and women's agency: Evidence from the Egyptian Khul reform. *Journal of Development Economics*, *160*, 102947. https://doi.org/10.1016/j.jdeveco.2022.102947

Cunico, M. (2023). *Higher Education and Earnings in European Countries: A Difference-in-Differences Estimation of the Bologna Process Effect* [MA Thesis, Liège Univiversité]. http://hdl.handle.net/2268.2/18768

Datta Gupta, N., Smith, N., & Verner, M. (2008). PERSPECTIVE ARTICLE: The impact of Nordic countries' family friendly policies on employment, wages, and children. *Review of Economics of the Household*, *6*(1), 65–89. https://doi.org/10.1007/s11150-007-9023-0

De Paola, M., Nisticò, R., & Scoppa, V. (2021). Employment protection and fertility decisions: The unintended consequences of the Italian Jobs Act. *Economic Policy*, *36*(108), 735–773. https://doi.org/10.1093/epolic/eiab015

Drucker, L. F., Horn, D., & Jakubowski, M. (2022). The labour market effects of the polish educational reform of 1999. *Journal for Labour Market Research*, *56*(1), 13. https://doi.org/10.1186/s12651-022-00317-4

Dustmann, C., & Schönberg, U. (2008). The Effect of Expansions in Maternity Leave Coverage on Children's Long-Term Outcomes. *IZA Discussion Paper*, *3605*.

Ekberg, J., Eriksson, R., & Friebel, G. (2013). Parental leave—A policy evaluation of the Swedish "Daddy-Month" reform. *Journal of Public Economics*, *97*, 131–143. https://doi.org/10.1016/j.jpubeco.2012.09.001

Evertsson, M., & Duvander, A.-Z. (2011). Parental Leave--Possibility or Trap? Does Family Leave Length Effect Swedish Women's Labour Market Opportunities?

European Sociological Review, *27*(4), 435–450. https://doi.org/10.1093/esr/jcq018

Farčnik, D., & Domadenik, P. (2012). Has the Bologna reform enhanced the employability of graduates? Early evidence from Slovenia. *International Journal of Manpower*, *33*(1), 51–75. https://doi.org/10.1108/01437721211212529

Felfe, C., Nollenberger, N., & Rodríguez-Planas, N. (2015). Can't buy mommy's love? Universal childcare and children's long-term cognitive development. *Journal of Population Economics*, *28*(2), 393–422. https://doi.org/10.1007/s00148-014-0532-x

Ferragina, E. (2019). Does Family Policy Influence Women's Employment?: Reviewing the Evidence in the Field. *Political Studies Review*, *17*(1), 65–80. https://doi.org/10.1177/1478929917736438

Ferragina, E., & Filetti, F. D. (2022). Labour market protection across space and time: A revised typology and a taxonomy of countries' trajectories of change. *Journal of European Social Policy*, *32*(2), 148–165. https://doi.org/10.1177/09589287211056222

Fischer, M., Karlsson, M., Nilsson, T., & Schwarz, N. (2020). The Long-Term Effects of Long Terms – Compulsory Schooling Reforms in Sweden. *Journal of the European Economic Association*, *18*(6), 2776–2823. https://doi.org/10.1093/jeea/jvz071

Garra, J. (2013). *The impact of Bologna Process in the portuguese labour market* [MA Thesis, Instituto Superior de Economia e Gestão]. http://hdl.handle.net/10400.5/6187

Garrouste, Christelle. (2010). *100 years of educational reforms in Europe: A contextual database*. Publications Office of the European Union. https://data.europa.eu/doi/10.2788/58057

Gebel, M., & Giesecke, J. (2016). Does Deregulation Help? The Impact of Employment Protection Reforms on Youths' Unemployment and Temporary Employment Risks in Europe. *European Sociological Review*, *32*(4), 486–500. https://doi.org/10.1093/esr/jcw022

González, L., & Viitanen, T. K. (2009). The effect of divorce laws on divorce rates in Europe. *European Economic Review*, *53*(2), 127–138. https://doi.org/10.1016/j.euroecorev.2008.05.005

Grenet, J. (2013). Is Extending Compulsory Schooling Alone Enough to Raise Earnings? Evidence from French and British Compulsory Schooling Laws*. *The Scandinavian Journal of Economics*, *115*(1), 176–210. https://doi.org/10.1111/j.1467-9442.2012.01739.x

Gruber, J. (2004). Is Making Divorce Easier Bad for Children? The Long-Run Implications of Unilateral Divorce. *Journal of Labor Economics*, *22*(4), 799–833.

