The London School of Economics and Political Science

The limits of economic convergence in the EU: the interplay between family values and economic incentives in shaping individual behaviour in social care

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Abstract

While there is an abundant literature on the moderating effects of formal institutions on changes in economic incentives, there is still little understanding on whether informal institutions – such as beliefs, values and social norms - exert a similar effect. In the current European context, with increasing demands to reform the welfare systems, the question becomes all the more relevant. With this in mind, and focusing on social norms about the role of the family, this thesis aims to provide insights into the following question: are the effects of family values on individual behaviour resilient to changes in economic incentives? Using EU survey micro data the thesis analyses the interplay between the effects of family values and changes in economic incentives in shaping individual behaviour in social care. The results suggest that the effects of family values remain resilient to changes in economic incentives. The first paper confirms that, in line with the existing literature, family values affect individual behaviour. Most importantly, however, it shows that this effect can be overridden by certain individual socio-economic characteristics. The second paper focuses on the strength of the effects, showing that the effect of family values on individual behaviour is strongest when economic incentives are changed in ways that do not directly challenge prevailing family values. Finally, the third paper demonstrates that the effect of family values on individual behaviour is resilient to a policy reform that conflicts with them. The extent of the resilience depends on the socio-demographic characteristics of the individuals. These results have direct implications in the EU context, suggesting that convergence of economic outcomes might be difficult to achieve given that the impact of common problems and policies differ depending on the prevailing family values. At the very least, these differences should be taken into account when designing EU-wide policies.

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Note on the structure of the thesis

This thesis conforms to the requirements of a doctoral thesis from the London School of Economics and Political Science. Guidelines state a minimum of three papers of publishable standard – in addition to introduction and conclusion chapters – not exceeding 100,000 words. Accordingly, this thesis presents an introduction chapter which gives the overview, motivation and objectives, conceptual framework research question and relevant background as well as a presentation of data and methodology used. Chapters 2, 3 and 4 are presented in the style of journal articles and form the main body of the thesis. One of these chapters (chapter 4) has been published as a CESifo working paper (working paper 5185) and at the LEQS Discussion Paper Series (No. 96). Chapter 5 brings together the main findings and present policy recommendations, future avenues for research and limitations.

Chapter 1 Introduction

European economic integration has been regarded by many as the tool to achieve the lasting goals in Europe: stability and peace. On these grounds the economies of Europe have gradually become intertwined, underpinned by the existence of common problems and shared solutions. What started as the European Coal and Steel Community developed towards the Single Market and was followed, some years later, by the Single Currency. This transfer of political and economic power to the supranational level has gradually been coupled with EU regulations and the encouragement of 'best practices' in national fiscal, economic and social policies. This trend has brought some scholars to label the EU as a "massive transfer platform" (Radaelli, 2000:26), with knowledge about policies, institutions and ideas being spread across different societies.

As useful as policy transfers are as learning tools, it is not always the case that they succeed; that is, they do not necessarily ensure convergence in outcomes across societies. Similarly, common problems do not always lead to the same consequences everywhere. More generally, changes in economic incentives, be they policy changes or changes caused by a problem, may have very different effects on behaviour depending on the context. This thesis is motivated by this idea and is concerned with one factor that can potentially cause heterogeneity of behaviour after a change in economic incentives takes place: social norms.

Mary Burke and Peyton Young (2011) define social norms as a "standard, customary, or ideal form of behaviour to which individuals in a social group try to conform" (p.313). Drawing on the literature on social economics, this thesis takes the effects of social norms on individual behaviour as a starting point and focuses on the resilience of such effects in the light of a change in economic incentives. The question to be answered therefore is: are the effects of social norms on individual behaviour resilient to changes in economic incentives?

The thesis narrows down the focus of research in three ways. First, it studies individual behaviour and preferences in different policy contexts, namely elderly care, parental support to adult children and parental leave. Second, it analyses three types of economic incentives: individual level of education, a change in employment status and a parental leave policy reform. Third, the social norms studied are those related to the family, namely family values. This concept is defined according to the strength and resilience of family loyalties, allegiances and authority within a society (Reher, 1998).

Following this focus, the thesis comprises three empirical chapters or papers. The first paper is an examination of the resilience of the effect of family values on individual

behaviour for individuals facing different economic incentives. More specifically, the paper uses individual European data to analyse whether the effect of family values on individual preferences for elderly care is resilient to different education levels. The findings suggest that family values affect preferences for elderly care, with individuals living in more traditional environments having a higher probability of preferring informal care than their counterparts in more liberal environments. Such an effect, however, only prevails for lower education groups. In contrast, for the rest the effect of educational attainment is strong enough to override the family values effect.

The second paper analyses the resilience of the effect of family values on individual behaviour when faced with a change in economic incentives which a priori does not challenge family values. For this purpose it uses European data to examine the impact of family values on parental support given to adult children when the latter suffer an adverse change in employment status. The results suggest that such a change reinforces the effects of the family values in place, with individuals in more traditional societies having an increased probability of giving help more than their counterparts living in more liberal societies.

Finally, the third paper examines the resilience of the effect of family values on individual behaviour when a policy reform challenging traditional values is put in place. More specifically, the chapter focuses on the effects of a parental leave policy reform in Germany in 2007 on the pace of returning to work following childbirth for mothers with different family values backgrounds. The results show that the policy reform partially overrides the effects of family values on individual behaviour. The probability of a fast return to work increases more for mothers with a traditional family background than for their counterparts with a liberal family background, therefore pointing towards convergence on the pace of return to work after childbirth. Nevertheless, the magnitude of the convergence is dependent on the education levels of the mother, with mothers with vocational education exhibiting the highest level of convergence.

Taken together these results point towards an existing but limited resilience of the effect of family values on individual behaviour in the face of changes in economic incentives. They show that first, family values affect economic behaviour, although the effect is subject to individual socio-economic characteristics. This suggests that whenever family values are in conflict with individual socio-economic characteristics, the latter may have enough power to override the effect of the former. Second, the effect of family values on individual behaviour is exacerbated when changes in economic incentives that do not present a direct challenge to prevailing family values take place. And third, the effect of family values on individual behaviour is only partially resilient to a policy reform that conflicts with them.

The extent of the resilience depends on the socio-demographic characteristics of the individuals.

The policy implications of these results are manifold and highlighted in the conclusion of the thesis. For now it is sufficient to state that there are direct implications for the EU policy transfer agenda. The results suggest that policies implemented with no regard for the family values of the society in question may first fall short of achieving the expected results and, second and more importantly, may exacerbate differences in economic behaviour within societies, with certain individuals barely reacting to the policy in question.

1. Motivation and objectives

Since its onset the European Union has been involved in a process of construction, diffusion and institutionalisation of rules, policy paradigms and styles, which are referred to as 'Europeanisation' (Featherstone & Radaelli, 2003:30). This process has been particularly active in the realm of public policy, where the logic of the single market has emphasised harmonisation and standardisation (Stone, 1999). However, the Europeanisation process does not always result in a change in the status quo. At least four outcomes can emerge (Featherstone & Radaelli, 2003): inertia or a lack of change, retrenchment – that is, a negative reaction to the process of Europeanization which leads to opposition to reform, absorption and transformation. Whereas the line between absorption and transformation remains rather blurred, the former is understood as a 'thinner' form of learning or copying strategies whereas the latter would entail thinking differently, suggesting a modification of the belief systems, preferences and values (ibid).

Whenever absorption or transformation take place, the process of Europeanisation can be understood as having resulted in policy transfer[2]; that is, 'knowledge about policies, administrative arrangements, institutions etc. in one time and/or place [which] is used in the development of policies, administrative arrangements and institutions in another time and/or place' (D. Dolowitz & Marsh, 1996). This transfer, however, can be unsuccessful. That is, it may not result in the achievement of the aims set by the government when it engaged in the action of transfer (D. P. Dolowitz & Marsh, 2000); or in other words, it may not result in economic convergence. Dolowitz and Marsh (2000) suggest three reasons for the lack of convergence. First, the policy transfer might be uninformed; that is, the recipient country may not have had all of the necessary information available. Second, crucial

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[2] The literature on policy transfer overlaps with that of policy diffusion (Braun & Gilardi, 2006; Simmons & Elkins, 2004), lesson-drawing (Rose, 1991) and policy convergence (Bennett, 1991; Knill, 2005). The thesis is not over-concerned with the differences amongst them because, as Dolowitz and Marsh argue, 'all of these studies are concerned with a similar process' (2000). For a short review of the different terms, see Stone (1999).

elements of the policy may not have been transferred, which results in an incomplete transfer. Finally, differing economic, social, political and ideological contexts may have rendered the transfer inappropriate.

1.1. Economic convergence and institutional constraints

This thesis is motivated by the existing limits of convergence in economic outcomes in the EU, and in particular, by the idea that differing contexts may be at fault. Admittedly, EU countries are many times afflicted by the same problems. As Rose suggests ''problems that are unique to one country (…) are abnormal. The concerns for which ordinary people turn to government – education, social security, and health care, safety on the streets, a clean environment and a buoyant economy – are common on many continents'. Nonetheless, such problems may result in asymmetric consequences depending on the societal context. As a result, engaging in policy transfers with the idea to solve similar problems may not lead to economic convergence.

With this in mind, the thesis aims at understanding the extent to which different social contexts can limit the effects of changes in economic incentives, which are rooted either in common problems or policy changes. The 'social context' chosen is of an institutional nature; that is, the thesis is interested on the 'filtering' effects of institutional constraints on changes in economic incentives. Institutions are, according to North (1990) 'humanly devised constraints that structure political, economic and social interaction'. He argues institutions 'consist of both informal constraints (sanctions, taboos, customs, traditions, and codes of conduct), and formal rules (constitutions, laws, property rights).

Note that there is nothing in this definition that prevents policies being classified as one type of formal institution: they are clearly constraints or enablers to our actions and they structure political, economic and social interaction. And yet, taking a look at how the literature has empirically used the concept of institutions suggests that the latter are more encompassing than policies. Some authors talk about market institutions and legal institutions as being core for firms in liberal market economies (Hall & Soskice, 2001). Others use the concept of 'firm-level institutions' (R. B. Freeman, 2000) to refer to the organisation and policies of firms, and the OECD mentions policies that have become *institutionalised* and are therefore hard to change (Cerna, 2013). This thesis therefore differentiates between policies and institutions, seeing the latter as much more encompassing and as a contextual factor that may constrain or enable policy changes. In a way it could be argued that institutions are a broad set of policies and laws concerning one particular area.

Formal institutions as constraints for convergence

Since the economic crisis 'one-size-fits-all' reforms concerning labour market and welfare have been widely branded as the remedies for the laggard Southern European countries. This view, however, is not uncontroversial and has encountered strong opposition, especially from institutionalist scholars. As the literature review below will document, it is now widely accepted that formal institutions affect economic outcomes. Moreover, these institutions are known for being persistent and difficult to change (North 1990, Acemoglu, Johnson and Robinson 2005). Therefore, a change in economic incentives can clash with the existing institutions of the country, (Rodrik 2007) leading to different outcomes. This is to say, the effects of formal institutions on outcomes are likely to be resilient to changes in economic incentives.

Informal institutions as constraints for convergence: the missing link

While the 'filtering' effects of formal institutions on changes in economic incentives has been extensively analysed, the 'filtering' effect of informal institutions has been understudied. This is therefore the focus of the thesis. The overarching objective is to understand whether the effects of informal institutions on economic outcomes are resilient to changes in economic incentives. To this end, it develops a conceptual framework in which the research question is put into the wider context of institutional constraints, identifying the gap in the literature. It then analyses how different changes in economic incentives affects the resilience of the effects of informal institutions on economic outcomes.

First, however, a literature review on the relationship between informal institutions, formal institutions and economic outcomes will describe the state of the art, hopefully providing the basis and rationale for the conceptual framework and the research question. In the following section I therefore proceed to review the literature on the relationship between a) formal institutions and economic outcomes; b) formal institutions and policy transfers, c) informal institutions and their link with both formal institutions and economic outcomes.

2. A literature review on institutional economics

2.1. Formal institutions and economic outcomes

Before new institutionalism came to the fore, neoclassical economics predicted a convergence of economic outcomes, based on the following assumptions: scarcity and competition, no information costs and well-defined property rights, rational actors and a Darwinian idea that only those who behave rationally will survive competition (North, 1990). Even if transaction costs were to occur, resulting in 'incorrect' choices, in the long run they would disappear thanks to information feedback processes (ibid).

But convergence never came. Needless to say there has been some convergence but there are still wide differences in terms of the economic, political and social outcomes across societies. And institutions, argues North (1990), are key to understanding the lack of convergence. In a nutshell, his argument is that first, although neoclassical economics was right in the scarcity and competition assumption, it failed in its understanding of transactions costs, and more specifically, in assuming complete information and perfect information feedback. Information is rarely complete and information feedbacks are usually insufficient. And when it is costly to transact, institutions matter (North, 1990). Second, such institutions are not necessarily efficient as, given that they are often created to serve certain interests and those in power, they can be highly persistent, with changes being path-dependent on the previous institutional framework.

Acemoglu, Johnson and Robinson (2005) further developed the argument by focusing on the root cause of institutional differences across countries. They argue that at a time t political institutions determine the *de jure* political power, and at the same time, the current distribution of resources determines the *de facto* political power. These two together then affect the choice of economic institutions, which in turn impacts on economic performance as well as the distribution of resources at time $t+1$. This not only explains the process by which economic institutions are chosen, but also increases the understanding of the existence of persistent inefficient institutions.

In sum, it seems clear that 'we are all institutionalists now' (Pierson and Skocpol 2002:706) and that institutions are established as active and relevant shapers of economic outcomes, be it for better or for worse.

2.2. Formal institutions and changes in economic incentives

Given that formal institutions exert an influence on economic outcomes, it is plausible to think that any change in economic incentives will be filtered by these institutions, giving rise to different outcomes. This idea is well captured in Rodrik's book (2007) '*One*

economics. Many recipes'. Markets need support from non-market institutions, and that was visible in the failure of the policy reforms in various countries that had not taken the inadequacy of institutions into account. By way of example, Russia's reforms focused on price reform and privatisation ignoring the absence of adequate legal and political institutions (Rodrik, 2007:154). As a result, Rodrik argues that appropriate growth policies must be context specific (p.4).