Havnes, T., & Mogstad, M. (2011). No Child Left Behind: Subsidized Child Care and Children's Long-Run Outcomes. *American Economic Journal: Economic Policy*, *3*(2), 97–129. https://doi.org/10.1257/pol.3.2.97

Havnes, T., & Mogstad, M. (2015). Is universal child care leveling the playing field? *Journal of Public Economics*, *127*, 100–114. https://doi.org/10.1016/j.jpubeco.2014.04.007

Hener, T. (2016). Unconditional Child Benefits, Mothers' Labor Supply, and Family Well-Being: Evidence from a Policy Reform. *CESifo Economic Studies*, *62*(4), 624–649. https://doi.org/10.1093/cesifo/ifw007

Herbst, C. M. (2017). Universal Child Care, Maternal Employment, and Children's Long-Run Outcomes: Evidence from the US Lanham Act of 1940. *Journal of Labor Economics*, *35*(2), 519–564.

Hertegard, E. (2024). *Divorce law reform, family stability, and children's long-term outcomes*.

Hoehn-Velasco, L., & Penglase, J. (2021). Does unilateral divorce impact women's labor supply? Evidence from Mexico. *Journal of Economic Behavior & Organization*, *187*, 315–347. https://doi.org/10.1016/j.jebo.2021.04.028

Joseph, O., Pailhé, A., Recotillet, I., & Solaz, A. (2013). The economic impact of taking short parental leave: Evaluation of a French reform. *Labour Economics*, *25*, 63–75. https://doi.org/10.1016/j.labeco.2013.04.012

Koebel, K., & Schirle, T. (2016). The Differential Impact of Universal Child Benefits on the Labour Supply of Married and Single Mothers. *Canadian Public Policy*, *42*(1), 49–64. https://doi.org/10.3138/cpp.2015-049

Kroher, M., Leuze, K., Thomsen, S. L., & Trunzer, J. (2021). Did the 'Bologna Process' Achieve its Goals? 20 Years of Empirical Evidence on Student Enrolment, Study Success and Labour Market Outcomes. *IZA Discussion Paper Series*, *14757*. https://doi.org/10.2139/ssrn.4114283

Krücken, G. (2014). Higher education reforms and unintended consequences: A research agenda. *Studies in Higher Education*, *39*(8), 1439–1450. https://doi.org/10.1080/03075079.2014.949539

Lancker, W. V., Ghysels, J., & Cantillon, B. (2012). An international comparison of the impact of child benefits on poverty outcomes for single mothers. *Working Paper CSB*, *12*(03).

Leon-Bravo, E. (2022). Does Compulsory Schooling Impact Labour Market Outcomes? Evidence from the 1993 Educational Reform in Mexico. *Westminster Business School Working Paper Series*, *002*. https://www.westminster.ac.uk/sites/default/public-files/general-documents/does-compulsory-schooling-impact-labour-market-outcomes-working-paper.pdf

Liu, Q., & Skans, O. N. (2009). The Duration of Paid Parental Leave and Children's Scholastic Performance. *IZA Discussion Paper*, *4244*.

Liwiński, J. (2020). The Impact of Compulsory Schooling on Hourly Wage: Evidence From the 1999 Education Reform in Poland. *Evaluation Review*, *44*(5–6), 437–470. https://doi.org/10.1177/0193841X20987104

Mammen, K. (2008). The Long-Term Effects of the Divorce Revolution: Health, Wealth, and Labor Supply. *SSRN Electronic Journal*. https://doi.org/10.2139/ssrn.1361753

Maurin, E., & McNally, S. (2008). Vive la Révolution! Long-Term Educational Returns of 1968 to the Angry Students. *Journal of Labor Economics*, *26*(1), 1–33. https://doi.org/10.1086/522071

Meghir, C., & Palme, M. (2005). Educational Reform, Ability, and Family Background. *THE AMERICAN ECONOMIC REVIEW*, *95*(1), 414–424.