The problem of institutional inefficiency is coupled with a problem of institutional persistence. Inefficient institutions do not necessarily disappear with time, as the neoclassical school would assume (North, 1990). This is a well-understood phenomenon that is covered by and large by new institutionalists, who argue that it might be related to informational problems (North, 1990) that tend to be frequent during the decision-making processes affecting public policy decisions. Moreover, individuals also have different constructs of reality and rulers will sometimes be focused on maximising their own interests and not the interests of the society (Daron Acemoglu et al., 2005). These variables together with the increasing returns of existing institutions deepen the path dependence of institutional settings and therefore explain the persistence of inefficient institutions.

Given these filtering and persisting effects of formal institutions on changes in economic incentives, some policy-makers and scholars advocate a complete overhaul of the institutional setting of the country or society in question via 'structural reforms'. Underpinning these actions is the belief that 'there is a single peak of superior performance that is close to the market' (Blanchard, Bean, & Munchau, 2006:7) and differences in economic behaviour and performance across countries are explained by the existence of inefficient institutions which consistently deviate from best-practices (see for example Baccaro & Rei, 2007). As a consequence, it is often the case that institutional upgrade demanded is based on the *Ideal Economic Model* of the moment (R. B. Freeman, 2000), that is, a 'distinct set of institutions and organizations that has maximal fitness in the period's economic environment' (p.2). Rodrik makes the same point when suggesting that the 'neo-liberal' social-economic model is the preferred model for international financial institutions (2007). Two immediate questions arise. First, is this bias towards one single set of institutions justified? And second, does it lead to the expected outcomes?

In regards to the first question, comparative political economists and scientists suggest that the 'one-size-fits-all' approach misses the point that there might exist at least two different types of institutional settings corresponding to equally efficient labour market performance (R. Freeman & Schettkat, 2001; Scharpf & Schmidt, 2000). This is the view held by Peter A. Hall and David Soskice (2001). In his book on Varieties of Capitalism (VoC) they ask why there exist acute institutional differences across countries. Their answer

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revolves around firms as organisations and their relational view with other actors. They demonstrate that there are tight links between the strategies of firms at a micro-level and the comparative institutional advantages of national economies at a macro level. Theirs is therefore a theory that manages to understand institutional differences by linking the macro and the micro levels.

The firm, in its relational role with other actors, necessarily encounters problems of coordination: it must coordinate wages and labour with the workers, it needs to secure a labour force with suitable skills, it needs to finance its activities, it requires smooth coordination with other firms and it benefits from employees who cooperate with each other. The solution to the coordination problems in these five spheres – industrial relations, vocational training and education, corporate governance, inter-firm relations and employee relations - is closely linked to the type of political economy in the country (Hall & Soskice, 2001).

The authors categorise political economies into two groups (ibid): liberal market economies (LME) and coordinated market economies (CME). In the former, firms coordinate at arm's length, and therefore, the principal institutions that foster coordination are market institutions and the legal system. Conversely, in CMEs, firms depend more on non-market coordination, and as such, the principal institutions fostering coordination will be employers' associations, trade unions, networks of cross-shareholding and the like. As stated in the previous section, complementarities exist between the five spheres and therefore, an institutional change in one sphere can increase coordination problems. More important in this discussion, however, is the fact that these two types of political economies can be equally efficient given these complementarities, and therefore convergence need not be the ultimate goal.

In a similar vein, although focusing on welfare state typologies, Esping-Andersen (1990) suggests that different welfare institutions exist because of different historical class-coalitions, giving parties a say on how the welfare state developed. Three distinct models can be observed, amongst which the differences can be seen in the degree of decommodification and social stratification and the welfare mix (ibid). Accordingly, the Liberal welfare state is characterized by a market dominance in the provision of welfare and private provision. State intervention is minimal and oriented towards basic needs and the relief of poverty. The Social-democratic welfare state is the mirror image. Decommodification is high and social stratification low. Social policies are not there to underpin the market, but to provide a safety net against it. There is a limit to reliance on family and market in the provision of welfare and a high degree of individual autonomy. Finally, the Conservative model lies in-between. Occupational social insurance schemes

predominate and the level of decommodification is higher than in Liberal welfare states but still limited.

In regards to the second question – whether this complete overhaul of institutions can lead to the expected outcomes – the literature seems to be pessimistic about it, although there are some exceptions. Acemoglu, Cantoni, Johnson and Robinson (2011) examine the historical reforms imposed by the French upon their conquered European neighbours in the aftermath of the French Revolution, and find that these led to faster economic growth than those in the unaffected regions. They conclude that this points towards a more optimistic view on whether externally imposed reforms, without concern for whether they are appropriate to the local conditions, can be successful. However, they also suggest in their conclusions that a factor for such success might be the extent of the reforms: the simultaneous reform of several aspects of the economy, society and politics made it more difficult to return to the old institutions, securing the new economic incentives in place and resulting in a permanent institutional change.

Conversely, Rodrik (2007) suggests that successful policies need to be tailored to local economic and political realities, and not merely 'transplanted'. He admits that 'Big bang' reforms succeeded in Poland, but he suggests that this is because Poland had already 'defined its future: it wanted to be a "normal" European society' (p. 166). In general, he 'believes' in institutional diversity and in the importance of local knowledge. He talks about the appropriateness of growth policies to be context specific and the relevance of the *environment* (p.4). Similarly, Acemoglu and Robinson (2008) construct a model to study the implications of changes in political institutions for economic institutions. They find that the change in *de jure* political power is offset by the *de facto* political power, which is possessed by groups as a result of wealth, weapons and the like.

2.3. Informal institutions: relationship with economic outcomes and formal institutions

There is evidence from the social economics literature that, first, different informal institutions are thought to exist within the same formal institutional framework, affecting the final outcomes. Secondly, informal institutions have been shown to influence the choice of formal institutions. And thirdly, there is also evidence that informal institutions are quite resilient to changes in formal institutions. Nevertheless, the resilience of the effect of informal institutions in the light of changes in economic incentives has not received the same attention.

These points were already made by North when he stated that cultural constraints are key to explaining the path of historical change and they were strikingly persistent even when a

total change of rules took place (North 1990). He also acknowledged that the same formal rules imposed on different societies can produce very different outcomes depending on the cultural constraints (North 1990). The contribution of the literature on social economics has been to theoretically refine these claims and to provide new methods to test them.

The idea that culture exerts a significant influence on economic outcomes is not a new one. As early as the beginning of the twentieth century Max Weber had already developed it in his seminal work 'The Protestant Ethic and the Spirit of Capitalism' (Weber, 2002), where he argued that the protestant ethic had encouraged the development of capitalism.

Before this, culture had already been discussed by non-economists and applied in other relevant fields apart from economics. However, Weber's work was the first to discuss in such an accurate way the role of religion in economics. The same idea, although tackling a different cultural trait, was brought up by Banfield (1958) in his book '*The Moral Basis of a Backward Society'*. In this work he examined the case of a southern backward Italian village and concluded that the economic and political backwardness of the village was partially caused by the morality held by most of its inhabitants – that he named 'amoral familism' - which was based on the following rule: 'Maximise the material, short-run advantage of the nuclear family; assume that all others will do likewise' (p.85).

Gradually political scientists would enter the debate by analysing different cultural aspects and their impact on politics and economics. Francis Fukuyama (1995) devoted his book '*Trust: the social virtues and the creation of prosperity*' to the importance of trust for economic development. Economics, he claimed, despite what many neoclassical economists might think, is highly intertwined with rules, social norms and culture in a society. When trust is in place, social capital arises, and this enhances the efficiency of the economy (p.32). In the same fashion the economist David Landes concluded in his book (1998) that cultural factors such as thrift, hard work, tenacity, honesty and tolerance are crucial for the success of an economy. Slightly shifting the focus from economics to issues of democracy, Robert Putnam (Putnam, Leonardi, & Nanetti, 1993) examined the differences in institutional performance bewteen Italian regions, where he found a strong connection between civic life and institutional performance. Civic engagement, he said, encouraged social capital, which is the key to making democracy work (p.185).

In the realm of economics, the concept of culture had a harder time finding a place. Preferences had traditionally been considered exogenous parameters (Benhabib, Bisin, & Jackson, 2011), and social norms, values and beliefs were thought to be the result of rational choices, with any element of conflict being dealt with through the price system (Guiso, Sapienza, & Zingales, 2006). By way of example, Stigler and Becker argued in their paper *De*

Gustibus Non Est Disputandum that 'tastes neither change capriciously nor differ importantly between people' (Stigler & Becker, 1977:76). With regard to social norms and customs they argue that these can be explained as 'a result from investment of time and other resources in the accumulation of knowledge about the environment' (p.82). Fernandez (2011) and Guiso *et al* (2006) suggest that this reluctance on the part of economists to include social norms, beliefs and values in economic analyses was rooted in their blurred conceptualization and the lack of adequate methodology to quantify them and disentangle them from other confounding factors such as formal institutions and the economic environment, which had characterised previous analyses.

The political economy and social policy literature have also been rather reluctant to take culture on board, at least until recently. Although the former has generally acknowledged its relevance (see for example North 1990 or Hall and Soskice 2000), the scholarly research has shown a bias towards the analysis of formal institutions. The social policy discipline has gone a long way from the notion that the idea that culture would influence social policies 'equated with the idea that party and gossip would determine the course of the ship' (Schoor, 1984 in van Oorschot, 2007). But as with the political economy discipline, there is still a bias towards a focus on welfare regimes and formal institutions.

Interestingly enough, it has been in the realm of economics that the idea that culture affects economic outcomes has been revived the most. Already in the 1990s, we can find some authors who attempted to test results that had previously been highlighted by political scientists. La Porta, Lopez de Silanes, Shleifer & Vishny (1997) documented in their article a strong correlation between trust and the existence of large organisations and Knack and Keefer (1997) found that trust is positively and significantly correlated with growth. Greif (1989) compared Maghribi and Genovese traders from the eleventh and twelfth centuries and concluded that 'differences in the societal organization of the two trading societies can be consistently accounted for as reflecting diverse cultural beliefs'. (p. 914). Ellison (1991) documents the correlation between religion and health and Evans, Cullen, Dunaway, & Burton (1995) discuss the correlation between religion and criminal behaviour. A problem of those papers, however, is that they do not specifically address problems of endogeneity, and therefore we can speak of correlation, but not causality.

As the number of studies dealing with culture and economics gradually increased in the twenty-first century, the concept of culture also progressed. Within the studies that related culture to general economic outcomes, those taking religion as a main cultural variable were manifold. Barro and McCleary (2003) analysed the influence of religion on the growth rate of per capita GDP in fifty-nine countries all over the world. In their study they controlled for endogeneity problems by using instrumental variables correlated to religion

but not to economic growth such as the existence of a state religion, measures of religious diversity and so on and so forth. They found that religion is good for growth although they pointed out that while religious belief is good to growth, church attendance is negatively related to it. Stulz and Williamson (2003) also relied on religion as a relevant cultural variable and looked at its role in creditors' rights in about fifty countries. They found that Catholic countries protect creditors' rights much less than other countries although the impact is diminished the more the country is open to international trade. Guiso, Sapienza and Zingales (2003) also studied how religious beliefs affected growth. To do so, they first measured the effect of religious beliefs on several attitudes and preferences conducive to growth (instead of growth in itself). Specifically, they examined the impact of four indicators of religiosity – atheism, being brought up religiously, being currently religious and being actively religious – on preferences towards cooperation, women, market thriftiness and fairness among others. They then examined the impact of these preferences on growth.

Another variable used as a cultural aspect is the level of trust in a society. Guiso *et al.* (2004) and Guiso *et al.* (2009) looked at the effect of trust (or social capital) on financial development and trade, and found that less trust leads to lower levels of financial development and trade. Tabellini (2010) also used trust – combined with other cultural traits - to look at the impact of culture on economic development. He identified four main cultural traits – trust, respect for others (or generalised vs. limited morality), confidence in the ability to improve one's situation and obedience in a way that suppresses individualism – that were expected to affect economic development, which he measured by per capita gross value added. The novelty in his paper was that he attempted to disentangle the role of formal and informal institutions. In order to do so, he looked at cultural traits in several European regions, arguing that 'the formal and legal institutions have been the same inside the European countries in our sample for 150 years or more' (p. 678). In his paper he also controlled for endogeneity by using instrumental variables for the cultural attributes, namely literacy rates in 1880 and regional political institutions between the 12th and 19th centuries, finding a strong effect of culture on economic development.

In a very similar conceptualisation as the one used in this thesis, some authors use the terms 'family ties' and 'family attitudes'. Alesina and Giuliano (2010) and Alesina et al. (2010) used the concept of family ties and related it to the distribution of roles of different members of the family in running home and market activities. They also linked it to geographical mobility and living arrangements as well as preferences for employment protection, suggesting that these have an effect on major macroeconomic and demographic outcomes. In a similar fashion, the term 'family attitudes' was used by Algan and Cahuc

(2007) to refer to the same idea and to understand employment rates across different demographic groups.

The effect of informal institutions on formal ones is also well-documented in the literature. A paper by Alesina *el al.* (2010) claims that the strength of family ties in Southern European countries affects the individual choice of labour market institutions. They argue that individuals with strong family ties are less mobile and will rationally choose regulated labour markets to avoid both moving and limiting the monopsony of firms. Algan and Cahuc (2006) make a similar point and argue that religion influences the demand for job protection and that societies with predominant male bread-winner values will ask for more job protection given that this regulation – as opposed to unemployment benefits - protects male bread-winners jobs. Beyond labour markets, Robert Putnam (1993) found a strong connection between civic life and institutional performance. Similarly, Fukuyama (1995) found a positive relationship between the performance of all institutions in a society and trust.

The effect can also go both ways. Aghion, Algan and Cahuc (2011) focus on the co-evolution between culture and preferences for regulatory institutions. Culture, it is argued, influences the demand for certain types of regulation. At the same time, the paper suggests that regulation also reinforces certain cultural aspects. In this context two possible equilibria emerge; one 'good' equilibrium with low levels of regulation and high levels of social capital and a 'bad' equilibrium with the opposite results.

Finally, the existing literature also examines the resilience of informal institutions to changes in formal ones. To this end, some authors have used the epidemiological approach. This approach looks at economic outcomes and the behaviour of different groups of migrants and compares them to that of the locals. The idea is that migrant groups face the same institutional and economic environment as the native individuals in the country of residence but they are assumed to preserve, to a certain extent, the family values of their country of ancestry. Most studies[3], especially the more recent ones that use a more robust methodology and larger datasets, find that informal institutions – i.e. social norms, culture, family ties and others – are resilient to changes in formal institutions.

Raquel Fernandez has used the epidemiological approach extensively to focus on fertility and women's employment outcomes (see interalia Fernandez & Fogli, 2009; Fernandez,

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[3] There are some exceptions: Carroll, Rhee and Rhee (1994), who were the first to use the epidemiological approach, examined the saving patterns of migrants and natives in Canada and did not find very significant differences. Reimers (1985) is another example of where using this approach shows mixed results. Fernandez (2010) suggests that in this case this might be because the analysed individuals had been in the US for different periods.

Fogli, & Olivetti, 2004). She and her co-authors argue that beliefs with regard to women's roles in the labour market have considerably shaped these outcomes. Paola Giuliano (2007) has used the same approach to analyse the role of family ties in preferences for living arrangements, marriage and fertility behaviour in Western Europe. She studied second-generation immigrants in the United States, and found that the family ties of migrants mimic those of the native population in Europe. Alesina and Giuliano (2010) also used the same method to assess the impact of family ties on the level of home production, labour force participation of women and youngsters and geographical mobility. They found that the former are a significant factor of influence for all of the mentioned outcomes.

More recently, Acemoglu and Jackson (2014) have used game theory to test whether a change in the law (i.e. formal institutions) that conflicts with prevailing social norms can be successfully enforced. Their results confirm that a mismatch between a change in formal institutions (the law in this case) and the prevailing informal institutions (social norms) is likely to result in a backfiring of the law. They also claim that this backfiring effect can be attenuated with a gradual imposition of the law that takes social norms into account. On the other hand, Helliwell, Wang and Xu (2014) found mixed results when they looked at the durability of social norms. They analysed the resilience of social trust and generosity and argue that the effect of the source country's social trust is strongly significant. However, both trust and generosity are subject to adaptation in the light of major formal institutional changes.

3. Conceptual framework and research question

The literature review therefore suggests that: a) formal institutions affect economic outcomes; b) formal institutions are resilient to changes in economic incentives, limiting the result of the latter on economic outcomes; c) informal institutions affect economic outcomes; d) informal institutions affect formal institutions and they tend to co-evolve; e) informal institutions seem to be resilient, at least in some circumstances, to changes in formal institutions.

These points are summarized in the conceptual framework depicted in Figure 1 and Figure 2. The same framework also leads to the question with which this thesis is concerned. Figure 1 illustrates the relationship between policy change, formal institutions and economic outcomes and behaviours suggested by the formal institutionalists. The effect of formal institutions on economic outcomes and individual behaviour is represented by the arrows in black and marked as (a). The idea that formal institutions are resilient to changes in economic incentives, limiting the latter's result on economic outcomes is represented by the black line between changes in economic incentives and formal institutions and marked

as (b). Of course, formal institutions also shape the economic incentives in place (i.e. the figure should be expanded on the left-hand side with arrows going from institutions to economic incentives). However, given that the aim is to see what happens when there is a change in economic incentives, this part is not illustrated.

Figure 1. The relationship between formal institutions, outcomes and changes in economic incentives according to institutionalism.
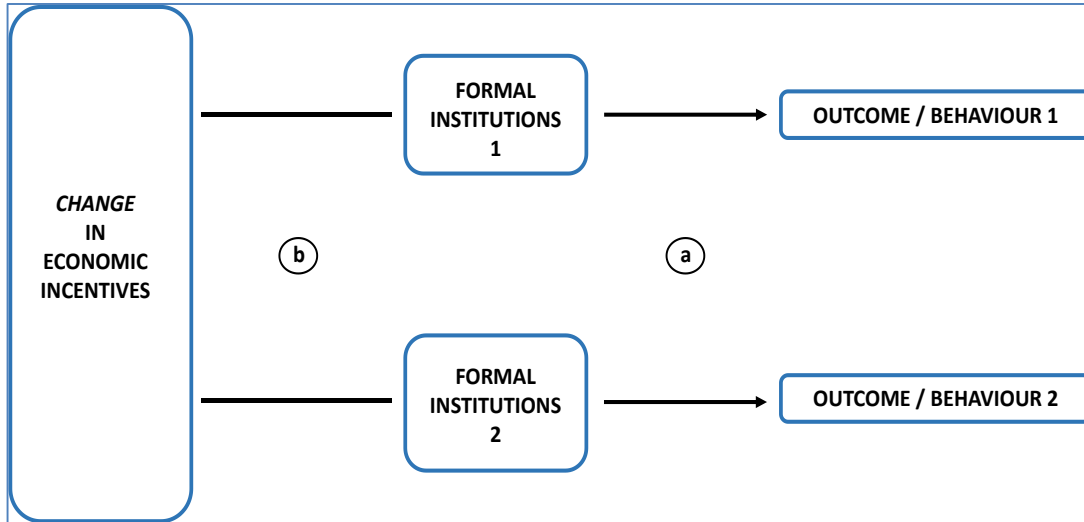
Source: author's own

Figure 2 adds a layer of complexity to Figure 1 to add informal institutions in the picture. Such additional layer including informal institutions is needed to first understand differences in outcomes even when formal institutions are accounted for. This is illustrated with the arrows which go from informal institutions to economic outcomes and behaviour, marked as (c). Second, the informal institutions layer is also necessary to understand one of the reasons why individuals across societies choose different formal institutions. And third they also provide a reason for the persistence of institutions: co-evolution between formal and informal. These two last points are illustrated with the double-sided arrows that link formal and informal institutions, marked as (d). Furthermore, informal institutions have proven fairly resilient to changes in formal institutions. This is illustrated with the arrows that go from 'change' in formal institutions to informal institutions, with a cross suggesting the resilience of informal institutions, marked as (e).

Figure 2. The relationship between informal institutions, outcomes and formal institutions according to the social economics literature.
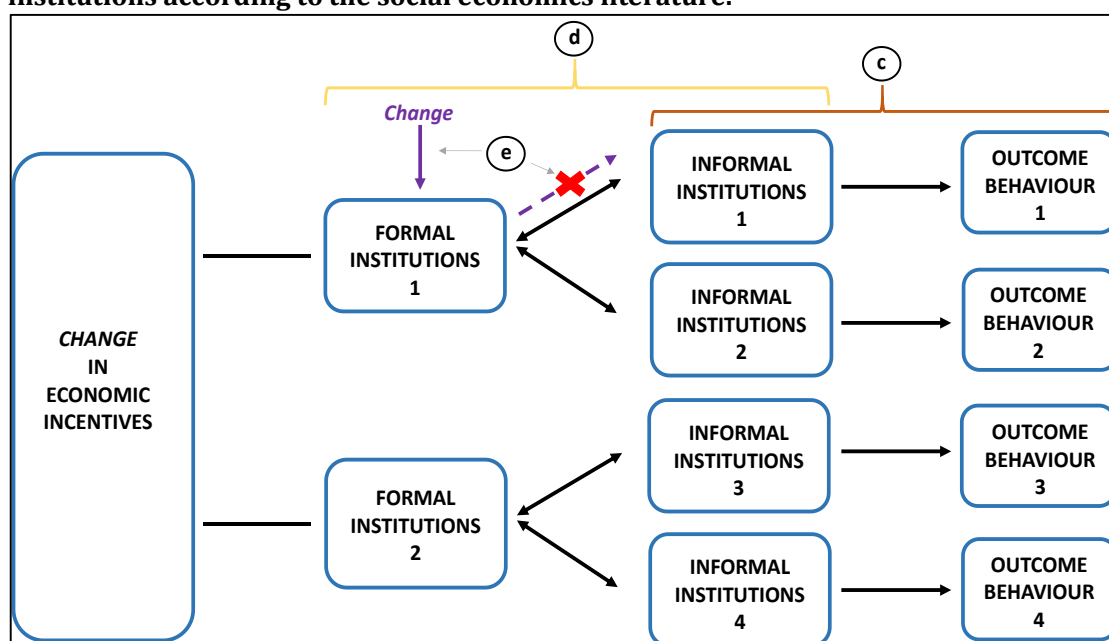
Source: author's own

To sum up, informal institutions are shown to be relevant, having a direct effect on economic outcomes and individual behaviour. At the same time, they seem to be durable and resilient to changes in formal institutions, at least under certain circumstances. Figure 2 also makes more visible the gap that the thesis aims to fill. What happens to the effect of informal institutions on economic outcomes when there is a change in economic incentives? More specifically, the question that the thesis aims to answer is: **are the effects of informal institutions on individual behaviour resilient to changes in economic incentives?**

Some preliminary clarifications on what the thesis *does not do* may be helpful. To answer the question the thesis will keep formal institutions 'constant' and will focus on the resilience of informal institutions. That is, it will *not* examine the resilience of formal institutions on changes in economic incentives; such resilience has already been established by the institutionalist literature. It will therefore be assumed that the change in economic incentives can be done within the same formal institutional framework. This is a plausible assumption, as many policy changes can be done under the same institutional framework and do not necessarily need its change.

The thesis also assumes that the change in economic incentives does not lead to a change in informal institutions. That is, it assumes that informal institutions remain unchanged. Given the persistence of informal institutions over time, this is a plausible assumption *in the short run,* which is the 'time period' this thesis focuses on. That is, the thesis does not

deny that a change in economic incentives can led to a change in informal institutions in the long run. However, it is not within the scope of the thesis to analyse it.

4. Focus of the thesis

In order for the question above to be feasible to answer within the length of the thesis, a process of narrowing down is necessary. For reasons that I hope will become clear in the following paragraphs, the thesis focuses on individual behaviour and preferences for social care – namely preferences for elderly care, amount and type of parental support for adult children and duration of parental leave. With regard to informal institutions, the focus is on social norms, and more specifically, on those concerning the role of the family in society, that is, family values. Finally, different changes in economic incentives will be chosen. One is centred on changes in one socio-economic characteristic of individuals, that of education attainment levels. The other change in economic incentive is an adverse change in employment status. Finally, the last change concerns a parental leave policy reform. Therefore, the research question after the process of narrowing down is as follows: **are the effects of family values on individual behaviour in social care resilient to changes in economic incentives?**

4.1. Policy contexts: social policy

Economic issues were the primary focus of the founding fathers of European integration, and a brief comparison of economic and social integration suggests that the latter has been comparatively disappointing (Leibfried in Wallace, Pollack, & Young, 2010). Social policy has therefore been mostly kept in the hands of national member states, something which is reflected in the different welfare states arrangements, which led Esping-Andersen to talk about three main varieties of welfare state (Esping-Andersen, 1990).

This is not to say that there have been no considerable advances. European Social Policy has evolved mainly through three direct channels and a more indirect one. With regard to the direct channels, the first one – 'hard' positive integration through rules, regulations and directives - has resulted in significant changes in the field of health and safety, working conditions and equality in the workplace (Falkner, 2009). The second 'hard' channel mirrors the first and refers to the so-called negative integration: that is, the ruling of the European Court of Justice (ECJ) in the area of the four freedoms that potentially restrict member states' social policies (Leibfried in Wallace et al., 2010).

These two 'hard' channels have been coupled with a softer, arguably less successful but more conciliating method of positive integration (Heidenreich and Zeitlin in Wallace et al., 2010): the Open Method of Coordination (OMC). This is a mechanism of spreading best

practices, which facilitates convergence in policy goals (Featherstone & Radaelli, 2003) and which has been increasingly used in the fields of employment policy and more recently health, pensions, equal opportunities and social exclusion.

Finally, integration has also been achieved through the reluctance of the member states to relinquish their social policies, which has been coupled with their de facto loss of control over them. This is not to imply that power has transferred to the supranational EU level. As a matter of fact, the loss of control has been greater than what the EU has gained in authority, suggesting that some of this power has gone directly to the markets (Leibfried in Wallace et al., 2010).

Although there are clear differences between the three methods, they all share the goal – albeit sometimes only implicit - of achieving convergence. This is clearly the case for EU directives and regulations and negative integration through the courts. Similarly, and as previously stated, it is the goal of the OMC to reach certain convergence in outcomes. And arguably, this is also the effect of the more 'indirect' method of integration: the initial idea that single market could exist without any effect on the social dimension has proved to be naïve (Leibfried in Wallace et al., 2010:254) and runs counter to the logic of political economy, which as Leibfried emphasises 'stresses that economic action is embedded within dense networks of social and political institutions' (North, 1990).

It is then in this context that the question that this thesis aims to answer –whether the effects of informal institutions are resilient to policy changes – takes on more relevance. Pierson and Leibfried (Stephan Leibfried & Pierson, 1995) talk about national welfare states being built in 'increasingly constraining multi-tiered polity', and, in a similar fashion, Falkner (Falkner, 2009) refers to 'bounded varieties of welfare'. The increasing role of markets and judges in shaping policy changes, together with hard regulation and the softer mechanisms of the OMC, give little consideration to the social environment, and if the argument of this thesis holds, this may therefore not result in the expected outcomes.

Within social policy, the thesis focuses on individual behaviour in social care. Social care – which includes parental leave and childcare, elderly care and parental support for adult care (also referred to as downstream intergenerational transfers) – has been the subject of several EU directives[4], the Open Method of Coordination as well as common market pressures. Leave policies, including maternity and paternity leave, parental and childcare leave have been increasingly regulated at EU level. The aim of these policies has been to

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[4] For example, for parental leave there has been EU directives in 1991, in 1997 and the most recent one in 2010.

increase women's labour force participation and reconcile employment and family responsibilities, encouraging parental sharing of the latter (Haas, 2003).