Mensch, B. S., Chuang, E. K., Melnikas, A. J., & Psaki, S. R. (2019). Evidence for causal links between education and maternal and child health: Systematic review. *Tropical Medicine & International Health*, *24*(5), 504–522. https://doi.org/10.1111/tmi.13218

Neyer, G. R. (2003). *Family policies and low fertility in Western Europe* (WP-2003-021; 0 ed., p. WP-2003-021). Max Planck Institute for Demographic Research. https://doi.org/10.4054/MPIDR-WP-2003-021

Nguyen, D. K., Tran Thi Van, A., & Phan, T. (2018). Child Custody and Family Labour Supply: Evidence from the United States. *LABOUR*, *32*(1), 74–92. https://doi.org/10.1111/labr.12113

Nieto, A. (2022). Can subsidies to permanent employment change fertility decisions? *Labour Economics*, *78*, 102219. https://doi.org/10.1016/j.labeco.2022.102219

Nollenberger, N., & Rodríguez-Planas, N. (2015). Full-time universal childcare in a context of low maternal employment: Quasi-experimental evidence from Spain. *Labour Economics*, *36*, 124–136. https://doi.org/10.1016/j.labeco.2015.02.008

Oosterbeek, H., & Webbink, D. (2007). Wage effects of an extra year of basic vocational education. *Economics of Education Review*, *26*(4), 408–419. https://doi.org/10.1016/j.econedurev.2006.07.013

Oreopoulos, P. (2006). Estimating Average and Local Average Treatment Effects of Education when Compulsory Schooling Laws Really Matter. *American Economic Review*, *96*(1), 152–175. https://doi.org/10.1257/000282806776157641

Pekkarinen, T., Uusitalo, R., & Kerr, S. (2009). School tracking and intergenerational income mobility: Evidence from the Finnish comprehensive school reform. *Journal of Public Economics*, *93*(7–8), 965–973. https://doi.org/10.1016/j.jpubeco.2009.04.006

Pieroni, L., d'Agostino, G., Lanari, D., & Scarlato, M. (2023). Temporary employment and fertility in Italy: The effect of two labor market reforms in the early 2000s. *Economic Modelling*, *124*, 106298. https://doi.org/10.1016/j.econmod.2023.106298

Pischke, J.-S., & von Wachter, T. (2008). ZERO RETURNS TO COMPULSORY SCHOOLING IN GERMANY: EVIDENCE AND INTERPRETATION. *THE REVIEW OF ECONOMICS AND STATISTICS*, *90*(3), 592–598.

Prifti, E., & Vuri, D. (2013). Employment protection and fertility: Evidence from the 1990 Italian reform. *Labour Economics*, *23*, 77–88. https://doi.org/10.1016/j.labeco.2013.04.003

Rasmussen, A. W. (2010). Increasing the length of parents' birth-related leave: The effect on children's long-term educational outcomes. *Labour Economics*, *17*(1), 91–100. https://doi.org/10.1016/j.labeco.2009.07.007

Reinhold, S., Kneip, T., & Bauer, G. (2013). The long run consequences of unilateral divorce laws on children—Evidence from SHARELIFE. *Journal of Population Economics*, *26*(3), 1035–1056. https://doi.org/10.1007/s00148-012-0435-7

Ruhm, C., & Waldfogel, J. (2011). Long-Term Effects of Early Childhood Care and Education. *IZA Discussion Paper*, *6149*.