The approach has been rather different for elderly care and, more generally, long-term care. As will be explained in chapter 2, the increasing needs of the old age population are not being coupled with an increase in resources. In fact, availability of care is diminishing due to the increase in female labour force participation and the decreased share of the working-age population. Despite these challenges, this area of welfare remains underdeveloped; it is mostly relatives who provide for elderly and long-term care (F. Colombo, A. Llena-Nozal, J. Mercier, & F. Tjadens, 2011; Costa-Font, 2010). The EU has stepped in via the Open Method of Coordination, emphasising that major differences exist in the way care is provided in Member States and encouraging the sharing of best practices to adequately face the challenges (Committee, 2001). Interestingly enough, the approach followed by countries has been one of increasing choice in the financing and provision of elderly care (F. Colombo et al., 2011).

Finally, the debate on the intergenerational contract has tended to focus mainly around health care and pension systems, and on the balance between their sustainability and their promise of intergenerational justice (Albertini & Kohli, 2013). This is true both at the national and supranational level, with the latter again using the OMC to advance in their integration. Nonetheless, this analysis misses the dynamics of intergenerational contract within one crucial institution: the family. Such dynamics are barely the focus of national actors, let alone EU ones (ibid).

4.2. Social norms and family values

In all of the above-mentioned social care areas informal institutions are likely to influence individual behaviour. It is not very controversial to suggest that the decision to care for a close member of your family will be emotionally grounded. And it is plausible to think that part of these individual 'emotions' are rooted in prevailing social norms related to the family that exist in the society the individual lives (which I will call 'family values'). And yet, one could argue that having accounted for incentives given by formal institutions and policies, their relevance is, to say the least, questionable; their addition does not bring much added value after all.

As the literature review on culture and outcomes has suggested (section 2.2 above), this was the idea stemming from the economics discipline for quite a long time. It later changed and has recently taken a renewed interest in social norms. In their recently edited *Handbook on Social Economics*, Benhabib, Bisin and Jackson (Benhabib et al., 2011) define

social economics as the study 'with the methods of economics, of social phenomena in which aggregates affect individual choices' (p. xvii). They name social norms, cultural identities and others as these phenomena and review the recent literature on social economics. In a way, what they arguably have in mind is Akerlof's words when he states that he has gone 'the opposite way of Gary Becker' by trying to bring other disciplines into economics, and not the other way round (Akerlof in Swedberg, 1990).

This thesis has borrowed the definition of social norms from Burke and Young (2011), contributors to the aforementioned Handbook. They define social norms as a "standard, customary, or ideal form of behaviour to which individuals in a social group try to conform" (p.313). It also borrows from the conceptualisation made by Postlewaite in the same volume (2011), which is helpful to understand the different ways in which social norms can be understood and incorporated in economic models, without compromising the assumption that individuals are fundamentally similar and have the same endowments and access to technology.

He suggests that one way to incorporate social norms is to assume that individuals are the same at birth but that interactions with their different communities shape their preferences in such a way that when they are grown up, what makes them happy or sad is very different. In this case, he argues, their *deep* preferences are different (ibid). The other option is to assume that two individuals have the same deep preferences but that the social structures they inhabit provide different incentives for behaviour. This would suggest that what differs across these fundamentally similar individuals is their preferences over the immediate alternatives, which he labels 'reduced form preferences' (ibid).

An alternative way to introduce social norms in economics models is to use the identity framework provided by Akerlof and Kranton (2000). They argue that the inclusion of 'identity' helps to explain behaviour that would otherwise have been not very well accounted for with economic tools, such as why some women opposed women's rights (Akerlof & Kranton, 2000:715). They propose a utility function that includes identity as well as the usual vectors of an individual's action and others' actions. A person's identity, they argue, depends first on his/her assigned 'social category', which comes with a prescribed behaviour. Second, it also depends in the person's own given characteristics, and third, on the extent to which his/her own actions and others' actions correspond to the prescribed behaviour. And in the simplest case, an individual chooses his/her actions to maximise utility taking the categories, prescriptions, characteristics and others' actions as given (p.719). The authors later discuss the model in more depth, but this simpler framework can be applied to the understanding of social norms of this thesis.

In the empirical chapters the problem is set so that individuals need to choose their actions: whether to care for their young or adult children or elderly parents. Their assigned categories depend on the society where they live, which has certain social norms with regard to the role of the family. Such norms prescribe a different behaviour depending on the 'assigned categories'. Of course, the action of caring also comes with some costs. This might be forgone income, or loss of intimacy (say, if parents help their adult children with co-residence) and even time. Changes in economic incentives alter these costs and, sometimes exacerbate them – such as in the case of a policy reform that conflicts with the social norms of the society. Individuals therefore take decisions based on a) costs, and b) identity. The point of this thesis is to see whether the effects of identity – in this case social norms – are strong enough to overcome the effects of a change in economic incentives.

With regard to the type of social norms, the thesis has narrowed down the concept to include those norms regarding the role of the family in society. This is because such norms, which I will refer to as 'family values', are acknowledged to strongly affect many social care arrangements (Reher, 1998). Patterns of kin solidarity and the responsibility to care for the needy, vulnerable and elderly differ across societies according to these values (Ferrera, 1996; Reher, 1998). In places with traditional family values, help tends to come mostly from the family, as opposed to public institutions, and many of these differences in patterns of support still exist today (Reher, 1998:209). The working definition of family values used in the thesis is therefore as follows: family values are collective definitions of socially approved conduct with regard to the role of different members of the household at home and in the market.

Note that the understanding of family values could fit both conceptualisations of social norms – as deep and reduced form preferences. Strong and traditional societal family values could be the result of strong emotional bonds within the family which make it morally difficult to reject care. This explanation would be more in line with a pattern of distinct deep preferences across societies. At the same time, existing family values could be a reflection of family loyalties which result in different future rewards for a given behaviour. As interesting as it would be to thoroughly examine the two conceptualisations further, this is beyond the scope of this thesis.

Slow-moving versus fast-moving social norms

One fairly controversial issue that arises in the social economics literature is the acceptance or rejection of the idea that culture is 'slow-moving'. In their definition, Guiso, Sapienza and Zingales (2006) suggest that this is the case; an idea shared by other authors such as Roland (2004). In an attempt to categorise institutions, he differentiates between 'slow-moving'

and 'fast-moving' ones. The former comprise culture, values, beliefs and social norms, which tend to evolve slowly but gradually (p. 110). Conversely, fast-moving institutions such as political ones 'do not necessarily change often, but they can do it very quickly – sometimes nearly overnight' (p.110).

This view however is not shared by everyone. Fernandez explicitly rejects an understanding of culture that implies that it is slow-moving (Fernández, 2011:4). She uses a definition from the Merriam Webster dictionary which states that culture is 'the integrated pattern of human knowledge, belief, and behavior that depends upon the capacity for learning and transmitting knowledge to succeeding generations' and 'the customary beliefs, social forms, and material traits of a racial, religious, or social group; (and) the set of shared attitudes, values, goals, and practices that characterizes an institution or organization'.

The idea that social norms are slow-moving is appealing for this thesis, especially because it allows some differentiation from formal institutions. However, it does not entirely take it as an assumption; the empirical chapters provide some proof that this is the case, by looking at the correlation of the constructed family values indexes across time.

4.3. Economic incentives

In this thesis I treat parental leave, changes in employment status of the offspring and education as economic incentives to be analysed, and I am interested in understanding whether different levels of education, changes in employment status and policy frameworks affect individuals' behaviour differently depending on the existing social norms. It is therefore worth discussing more in depth the concept of economic incentives and how is it applied to the three incentives the thesis focuses on: education, change in employment status and parental leave policy reform. (Mankiw & Taylor, 2011 (1958)) suggest that people respond to economic incentives, meaning that people make decisions by comparing costs and benefits. Similarly, Bowles and Polania-Reyes define economic incentives as 'interventions to influence behaviour by altering the economic costs or benefits of some targeted activity' (Bowles & Polania-Reyes, 2012:369).

According to this definitions, parental leave policies, employment status and education levels can be defined as economic incentives, as they are likely to alter economic costs or benefits of caring for someone. Nevertheless, it can also be argued that they can not only alter economic incentives, but also social norms, including family values. This is especially the case for education and parental leave policies. The latter may alter the idea of 'motherhood' that individuals hold, and similarly, education can influence our ideas and

attitudes towards a number of issues. The next paragraphs discusses in more detail these possibilities.

Education....
...as an economic incentive

The economics literature regards education as an endowment on human capital. At a micro level, education levels are a strong predictor of employment status and earning levels (Boeri & Ours, 2013:209). This could be either because schooling enhances productivity, which is reflected in higher wages, or because schooling sends a signal to employers that the worker is hard-working and 'inherently' motivated. In other words, it could be that individuals with higher education earn more because schools have filtered those who possess the skills to be better workers. Schooling in this case would act as a signal (Borjas, 2012; Evandrou, Glennerster, & Hills, 1998). Be it because of productivity gains or because of signalling effects, the fact that the highly educated earn on average higher wages suggests that educated individuals will have a higher opportunity cost of caring, and therefore, we would expect 'potential carers' with higher education to prefer formal to informal care.

...as a trigger for norm change or as a trigger for embracing existing norms

At the same time, education's influence goes beyond that of enhancing human capital and affecting individual economic incentives. Friedman (1962) recognizes the role of education as a transmitter of common values and Evandrou et al. (1998) discuss the public benefits of education, mentioning respect for law and order, socialization into existing norms and values, promotion of equal access to education and a sense of social justice and promotion of social and racial equality, among others (2003:27). Similarly, a large body of literature suggests that education enhances civic engagement (Dee, 2004; Milligan, Moretti, & Oreopoulos, 2004 and citations therein), especially voter turnout.

The association between education and liberal values has also been largely studied, with findings usually conforming to the idea that education enhances liberal values (Hyman & Wright, 1979) and see Sheepers, Te Grotenhuis and Var Der Slik (2002) for a review. The psychodynamic theory would argue that better educated people may be more liberal because they tend to be more self-confident and therefore to tolerate diversity better and see it less as a threat (see Stubager, 2008; Weil, 1985 for a review). Alternatively, the socialization or cognitive theory would state that better educated individuals can 'escape' the common folk culture and have access to less – prejudiced enlightened culture (Hyman & Wright, 1979; Jacobsen, 2001). However, some authors suggest that the relationship might not be as straightforward. Weil (1985) challenges the homogeneous effects of education on values by suggesting that education socializes students into the dominant or

'official' culture, and therefore if the culture is rather 'illiberal', the effects of education on tolerance levels will be weak.

Similar conclusions have been reached with regard to the more specific relationship between education and family values. By and large the literature finds that higher educational attainment is associated with less traditional gender roles orientations (Harris & Firestone, 1998). For example, Thornton, Alwin and Camburn (1983) find that highly-educated mothers have more egalitaritan sex-role attitudes, and so do their children. Similarly, Campbell and Horowitz (2016) use siblings' data to show that earning a four-year college degree has a significant impact on beliefs about gender egalitarianism.

The literature on education and values therefore suggest that education may have a direct effect on behaviour by changing economic incentives, but also an indirect effect through the change of individual values. This is relevant for Chapter 2, where the interplay between education and (societal) family values is analysed. Therefore, in that chapter, education can affect preferences for formal care either by increasing the opportunity cost of caring or by changing the individual family values. As will noted in chapter, the analysis cannot disentangle the two effects.

Parental leave policy reform…
… as an economic incentive

A useful framework (albeit not the only one) to understand how maternity leave policies provide with economic incentives that may affect individual behaviour can be taken from Boeri and Van Ours (2013). They argue in their book that mandated parental leaves can be analysed using a small extension of the standard labour/leisure framework. Childbirth can arguably lead to a temporary change in preferences for work, increasing the reservation wage in the initial weeks after childbirth. Without a leave policy in place, this would mean that if the reservation wage is higher than the wage the individual gets in her job, then she is likely to quit the job. Instead, if there is a leave policy in place, the parent is able to stay with the child until the reservation wage has gone down. If the leave policy is long enough so that the reservation wage equals the market wage at the end of the policy, then the mother is likely to go back to work. Conversely, if at the end of the leave period the reservation wage is still higher than the market wage, then the mother might quit the job (Boeri and Van Ours 2013).

Other authors have looked at the economic incentives of leave policies using the more standard labour approach and examining the income and substitution effects. Maternity leave policies have mainly two components. The first one is job protection, that is, offering

the option of going back to work to the same job after the leave period. Job protection is likely to protect wages through the leave period. The second component is income replacement during the leave. This one is likely to help with consumption smoothing (Low & Sanchez-Marcos, 2015). Therefore, the introduction of maternity leave policies which include some income replacement and job protection reduce both the negative income effect of not working and the opportunity cost of not working (substitution effect).

… as a trigger for norm changes

Parental leave policies can have more effects beyond changing economic incentives. One could argue that they also change norms about the role of mothers; including family values. Indeed both the social policy literature on caring behaviour and the broader economic literature on social norms and economic incentives admit the potential effects of policy on attitudes and norms.

Himmelweit (2005) talks about feedback effects of parental leave and childcare policies at a social level. She argues that these policies may initially only change the behaviour of a subgroup of mothers, mainly those whose attitudes or identity are not in conflict with the policy. Nevertheless, in the long run, the behaviour of this subgroup may trigger a change in social norms, thus reducing the number of mothers who feel constrained by social norms. Therefore, the policy effects can be magnified in the long run. Whether such long-run effects will take place is, according to Himmelweit and Sigala (2004) partially dependent on the nature of the policy. Policies that enhance choice are more likely to have long-term effects than coercive policies, although the opposite is true in the short term. They argue that the underlying reason for this decreased long-term effect is that coercion diminishes the individual responsibility for their conflict between their identity and the economic incentive in place.

Beyond the literature on care, the economics literature has also discussed the effects that economic incentives, including policy reforms, can potentially have on norms and attitudes. Bowles and Polania-Reyes argue that economic incentives can both crowd out or crowd in ethical norms or intrinsic individual motives (2012). That is, in some instances economic incentives can act as substitutes for the prevailing ethical norms, degrading economic performance. One example mentioned in the paper relates to a fine imposed to parents in Haifa who were late to pick their children up from day care centres. The fine increased parental tardiness, and one interpretation is that parents now felt they could 'buy' time, whereas before the fine they regarded being late as a morally dubious outcome. Conversely, another example in the literature – the imposition of a small tax on plastic grocery bags in Ireland in 2002 – achieved the expected outcome. Bowles and Polania-Reyes suggest that

what explains the different outcomes in the two cases has much to do with the design of the policy package. Whenever economic incentives are accompanied by an effort of convincing individuals about the benefits of the action, they will be more likely to internalize the incentives and change their norms accordingly. The Irish plastic bag tax was introduced after extensive public deliberation and marketing campaign on the effects of plastic on the environment. That was not the case in the Haifa fine.

Bearing in mind the effect that parental leave policies - and more broadly economic incentives - may have on social norms, the chapter in which the parental leave policy is analysed includes a test showing that historical family values are very similar to current family values before and after the policy. This does not preclude that values may change in the long-run, but it does suggest that the effect of the parental leave policy analysed on the pace of return to work in the following three years is more driven by the economic incentives than by a change in society's family values.

4.4 Resilience

The thesis is interested in understanding whether the effects of family values on outcomes are resilient to changes in economic incentives. The Merriam-Webster dictionary provides the following definitions on resilience: "the ability of something to return to its original shape after it has been pulled, stretched, pressed, bent, etc" or "an ability to recover from or adjust easily to misfortune or change". From these definitions the thesis understands that the effect of family values on outcomes can be pulled or stretched in the light of a change in economic incentive, especially if that economic incentive pushes the outcome in the opposite direction of family values. The effect of family values on outcomes is then resilient to a change in economic incentive if after this change has occurred, its effect on outcomes is still significant.

It is important to note that the effect of family values can be resilient despite the individual values having changed. That is, it could be that after a change in economic incentives, some individuals change their own values; but nevertheless, the societal family values – which is the focus of this thesis – remain strong and so does its effect on outcomes. In such case the effect of societal family values would be labelled resilient, despite some individual value having changed. Alternatively, it could be that after a change in economic incentives, neither individual values nor societal family values change, in which case family values would also be labelled as resilient. In the case of resilience, therefore, the thesis cannot discern between the two scenarios.

In the same way, the effect of family values may not be resilient when a change in economic incentives occur. This could be the consequence of economic incentives triggering a change in individual and societal family values, or a consequence of economic incentives having more effect on the outcome than societal family values. In the latter case family values would still be the same as before the change in economic incentives, but their effect would have been cancelled out by the economic effect. Whenever is possible, the thesis tries to discern between the two scenarios by looking at the correlation between societal family values before and after the change in economic incentives.

5. Operationalisation

The central question of the thesis will be answered using three empirical chapters or papers. This section briefly outlines the questions in each paper, the working hypothesis, the data, the methods and the conclusions. Separate introductions, backgrounds, empirical analyses and conclusions are given in each paper.

Paper 1 – Are the effects of family values on elderly care preferences resilient to changes in educational attainment levels?

The thesis starts by examining the heterogeneity of the effect of family values on preferences for elderly care prior to any change in economic incentive or policy reform. The aim is to understand whether the effect of family values is resilient to different socio-economic characteristics, and specifically, educational attainment. Borrowing from the above-mention identity model (see Akerlof and Kranton 2000), individuals would be maximising a utility function where their identity as 'good children' would depend on social categories - in this case types of family values - in which ideal behaviour would be prescribed. In the case of individuals living in areas with traditional family values, that would imply providing care.

This of course happens at a cost, which is the potential income they can earn. The economics literature focusing on elderly care mentions human capital as one of the most relevant variables. It affects decisions within a family with regard to who will be the main carer or whether care will be outsourced. As the chapter emphasises, individuals with higher education attainment have higher attachment to the labour market, and at the same time their opportunity cost of taking leave is greater, as their jobs are characterised more by career ladders.

The working hypotheses of the paper are as follows:

H1: Family values affect preferences for elderly care. Therefore, individuals living in societies with traditional values will have a lower probability of preferring formal care than their counterparts living in societies with liberal values.

> *Alternative to H1: Family values do not matter significantly. Other things being equal, individual preferences for elderly care are similar across family values areas.*

H2: Educational attainment levels have a larger impact on preferences for elderly care for individuals living in more traditional family values areas. Therefore, preferences for elderly care for highly educated individuals converge across societies with different family values. Note that this leaves room for different rates of convergence, but signals that a convergence trend is on the way. The effect of family values is overridden by education, and therefore resilience of the effect of family values is weak.

> *Alternative A to H2: Educational attainment levels increase the probability of preferring formal care to a similar degree regardless of the family values area these individuals live in. Therefore the differences in preferences for elderly care between the two groups remain at the same level as H1 (either H1 or its alternative hypothesis). The effect of family values is maintained with higher education levels, and is therefore resilient to different education levels. (i.e. is positive and is maintained if H1 holds; is zero and does not change if the Alternative to H1 holds).*

> *Alternative B to H2: Educational attainment levels have a larger effect on the probability of preferring formal elderly care for individuals living in areas with liberal family values. Therefore, the differences in preferences for elderly care between the two groups are exacerbated. The effect of family values is exacerbated with education, and therefore resilient to differences in education levels.*

Data and methods

The paper carries out a cross-country regression analysis using a pooled sample from the Eurobarometer dataset from 1997 and 2007, the two years when this question was available. The data was obtained from approximately 1,000 face-to-face interviews with individuals aged 15 or over for each EU country. The dependent variable used was stated preferences on elderly care, and the question asked was as follows: *Imagine an elderly father or mother who lives alone and can no longer manage to live without regular help*

because of her or his physical or mental health condition? In your opinion, what would be the best option for people in this situation? Accordingly, the answers have been categorised as formal or informal. The main independent variables are family values and individual educational attainment. Individual controls are added, together with country dummies. The outcomes of interest are the marginal effects of family values, educational attainment and the interplay between them.

Family values are assigned to each individual as follows: first, a composite index at a NUTS 2 level is constructed using questions from the European Value Study (EVS). The EVS was used because the Eurobarometer does not contain attitudes towards the family in these two waves. The values are further categorised into four categories, which will be called 'areas': very traditional, traditional, liberal and very liberal. Therefore, some countries in our analysis will have regions belonging to different family values categories, and at the same time, regions in different countries will share the same category.

Conclusion

The results of the paper suggest that the effect of family values is heterogeneous depending on the educational attainment of the individual. More specifically, family values influence elderly care preferences for those individuals with low levels of educational attainment, confirming *H1*. This translates into heterogeneous preferences for this group of individuals across areas with different family values. The effect of family values, however, fades away for individuals with higher levels of educational attainment. Their preferences are very similar across areas with different family values, confirming *H2*.

The chapter contributes to the literature on social norms by emphasising the heterogeneity of their effect. Most papers have focused on the effects of social norms on outcomes, but heterogeneity with regard to socio-demographic aspects has, to a large extent, been overlooked. Moreover, it also contributes to the literature on social policy. Introducing values and social norms to the discussion in a time when the choice agenda for elderly care is prioritised may help to shed light on distributional consequences that such policies can have on labour market participation and income.

Paper 2 – Are the effects of family values on parental support to offspring resilient to changes in children's employment status?

This paper examines the resilience of the effect of family values on parental support given to offspring when the latter experience a change in economic incentives as a result of an adverse change in their employment status. The aim is to understand whether the effect of family values is exacerbated, maintained or overridden by the adverse change in

employment status. Similar to paper 1, individuals would be maximising a utility function where their identity as 'good parents' would depend on assigned categories whose prescriptions of ideal behaviour would inform the levels and types of support given to their offspring. Depending on their identity, the level of support will differ. At the same time, the costs of types of support will also be affected by identity. The literature on co-residence with adult children suggests that this can increase utility for parents in societies with more traditional values. Instead, in societies with more liberal values co-residence might decrease overall utility.

The working hypotheses of the paper are as follows:

> *H1:* Family values affect parental support to offspring. Therefore, individuals living in societies with traditional family values will have a higher probability of providing support to their offspring before any adverse change in employment status takes place.

>> *Alternative to H1: Family values do not significantly affect parental support to offspring. Therefore, individual levels of parental support do not differ across societies with different family values.*

> *H2:* An adverse change in employment status results in a) greater increase in parental support from individuals living in traditional family values areas compared to their counterparts in liberal family values areas; b) the former also experience a greater increase in parental support in terms of co-residence than the latter. Therefore, the effect of family values is exacerbated by the change.

>> *Alternative A to H2: An adverse change in employment status results in a) a similar increase in parental support from individuals across different family values areas; b) the increase by type of support is also similar across different family values areas. Therefore, the effect of family values is maintained at the level indicated in H1/Alternative to H1.*

>> *Alternative B to H2: An adverse change in employment status results in a) a greater increase in parental support from individuals living in liberal family values areas compared to their counterparts in traditional family values areas; b) such a greater increase in help is provided through either co-residence or financial help. Therefore, the effect of family values is overridden by the change in employment status; parental support tends towards convergence.*

Data and methods

The paper uses waves 1, 2 and 5 (corresponding to years 2004-05, 2006-07 and 2013 respectively) from the longitudinal Survey of Health, Retirement and Ageing in Europe (SHARE) for 12 EU countries. SHARE is a cross-national panel database that contains micro data on health, socioeconomics and family networks, as well as information on the children of the individuals interviewed. This information includes the amount and type of help that each child receives from parents as well as other socio-demographic variables. Every other year, interviews are conducted with individuals over 50 years old and their partners, regardless of their age. A proportion of these individuals are followed over the years, and new individuals are added to the sample in every wave.

The unit of analysis is the paired child-parent and the dependent variables are general support – including financial help and co-residence, financial help only and co-residence only. The main independent variables are family values and employment status of the child. Individual controls are added, together with country dummies. The outcomes of interest are the marginal effects of family values, employment status and the interplay between them. The paper uses a random-effects panel data model, and alleviates the omitted variable bias by adding individual controls for both the adult children and the parents. A discussion of the benefits and costs of using random-effects as opposed to fixed-effects together with a discussion on causality is provided in the paper.

Conclusion

The results show that first, parental support before children are faced with a change in employment status is similar across individuals living in different family values areas., rejecting *H1*. When adult children are faced with an adverse change in employment status, parents in traditional areas have a significantly increased probability of providing assistance, whereas their counterparts in liberal areas barely change their behaviour. The results are driven both by an increase in co-residence and financial help, although the increase in the former type of help is larger than the increase in the latter. Parents from traditional areas are more likely to accommodate their children, whereas co-residence patterns remain unchanged for parents from liberal areas. These findings suggest that an adverse change in employment status produces heterogeneous responses in terms of parental help, both in the intensity and types of support provided, thus confirming *H2*.

The chapter contributes to the literature on social norms by emphasising the magnified effect that they have in the light of a change in employment status. Such changes need not produce a similar reaction and social norms may be a root cause of heterogeneity in both

the magnitude of response as well as the type of support provided. At the same time, the findings speak to the literature on welfare states and social policy by suggesting that intergenerational help from parents to children might help in understanding the different ways in which families overcome the adverse effects of changes in employment status.

Paper 3 – Are the effects of family values on pace of return to work after childbirth resilient to parental leave policy reforms?

The final paper of the thesis examines the resilience of the effect of family values on the pace of return to work after a policy reform on parental leave is implemented in Germany. The policy aimed at incentivising mothers to return to work earlier. Therefore, the paper aims at understanding first whether the reaction to the policy from mothers with more traditional family backgrounds is similar, stronger or weaker than the reaction of their counterparts with more liberal family backgrounds. Second, and closely related, it aims to understand whether the policy reform has led to convergence in the pace of return to work between these two groups. Again, as in the previous papers, an identity framework is useful to conceptualise the analysis, with their identity as 'good parents' depending on their assigned category according to family values. This identity would play a role in informing the duration of parental leave. The cost of engaging in parental leave is forgone income, both in the short and long run.

The working hypotheses of the paper are as follows:

> *H1:* Family values affect the duration of parental leave taken before the policy reform is implemented. Therefore, individuals with a more traditional background are less likely to have a faster pace of return to work than their counterparts with more liberal backgrounds.
>
> > *Alternative to H1: Family values do not affect the duration of parental leave significantly. Individuals have a similar pace of return to work regardless of their family background.*
>
> *H2:* The policy reform has had a larger effect on the pace of return to work for mothers with traditional family values. Individuals from traditional family backgrounds converge in their pace of return to work with their counterparts from more liberal family backgrounds. Note that this leaves room for different rates of convergence, but signals that a convergence trend is on the way. The resilience of the effect of family values is, therefore, weak.

Alternative A to H2: The policy reform has similarly increased the pace of return to work for mothers from different backgrounds. Therefore the differences in the pace of return to work between the two groups remain in the same level as H1 (either H1 or its alternative hypothesis). The effect of family values is maintained with the policy reform, and is therefore resilient to policy changes.

Alternative B to H2: The policy reform has had a larger effect on the pace of return to work for mothers with liberal family values. Therefore, the differences in the pace of return to work between the two groups are exacerbated. The effect of family values is exacerbated by the policy and is therefore resilient to policy changes.

Data and methods

The paper uses the 2005 to 2009 waves of the German Socio-economic panel data (GSOEP), an annual longitudinal dataset in which all members of the household were interviewed. The analysis is interested in the women in the sample, more specifically those who gave birth between 2005 and 2009 and who worked prior to childbirth. It uses a regression discontinuity analysis design (RDD) with a difference-in-difference specification. The duration of the parental leave of women who gave birth in 2005 and 2006 is used as a control group, and its outcome is compared to the treatment group, that is, women who gave birth between 2007 and 2009. The difference-in-difference approach is used to analyse the different impacts of the policy for mothers with different family values background. Because of this design, causality is better warranted, something which is further discussed in the paper.