Schaubert, M. (2023). Do Alimony Regulations Matter Inside Marriage? Evidence from the 2008 Reform of the German Maintenance Law. *Journal of Labor Research*, *44*(1–2), 145–178. https://doi.org/10.1007/s12122-022-09340-3

Schindler, S., Bar-Haim, E., Barone, C., Fels Birkelund, J., Boliver, V., Capsada-Munsech, Q., Erola, J., Facchini, M., Feniger, Y., Heiskala, L., Herbaut, E., Ichou, M., Karlson, K. B., Kleinert, C., Reimer, D., Traini, C., Triventi, M., & Vallet, L.-A. (2023). Educational tracking and social inequalities in long-term labor market

outcomes: Six countries in comparison. *International Journal of Comparative Sociology*, 00207152231151390. https://doi.org/10.1177/00207152231151390

Schmitt, C. (2021). The impact of economic uncertainty, precarious employment, and risk attitudes on the transition to parenthood. *Advances in Life Course Research*, *47*, 100402. https://doi.org/10.1016/j.alcr.2021.100402

Schmutz, R. (2024). Is universal early childhood education and care an equalizer? A systematic review and meta-analysis of evidence. *Research in Social Stratification and Mobility*, *89*, 100859. https://doi.org/10.1016/j.rssm.2023.100859

Skedinger, P. (2010). *Employment protection legislation: Evolution, effects, winners and losers*. Edward Elgar.

Stevenson, B. (2008). Divorce Law and Women's Labor Supply. *Journal of Empirical Legal Studies*, *5*(4), 853–873. https://doi.org/10.1111/j.1740-1461.2008.00143.x

Strawiński, P., & Broniatowska, P. (2021). The impact of prolonging compulsory general education on the labour market. *Educational Studies*, 1–21. https://doi.org/10.1080/03055698.2021.1957670

Suziedelyte, A., & Zhu, A. (2021). The intergenerational impact of reduced generosity in the social safety net. *Journal of Economic Behavior & Organization*, *192*, 1–24. https://doi.org/10.1016/j.jebo.2021.09.034

Thévenon, O., & Solaz, A. (2013). *Labour Market Effects of Parental Leave Policies in OECD Countries* (141; OECD Social, Employment and Migration Working Papers). OECD Publishing. https://www.oecd-ilibrary.org/social-issues-migration-health/labour-market-effects-of-parental-leave-policies-in-oecd-countries_5k8xb6hw1wjf-en

van de Werfhorst, H. G. (2018). Early tracking and socioeconomic inequality in academic achievement: Studying reforms in nine countries. *Research in Social Stratification and Mobility*, *58*(September), 22–32. https://doi.org/10.1016/j.rssm.2018.09.002

Van de Werfhorst, H. G., & Mijs, J. J. B. (2010). Achievement Inequality and the Institutional Structure of Educational Systems: A Comparative Perspective. *Annual Review of Sociology*, *36*(1), 407–428. https://doi.org/10.1146/annurev.soc.012809.102538

Van Huizen, T., & Plantenga, J. (2018). Do children benefit from universal early childhood education and care? A meta-analysis of evidence from natural experiments. *Economics of Education Review*, *66*, 206–222. https://doi.org/10.1016/j.econedurev.2018.08.001

Van Winkle, Z. (2020). Family policies and family life course complexity across 20th-century Europe. *Journal of European Social Policy*, *30*(3), 320–338. https://doi.org/10.1177/0958928719880508

Waldfogel, J. (2002). Child care, women's employment, and child outcomes. *Journal of Population Economics*, *15*(3), 527–548. https://doi.org/10.1007/s001480100072

Webbink, D. (2007). Returns to University Education: Evidence from a Dutch Institutional Reform. *Economica*, *74*(293), 113–134. https://doi.org/10.1111/j.1468-0335.2006.00534.x

Wolfers, J. (2006). Did Unilateral Divorce Laws Raise Divorce Rates? A Reconciliation and New Results. *THE AMERICAN ECONOMIC REVIEW*, *96*(5).

Zhou, Y. (2018). The Effects of Divorce Laws on Labor Supply: A Reconsideration and New Results. *Economics Bulletin*. https://ssrn.com/abstract=3256095

Funded by
the European Union