An epidemiological approach has been chosen to establish the family values background of each individual. This approach provides a good control for institutional and economic factors: migrant groups face the same institutional and economic environment as the native individuals in the country of residence, but they are assumed to preserve, to a certain extent, the family values of their country of ancestry. Individual migrants are therefore assigned the historic family values of their country of ancestry, which are measured using the questionnaire from the World Value Survey.

Conclusion

The results show that first, the duration of parental leave before the policy differs depending on the maternal family values background, confirming *H1*. Second, the policy reform accelerated the pace of return to work mainly for mothers with a traditional family

values background. However, the magnitude of convergence differs across education levels. Mothers with vocational education exhibit high levels of convergence, followed by mothers with low education, who exhibit low but significant levels of convergence. Conversely, highly-educated mothers diverge in their pace of return to work. Therefore, *H2* is partially confirmed. One interpretation of the paper's findings is that education might be understood differently depending on the family values background. Mothers with a traditional family values background seem to use the educational system either as way to enhance their cultural investment or as a marriage market, and therefore will not be very sensitive to changes in economic incentives.

The findings add to the literature on social economics by providing some evidence that the effects of family values are resilient even to policy changes, although the magnitude of resilience depends on education attainment levels. Such a heterogeneous effect of the policy – caused by educational attainment levels - on the pace of return to work for mothers with traditional family values challenges the 'conventional wisdom' on the effects of education. The paper therefore encourages further research on the effect that education may have on policy reforms achieving their goals.

6. Summary

This introductory chapter has provided the rationale for the thesis. It has stated its motivation and objectives, followed by a review of the literature on institutional economics. The conceptual framework has then been developed, leading to the main research question of the thesis. It has then established the focus of the analysis – family values and behaviour in social care - and finally it has summarised the three empirical chapters or papers, stating their specific research questions, the data and methods used and the main conclusions and contributions.

The following chapters – chapters 2, 3 and 4 – provide the empirical analyses and their structure is very similar. First, they present an abstract and an introductory section. Second, background literature on the social care element is provided. Third, the data and methods are described. Fourth, the empirical analysis and robustness checks are explained. Finally, a conclusion section provides the main key findings and contributions.

Chapter 2 Preferences for elderly care: the effect of education attainment and family values

Who cares? The resilience of family values in shaping elderly care preferences

Abstract

This paper examines the effect of education levels on preferences for elderly care for individuals living in societies with different family values. Elderly care arrangements are rooted in engrained pre-existing values and beliefs about the role of the family as a provider of care. At the same time, they are also influenced by individual economic incentives in the context of the labour market. This paper aims to understand the extent to which economic incentives prevail over societal family values in shaping elderly care preferences. To this end, the paper uses cross-sectional data from the Eurobarometer to perform a regression analysis with stated preferences for elderly care as the dependent variable, and family values and education levels as the independent variables. The results of the paper suggest that family values have a non-negligible filtering effect in shaping preferences for elderly care. However, such effect only prevails for lower education groups – for the rest, the effect of educational attainment is strong enough to override family values.

1. Introduction

Most European countries are experiencing a dramatic increase in the percentage of population that is old or very old. According to the OECD, the percentage of population over 80 years old in EU27 is projected to increase from around 5% in 2010 to almost 12% by 2050. This phenomenon represents a considerable challenge for at least two reasons. First, it has a direct bearing on the percentage of people in need of elderly care, which has an obvious impact on governments' budgets. Second, the combination of reduction in share of working-age population and a gradual increase in female labour market participation will affect the availability of care, especially in those countries that rely greatly on informal care (Francesca Colombo, Ana Llena-Nozal, Jérôme Mercier, & Frits Tjadens, 2011). In spite of these challenges, elderly care remains one of the least developed areas of welfare (Costa-Font, 2010), and it is still mostly relatives who provide much of the long-term care services.

In the last decade, several countries have pursued policy reforms to tackle these challenges. Two common characteristics of these reforms has been an increase in the choice of provision between in-kind services and cash-for-care, and implementation of policies designed to support carers (Francesca Colombo et al., 2011). The existence of such institutional choice suggests budget-neutrality for the individual between formal and informal care. But this may be less true in practice than on paper, as the cash-for-care option is unlikely to be a perfect substitute for in-kind services or the wage earned by the carer in the market (Francesca Colombo et al., 2011:54). The emphasis on institutional choice in spite of imperfect substitution begs the question of how people with different individual characteristics and constraints will benefit differentially. Choice is usually regarded as being inclusive, as it can better accommodate individual carer and caree preferences, and may provide alternatives to informal care, thereby encouraging participation in the labour market. However, the same choice may also reinforce differences in economic outcomes across individuals, as the decision to receive cash-for-care over in-kind services usually comes at the expense of fewer working hours, lower labour force participation, and even lower wage rates in some cases (Carmichael & Charles, 2003; Francesca Colombo et al., 2011). The determinants of individual preferences are therefore critical to understanding the potential consequences of institutional choice.

With this in mind (and putting aside formal institutional factors), the literature on elderly care suggests there are two main sets of factors decisive in forming elderly care preferences. One is individual incentives or constraints, understood as socio-demographic variables that influence elderly care preferences. These could range from employment status, education levels, and income, among others. The other set of factors is related to the normative beliefs around the role of the family that exist in societies, hereafter referred to

as 'family values'. Family values are broadly defined according to the strength and resilience of family loyalties, allegiances and authority within a society (Reher, 1998). This paper is interested in the relative importance of these two sets of factors, and in particular, the resilience of the effect of family values on elderly care preferences for individuals facing different economic incentives or constraints.

Family values have been widely acknowledged to affect many social care arrangements (Reher, 1998). Patterns of kin solidarity and the responsibility of caring for the needy, vulnerable and elderly differ across regions according to these values (Ferrera, 1996; Reher, 1998). In areas with traditional family values, help tends to come mostly from the family rather than public institutions, and such differences in patterns of support still persist (Reher, 1998, p. 209:209). With regard to individual socio-demographic variables that affect care choice, the economics literature on elderly care suggests human capital levels is the decisive factor (Francesca Colombo et al., 2011). Labour market opportunities and earning potentials of the members of the family are critical in deciding who will be the informal carer, or whether formal care will be employed. Higher skills or education levels increase the individual's attachment to the labour market, positively affecting their potential earnings. Naturally, highly educated individuals face higher opportunity costs when taking leaves of work to care for the elderly (relative to their less educated counterparts) because their jobs are usually more characterized by career ladders and deferred rewards (Smeaton, 2006). Likewise, choice is often dependent on the amount of information and knowledge of the different options available (Arksey & Glendinning, 2007), which is also tightly correlated with the level of education. Therefore, the question this paper aims to address is the following: when the effect of individual education levels on elderly care preferences goes in a different direction from the effect of existing societal family values, which one prevails? How resilient are the effects of the latter over the former?

Three plausible outcomes may arise. One is that family values affect elderly care preferences, and the effect is resilient to different economic incentives. This would imply that first, less educated individuals have different preferences for elderly care depending on the family values environment they reside in. Second, the impact of education on individuals' preferences is either non-existent or not significant enough to overcome the influence of family values on preferences. The second outcome is that family values affect elderly care preferences, but their effect fades away with challenging economic incentives. This implies that again, preferences amongst the less educated differ depending on the family values environment they reside in. However, for the educated, their preferences simultaneously differ from their less educated counterparts and are very similar across family values areas. Finally, we may also find that family values do not influence elderly

care preferences. This could be interpreted as macroeconomic and institutional factors completely negating the impact of family values.

This paper draws on the pooled sample of Eurobarometer data from 1997 and 2007 – the two waves which contain records on elderly care preferences – for fifteen European countries. The paper takes advantage of the unique nature of the data to perform an empirical analysis of caregiving preferences. Specifically, we conduct a regression analysis with stated preferences for elderly care as the dependent variable, and family values and individual education attainment levels as independent variables. As hypothesized, the results of the paper suggest family values play an important role in influencing (i.e., filtering) preferences for elderly care. The analysis also uncovers an interactive effect with educational attainment, suggesting that the effect of family values fades away when evaluated among individuals with higher educational attainment. More specifically, results show that first, individuals with low education levels have different preferences towards elderly care depending on the family values area they live in. As expected, those in more liberal areas have a significantly higher likelihood of preferring formal elderly care than their counterparts in more traditional areas. Second, individuals with higher education levels living in more traditional areas are more likely to prefer formal elderly care than their counterparts with lower levels of education. Moreover, their likelihood is very similar to that of their educated counterparts living in more liberal areas. This suggests that the effect of education counteracts the impact of family values when the subject resides in more traditional areas. This mediating effect may be due to several factors including skills (and its opportunity cost), information and time preference.

The results of this paper are intended to contribute to both the literature on culture and economics as well as broader social sciences literature. By demonstrating that family values matter, they support the findings from the literature on culture and economic behavior about the importance of taking cultural aspects into account when devising economic policies. At the same time, however, the paper's finding that education can largely overwhelm the influence of traditional family values brings the resilience of cultural factors into question. These findings thus encourage more research on the circumstances under which cultural factors are likely to be more resilient. With regards to literature on social policy, much of it has thus far been centered on the impact of institutions on care. Introducing values and social norms to the discussion in a time when the choice agenda for elderly care is prioritized may help shed light on distributional consequences that such policies can have on labour market participation and income. The paper's conclusions imply that preferences for social care may become very polarized in societies where family values

are still very traditional, with direct economic and social consequences. By contrast, this does not seem to be a major problem in societies where more liberal family values prevail.

This paper is organized as follows: section 2 introduces the conceptual framework used in the paper, offering an overview of the relevant literature to which this paper relates. Section 3 explains the data and the methodology used, and section 4 shows the results. Section 5 reviews robustness checks performed, and finally, section 6 concludes.

2. Background

Conceptual framework: preferences, social norms and family values.

Following Reher's understanding of family values, this paper focuses on societal family values as opposed to individual ones, and defines them according to the strength and resilience of family loyalties, allegiances and authority within a society (Reher, 1998). The concept of 'values' here is understood as the most invariant part of the set of beliefs linked inextricably to affects (Schwartz, 2012) that guide our preferences, attitudes and behaviour. This idea has been put forward by several authors, including Inglehart and Baker (2000) who claim that 'generations have *collective memories*, imprinted in adolescence and early adulthood that persist throughout the life cycle', and that there are a basic set of values which are largely fixed once the individual reaches adulthood (ibid, 2000)[5]. Individuals living in societies with traditional family values will have a tendency to prioritize the family over the individual, and this will shape their economic, political and social preferences. These societies' display of family and kinship solidarity may be rooted in a strong sense of moral obligation (Flaquer in Naldini, 2003; Pfenning, Bahle, & Mannheimer Zentrum für Europäische Sozialforschung., 2000, p.:46), or may come as a result of different incentives in societies – e.g., bequests (Bernheim, Shleifer, & Summers, 1985). Either way, individuals in these societies are more likely to turn to their family when in need of care. By contrast, individuals in more liberal societies have a stronger sense of individual personal empowerment (Esping-Andersen, 1990). While kinship solidarity may empower those in crisis, it may also pose problems for those individuals in the family who are in the position to provide help. Help is therefore expected from the state, either for those at the fringes of society or for everyone.

The idea that family and family values matter is emphasised in sociology, political science and social policy literatures. Reher (1998) claims that family relationships and the roles ascribed to each member of the family in different societies have implications for the way

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[5] To be sure, there are other 'beliefs' which are not fixed and are thus subject to change, but, according to Schwartz, they differ from these 'basic values' in many aspects. He calls them 'attitudes', 'beliefs', 'norms' or 'traits'. See Schwartz (2012).

societies function (Reher, 1998:203). Similarly, the literature on welfare regimes developed by Esping-Andersen (1990) has gradually incorporated into its analysis the role of the family in providing welfare. Some authors have even pushed for a fourth welfare regime – the Mediterranean one – to be included as a separate regime, with family being a part of the argument (Bonoli, 1997; Ferrera, 1996; S. Leibfried, 1993). The feminist criticism has been very explicit in prescribing the need to incorporate a discussion on the family's role in the provision of welfare and care (Arts & Gelissen, 2002). Furthermore, it has highlighted the need to differentiate between paid work, unpaid work and welfare (Lewis, 1992), thereby emphasising the triple link between care, work and family, and pushing for the inclusion of social care as a critical dimension for analysing country variation (Daly & Lewis, 2000).

In the economics literature, considerations for family values, and more generally, values and social norms have been excluded from analyses for a long time. Most economists recognized the idea that values and social norms matter and influence economic behaviour, but many were not comfortable including them in their models and analyses (Postlewaite, 2011). They believed that such variables posed a threat to the models' integrity, and presented numerous measurement problems which seemed difficult to overcome. This resulted in individual preferences being treated as a given (i.e., no independent role ascribed to values), with the price mechanism explaining everything (Guiso et al., 2006). But with new surveys, new methodologies emerged, making it easier to take values into account, and eventually giving rise to new ideas to fit social norms within economic models. These new developments contributed to a change in view and opened the door to relatively recent research within the field of economics that highlights the relevance of values, social norms and other concepts associated with culture[6].

One prominent idea on how to incorporate social norms and values into economic models is put forth by Andrew Postlewaite (2011). He suggests two different ways in which social norms can be included in economic models without compromising the premise that individuals are 'fundamentally similar'. One is to assume that individuals are the same at birth, but interactions with their respective communities differentially shape their preferences (e.g., what makes them happy or sad) as adults. In this case, he argues, their 'deep' preferences are different (ibid). The other option is to assume that two individuals

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[6] Culture is a catch-all concept which, in the realm of economics is defined very vaguely and somewhat differently according to different authors. Some of them focus on the most invariant part of it and define it as "those customary beliefs and values that ethnic, religious, and social groups transmit fairly unchanged from generation to generation" (Guiso et al., 2006). However, others reject this slow-changing nature of culture and define it more broadly as "the integrated pattern of human knowledge, belief, and behaviour that depends upon the capacity for learning and transmitting knowledge to succeeding generations; and the customary beliefs, social forms, and material traits of a racial, religious, or social group; (and) the set of shared attitudes, values, goals, and practices that characterizes an institution or organization" (Fernandez 2010).

have the same deep-rooted preferences, but the social structures within which they reside provide different incentives for behaviour. This would suggest that what differs across these fundamentally similar individuals is their preferences over the immediate alternatives, which he labels 'reduced form preferences' (ibid). Our understanding of family values in this paper is compatible with both explanations. Strong traditional societal family values could be the result of strong emotional bonds within the family, which makes it morally difficult to reject care. This explanation would be more consistent with the pattern of deep preferences across societies. On the other hand, existing family values could be a reflection of family loyalties that are driven more by future rewards for a given behaviour. One evidence seen in literature on long term care is the use of bequests as a reward for caring responsibilities (Costa-Font, 2010). Such explanation is more consistent with the pattern of reduced form preferences.

 The combination of a surge in new micro surveys on values and new methods to identify cultural effects has also facilitated the inclusion of cultural variables in economic analyses. One such method is the epidemiological approach, originally disseminated by Fernandez (2007) and now widely used amongst economists (see interalia Blau in A. F. Alesina et al., 2010; Borjas & Freeman, 1992; Giuliano, 2007). This approach uses immigrants' economic decisions and behaviour to analyse the impact of culture on several economic outcomes and individual behaviours. Immigrants may have acquired a different cultural background depending on their country of origin, but face the same economic and institutional factors as the natives. This makes it possible to disentangle cultural factors from economic and institutional ones.

The findings from the economics and family values literature suggest family values have significant explanatory power. Alesina and Giuliano (2010) show that strong family ties lead to higher home production, larger families, lower labour force participation for women and young adults, and lower geographical mobility. Alesina et al. (2010) find that individuals with strong family ties also choose regulated labour market to avoid moving geographically, thereby limiting the monopsony power of firms. Similarly, Algan and Cahuc (2007) show that family attitudes and family culture are associated with stronger preferences for family activities, which may explain both lower female employment rate and the decline in employment rates among young and older people.

This paper is closely related to this literature, and it analyses the resilience of the effect of family values on preferences for elderly care when individuals are faced with different economic incentives, and education levels in particular. It contributes to the debate in two main ways. First, while a wide range of individual economic behaviour related to labour

markets has been examined, social care has not received as much attention. Social care preferences are tightly linked to labour market participation, and thus it must be closely examined to better understand its impact on participation rates. Second, most of the existing literature suggests family values and social norms possess strong resilience to changes in economic conditions. As stated in the introduction, this paper adds some nuances to this conclusion, identifying the role that individual economic incentives may have in 'breaking up' this resilience. The extent to which such economic incentives prevail over existing societal family values remains to be seen, and is the focus of this paper.

3. Data and methods

This paper examines how education levels affect the preference for formal elderly care for individuals living in groups of regions – called areas from now onwards - with different family values (see below for an explanation of the construction of the variable). It uses individual cross-sectional time series data to conduct an econometric analysis for EU15 countries for years 1997 and 2007, running a series of Linear Probability Model (LPM)[7] specifications as follows:

$$P(Y_{iat}=1) = \alpha + educ + \beta_2 fv_a + \beta_3\ educ_{it}fv_a + \beta_4 X_{it} + \beta_5 C\ + \varepsilon;$$ (1)

where Y_{iat} is the probability that an individual i of area a at time t prefers formal elderly care. It takes the value of 0 if the individual prefers informal care and 1 otherwise. This data is taken from Standard Eurobarometer[8] (Commission, 2012a, 2012b) at two points in time – 1997 and 2007 (waves 47.1 and 67.3) – for EU15 countries[9]. The question used to define the dependent variable is the following: *Imagine an elderly father or mother who lives alone and can no longer manage to live without regular help because of his or her physical or mental health condition. In your opinion, what would be the best option for people in this situation?*' Answers have been coded according to the informal-formal spectrum.

Educ is a categorical variable which reflects the individual's level of education. It has been constructed by categorizing the individual by years of education in order to allow for non-linear effects. *Educ* takes the value of 0 if the individual has 16 years of education or less, 1 if the individual has between 17 and 19 years of education and 2 if he/she has 20 or more

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[7] The model used is the Linear Probability Model (LPM). Although the dependent variable is binary, Angrist and Pischke (2009) suggests that LPM does a good job in estimating marginal effects. They emphasise that although LMP will not give the 'true' marginal effects from the right non-linear model, neither will the 'wrong' nonlinear model. Therefore, it doesn't really make a difference to use LPM or a nonlinear model such as logit or probit.

[8] The Eurobarometer is a survey carried out in European countries, and contains cross-sectional individual data on several issues concerning European citizenship such as health, defense, the Euro, and social situation among others. Each survey consists of approximately 1,000 interviews per country.

[9] No data for EU27 was available in 1997.

years of education. Because national curriculums differ across countries, it is not possible to convert years of education to levels (i.e., primary, secondary or tertiary) consistently, but different combinations of years of education will also be tested nonetheless. Fv_a is a proxy for the area-based family values of each individual, coded into four categories. It takes the value of 0 if the area holds very traditional values, 1 for areas with traditional values, 2 for those with liberal values and 3 for those with very liberal values (see subsection below for an explanation of the construction of the family values variable). $educ_{if}fv_{ja}$ is the interaction between education and family values at the area level. X_{it} includes a set of individual characteristics as controls: *marital status* takes the value of 0 if not married and 1 otherwise. *Gender* takes the value of 1 for male and 2 for female, *year* takes the value of 0 for 1997 and 1 for 2007 and *employment* takes the value of 0 if the individual is unemployed at the time when the interview is conducted and 1 if he/she is employed. Age is also included, but individuals aged 15-24 years old are dropped from the sample because their information on education is incomplete. Income of the individual is also included with a binary variable (0 for low income and 1 for high income) and finally, size of the community is included and takes the value of 0 if it is a rural area, and 1 if it is a small or mid-sized town and 2 if it is a large town. *C* are the country dummies which are included to account for institutional variables that may influence elderly care preferences (e.g., quality and availability of care in each country). Standard errors are clustered at a country level as opposed to regional level, following Cameron and Miller (2013). They suggest that in order to avoid bias, it is better to use bigger and more aggregate clusters when possible (A.C Cameron & Miller, 2013). The resulting dataset includes approximately 11,000 observations.

Data on family values at an 'area' level

This paper is interested in the role that *societal* family values play in influencing economic behaviour, rather than *individual* family values. While we could choose to measure family values at the country level, an individual is arguably more likely to be affected by values closer to his or her own environment – that is, prevalent values in his/her city or county rather than those estimated at the country level. Unfortunately, because the dataset does not include information on the county (NUTS 3 in EU terminology) where the individual lives, the paper attributes societal family values at a regional level (mostly NUTS 2, see *Appendix A* for details) as the basis of the study. To do so, it takes the questions from the European Value Study (EVS) to construct a family values composite index at NUTS 2 level, then assign the values to individuals in the SHARE dataset according to the region where they live[10]. Given that many regions across Europe have similar family values, the responses

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[10] See description of the data below.

are clustered into four categories: very traditional, traditional, liberal and very liberal. As a result, regions are grouped in family-values areas. Some countries in our analysis will have regions belonging to different family values categories, and regions in different countries may belong to the same category.

Two identification problems arise when the resilience of family values and its effect on economic behaviour is tested. The first one relates to the empirical isolation of the effects of societal family values, or more generally social norms, from the effects of institutional and economic variables. The strategy that this paper adopts is controlling for country fixed effects[11]. This, in effect, results in an underestimation of the effect of family values, as they may be engrained in the specific country. But simultaneously, this approach derives estimates which can more credibly be assigned to family values (Guiso, Sapienza and Zingales 2003).

The second identification problem stems from endogeneity concerns. Decisions on providing elderly care are likely to be influenced by societal family values, and at the same time, these same decisions reinforce societal family values. The paper attempts to mitigate endogeneity problems by constructing family values categories with EVS questions from years prior to the analysis.

Given that the Eurobarometer database does not include variables on the role of the family for these two years, the paper uses the European Values Study (EVS)[12] (EVS, 2011a, 2011b, 2011c, 2011d) to construct a composite index of societal family values at a regional level using Principal Component Analysis (PCA). I dichotomize the questions with categorical answers, then group and average the answers for each question at the country-region level. The descriptive statistics for all considered questions, as well as the details for the PCA are found in *Appendix C.*

The questions included in the composite index are basically most of the questions from the EVS that relate to family values with answers available (see *Appendix B* for the questions included). In this way, this chapter (as well as chapter 3) takes a broad approach to the concept of family values. Variables included relate to different aspects of family values highlighted by several authors. Banfield (1958) suggested in his examination of an Italian village that the lack of trust – or rather the fact that individuals only trusted their family members and not the rest of the society – was behind a pervasive underdevelopment. A

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[11] The paper cannot control for regional effects as the family values variable is constructed using regional data and so regional dummies are collinear with family values dummies.

[12] The EVS is a cross-national longitudinal survey running since 1981 (repeated every nine years), containing individual data for several countries on how Europeans think about family, work, religion, politics and society.

variable on whether people can be trusted is included. Reher (1998), mentioned above, relates family values with the concepts of family loyalties, allegiances and authority. Variables related to these concepts include beliefs about the degree that love and respect for parents is a duty or needs to be earned, which would speak to the concept of loyalty and allegiance, the list of qualities that children should learn (obedience, responsibility or independence) and issues of abortion and marriage, single motherhood and the need of having both parents, which relate to authority.

Several authors (see for example Esping-Andersen 1999, Ferrera 1996, Castles 1995 or Korpi 2000) also relate societies with stronger family ties with societies in which family solidarity is strong and characterized by a network of intergenerational exchange, there is usually an unequal division of family work between men and women, and family obligations are women's duty. Variables like the responsibility of parents towards children and viceversa are tightly linked to the concept of family solidarity and intergenerational exchanges, whereas variables like the approval of mothers with young children working, the role of women as housewife and their role as contributors of income are closely related to concepts of division of family work and family obligations of women.

In order to avoid causality problems – namely, care preference affecting family values – I take the variables from 1981 and 1990[13]. In order to test how representative they are of family values in 1997 and 2007, I take the answers from the EVS in 1999 and 2008 to check the correlations between the 1981-1990 and 1999-2008 data. Most of the correlations are above 70%, with the exceptions of two variables for which the correlations are 60%. I therefore conclude that family values in 1981-1990 are fairly representative of those in 1997 and 2007. After standardizing the variables, I multiply them by the PCA weights to derive a family values coefficient for each country-region. Because of the way PCA has been conducted, negative coefficients belong to regions which are more liberal than the average, and the opposite is true for positive coefficients.

Figure 3 below shows the variability of non-dichotomized coefficients by country, and *Appendix D* shows that this variability across countries is also present within-country and across regions. From the figure below, it can be seen that most Nordic countries have negative coefficients, whereas most Mediterranean countries have high positive coefficients (with Continental Europe being somewhere in the middle). Needless to say, the index must be carefully interpreted. Building on existing literature about the role of the family in different European societies, a plausible interpretation is that countries with a higher family values score tend to have a more communalistic ethic which emphasizes

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[13] Except for Greece and Portugal, which only have available data for 2008.

family ties and responsibilities, in significant contrast with the 'individualistic' ethic more predominant in Nordic countries. Using Gal's words, regions where family values are more salient can be thought of as regions where there is still 'an enduring sense of strong and extended family obligations [...] along with the notion that care remains a family responsibility' (Gal, 2010).

Figure 3 Country-based standard deviation of family values composite index.
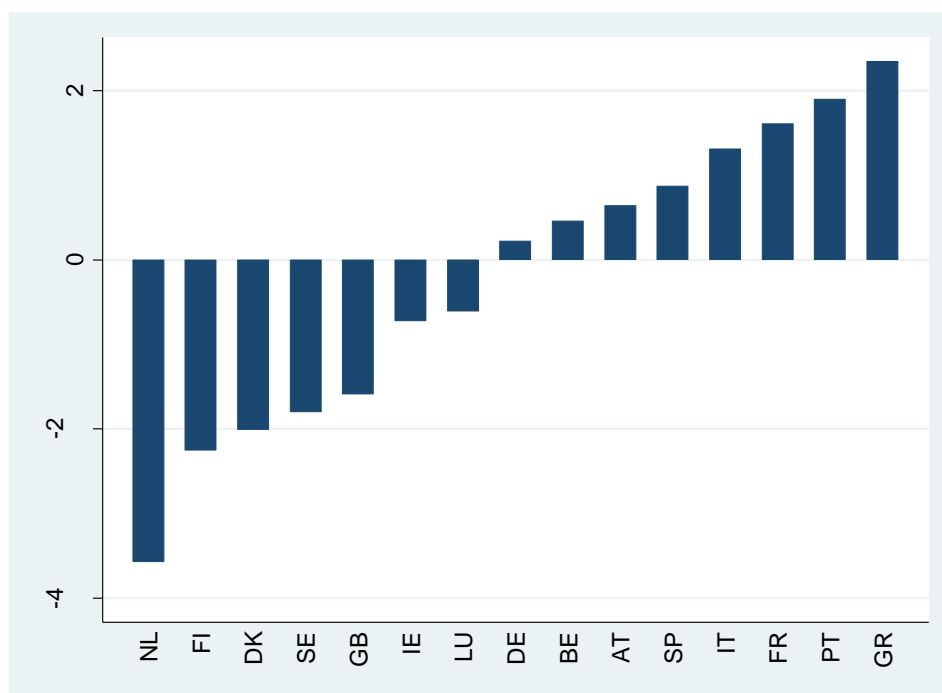
I then categorize the family values coefficient using the 25th, 50th and 75th percentile, effectively creating four categories of family values with smaller values representing more traditional values (note that I have changed the signs from the PCA, where negative values represent liberal family values). Family values coded as 0 are "very traditional", those coded as 1 are "traditional", 2 are "liberal" and 3 are "very liberal", and this categorization is used in the regression specified above. Table 1 below shows how many regions in each country have very traditional, traditional, liberal and very liberal family values.

Table 1 Family values by region and country.

		VALUES					
Obs.	Country	Very traditional	Traditional	Liberal	Very liberal	Total	Num. of regions
1581	FR	**75%**	**25%**			100%	8
1587	BE	18%	**45%**	**36%**		100%	11
1678	NL				**100%**	100%	12

Obs.	Country	Very traditional	Traditional	Liberal	Very liberal	Total	Num. of regions
2823	DE	**25%**	**38%**	**31%**	6%	100%	16
1459	IT	**53%**	**47%**			100%	17
812	LU			**100%**		100%	1
1611	DK			33%	**67%**	100%	3
1341	IE			**100%**	0%	100%	3
1921	GB			33%	**67%**	100%	6
1661	GR	**100%**				100%	3
1460	SP	12%	**88%**			100%	17
1336	PT	**83%**	17%			100%	6
1635	FI				**100%**	100%	1
1631	SE			38%	**63%**	100%	8
1531	AT		**100%**			100%	9

Own elaboration, from EVS data.

Descriptive statistics

The following two tables show the meaning and descriptive statistics for the variables used in the analysis. Table 3 shows that there are as many individuals who prefer formal elderly care as those who prefer informal elderly care in the sample. With regards to marital status, most individuals in the sample are married. And the level of education, size of the community they reside, age and family values for the subjects included in the study appear to be normally distributed. High income dummy (0 for the two lower quartiles and 1 for the two higher quartiles) has a mean of 0.61, meaning that there is a slight bias in the direction of high income individuals in the sample. Finally, the employment variable, which differentiates between those who have never been employed and the rest shows that the sample is clearly biased towards individuals who have been employed at some point in his/her life.

Table 2 Definitions of the relevant variables.

Variable name	Variable label
care	Categorical preferred care option for elderly (used to construct dcare): 1. They should live with their children, 2. One of their children should regularly visit them, 3. Public/private providers should visit them, 4. They should move to a nursing home.
dcare	Dependent variable - dichotomized *care preference* [0: informal, 1: formal, both home and nursing care].
fvv	Regional family values, continuous variable.
dfvpc	Family values by area - 4 categories by percentile using *fvv* [1. Very traditional, 2. Traditional, 3. Liberal, 4. Very liberal].
country	Country of survey – as reported.

Variable name	Variable label
region	Region where the individual lives – as reported.
married	Marital status [0: not married, 1: the rest]
yreduc	Age when you finished full-time educ.
educ	Education [0: secondary or less, 1: A-levels, 2: university]
gender	Gender [0: male, 1: female]
sizecom	Size of the community where the individual lives [rural area, small and middle town, large town].
agegr	Age group - six groups [15-24yo, 25-34yo, 35-44yo, 45-54yo, 55-64yo, 65 and older].
age	Age as reported.
demplnow	Employment status [0: nonemployed; 1: employed]
dempl	Employment status [0: never employed, 1: has been in employment at some point in life].
incomemth	Income per month, in quartiles [from 1 to 4].
dyear	Dummy year [0:1997]
highinc	Dummy income [0: low income]
doccup	Dummy occupation according to ISCO categories [skills level from 1 to 4].

Table 3 Descriptive statistics of variables used in the analysis

Variable	Obs	Mean	Std. dev	Min	Max
care	24,067	2.29	1.08	1	4
dcare	24,067	0.50	0.50	0	1
fvv	23,622	0.22	1.74	-2.77	5.22
married	24,004	0.75	0.43	0	1
yreduc	23,816	4.69	2.95	1	9
gender	24,067	1.55	0.50	1	2
sizecom	23,961	1.90	0.78	1	3
agegr	24,067	4.02	1.42	2	6
age	24,067	50.41	15.62	25	98
demplnow	17,517	0.74	0.44	0	1
dempl	24,067	0.93	0.26	0	1
dyear	24,067	0.51	0.50	0	1
educ	20,757	0.81	0.86	0	2
highinc	13,846	0.61	0.49	0	1
doccup	25,865	2.01	0.92	0	4
dfvpc	24,067	1.55	1.14	0	3

4. Empirical analysis and results

All regressions presented here use a probability linear model (OLS) (unless indicated otherwise) in which the dependent variable is the probability that individuals prefer formal elderly care rather than an informal one. All results are presented in terms of Average

Marginal Effects (AME) and predicted probabilities. Parameter estimates for the effect of different levels of education on the probability that individuals prefer formal care are presented in Table 4. The first column presents the results from the estimation of the variables of interest – education levels and family values. Column 2 layers on controls. Column 3 adds the interaction effect between education levels and family values, and column 4 adds relevant controls. Finally, column 5 shows the results from a logit specification instead of OLS.

Columns 1 and 2 suggest that the probability of preferring formal elderly care is around 6-8% higher for individuals living in more liberal areas relative to their counterparts in other areas. The figures are similar for the rest of the models – when interaction and controls are included and a logit model is pursued – although significance levels vary. When the interaction effect (columns 3 and 4) between education levels and family values are added, the results show that first, education levels affect preferences for elderly care mostly for those individuals living in traditional family areas. Individuals with 17 to 19 years of education and those with 20 or more in traditional areas are 10% and 8% more likely to prefer formal care than their less educated counterparts, respectively. In other words, the difference is between the less educated individuals (i.e., 16 years of education or less) and the rest. Individuals with 20 years or more of education in both very traditional and liberal areas are approximately 3% to 4% more likely to prefer formal care than their counterparts with less than 16 years of education, although the difference is barely statistically significant. Finally, individuals living in very liberal areas have similar likelihoods of preferring formal elderly care regardless of their education level.

The analysis with predicted probabilities – Table 5 and Figure 4 - show that again, individuals living in traditional family values areas are the ones whose probability to choose formal elderly care is most affected by education. Low-educated individuals in these areas have a probability of preferring formal care of around 45%, whereas their more educated counterparts see this probability raise to around 53 – 55%.

Table 4 Average Marginal Effects of education on the probability of preferring formal elderly care, by family values.

	(1)	(2)	(3)	(4)	(5)
	Base	Base + controls	Base + interaction	Controls	Model (5) with logit
Family values *[base:v. Trad]*					
Traditional	0.043	0.031	0.007	-0.024	0.025
	(0.029)	(0.036)	(0.031)	(0.036)	(0.031)
Liberal	0.062	0.071	0.045	0.060	0.059
	(0.025)**	(0.025)**	(0.036)	(0.039)	(0.022)***
V. Liberal	0.081	0.066	0.095	0.077	0.055
	(0.019)***	(0.024)**	(0.023)***	(0.028)**	(0.029)*
Educ effect # fam. v. *[base: 14-16 yr educ]*					
17-19 years educ					
Average fv	0.022	0.020			
	(0.012)*	(0.015)			
V. Tradit.			-0.011	-0.025	-0.024
			(0.013)	(0.019)	(0.021)
Traditional			0.072	0.097	0.091
			(0.014)***	(0.018)***	(0.019)***
Liberal			0.033	0.013	0.011
			(0.015)**	(0.022)	(0.021)
V. Liberal			-0.015	-0.014	-0.016
			(0.023)	(0.031)	(0.034)
20+ educ					
Average fv	0.043	0.041			
	(0.009)***	(0.009)***			
V. Tradit.			0.035	0.040	0.042
			(0.019)*	(0.020)*	(0.017)**
Traditional			0.081	0.083	0.080
			(0.020)***	(0.025)***	(0.026)***
Liberal			0.052	0.034	0.032
			(0.023)**	(0.026)	(0.023)
V. Liberal			0.010	0.006	0.011
			(0.010)	(0.014)	(0.013)
Employment status *[base: not employed]*		0.019		0.018	0.018
		(0.015)		(0.014)	(0.014)
age		0.001		0.001	0.001
		(0.000)*		(0.000)*	(0.000)*
Gender *[base: male]*		0.018		0.019	0.018
		(0.012)		(0.012)	(0.012)
Marital status *[base: not married]*		0.017		0.018	0.017
		(0.013)		(0.013)	(0.013)
size community		0.011		0.011	0.011
		(0.010)		(0.010)	(0.010)
Highinc		0.023		0.023	0.023

	(1)	(2)	(3)	(4)	(5)
		(0.012)*		(0.013)*	(0.012)*
Year dummy	0.055	0.047	0.055	0.047	0.047
[base:1997]	(0.021)**	(0.024)*	(0.021)**	(0.024)*	(0.022)**
Constant	0.511	0.392	0.521	0.407	
	(0.018)***	(0.049)***	(0.019)***	(0.054)***	
Country dum.	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes
R^2	0.19	0.21	0.19	0.21	0.17
N	23,372	11,326	23,372	11,326	11,326

* p<0.1; ** p<0.05; *** p<0.01
Robust clustered st. errors by country

Table 5 Predicted probabilities to prefer formal elderly care for different levels of education, by family values – model (4) from Table 4.

Predicted probabilities to prefer formal elderly care for different levels of education			
	16 or less yr educ	**17-19 yr educ**	**20 + yr educ**
V. Traditional family values	0.48	0.45	0.52
	(0.01)***	(0.02)***	(0.02)***
Traditional family values	0.45	0.55	0.53
	(0.02)***	(0.03)***	(0.03)***
Comparison to prob for v.traditional fv	(0.04)	(0.04)**	(0.04)
Liberal family values	0.54	0.55	0.57
	(0.02)***	(0.02)***	(0.01)***
Comparison to prob for v.traditional fv	(0.04)	(0.03)***	(0.02)**
V. Liberal family values	0.55	0.54	0.56
	(0.02)***	(0.03)***	(0.02)***
Comparison to prob for v.traditional fv	(0.03)**	(0.04)*	(0.03)
Obs		11,326	

Note: standard errors in parenthesis. The second row of standard errors and stars refers to the difference in probabilities compared to the probabilities of receiving help from individuals living in very traditional regions.

Figure 4 Predicted probabilities to prefer formal elderly care for different levels of education, by family values.

Predicted probabilities to prefer formal elderly care
for different levels of education, by family values
95% CIs
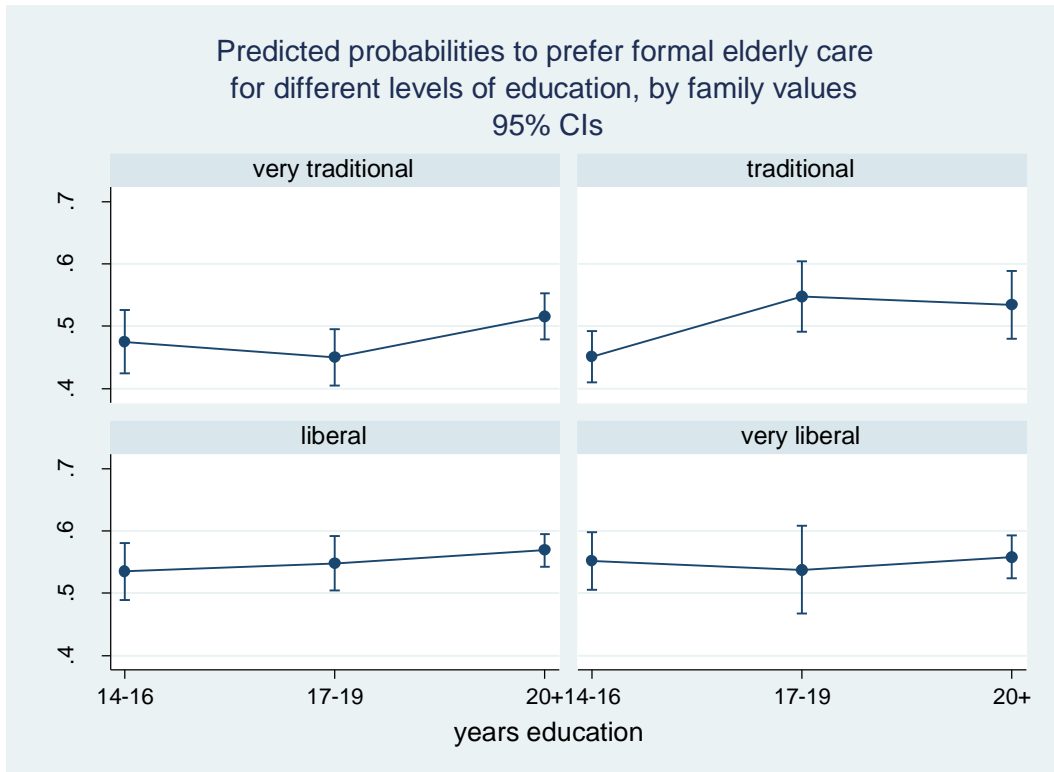
Age groups and gender as a proxy for revealed preferences

Examining stated preferences rather than revealed preferences uncovers information about choices that individuals would make without the noise introduced by other unexpected or unwanted circumstances. However, it may also have the downside of failing to reveal the choice that an individual actually makes. In the case of elderly care preferences, where there is a potential clash between family values and economic incentives, the individual may underestimate the future impact of economic incentives and potential constraints while overestimating that of their normative values.

One way to mitigate this drawback is by comparing the stated preferences of individuals who are more likely to engage in caring activities with that provided by the rest. I identify two groups based on two characteristics: age and gender. The literature is clear on the gender bias: men not only spend fewer hours in caring for the elderly on average, but also, the caring they do provide is less intense (Anderson, Mikuliç, Vermeylen, Lyly-Yrjanainen, & Zigante, 2009; Francesca Colombo et al., 2011). This phenomenon can influence preferences in two contradictory ways. On one hand, women may consider opportunity costs of care more seriously when they answer the question on care preferences because of higher awareness of their potential role as carers. However, some research (see for example

Parker, 1993) suggests that women are less likely to put their own interests or needs before those of their spouses. Consequently, social norms and altruistic concerns may more strongly influence their decision (and economic incentives would matter less). With regards to age, Glendinning et al. (2009) claim that involvement in caring for an older person is the highest among those in the 50-64 age group (9%), followed by those in the 35-49 age group (7%), then those in the 65 plus age group (6%). Although some authors, such as Anderson et al. (2009) find the percentages associated with the third group surprisingly low, other sources such as Grammenos (2003) and Eurofamcare (2006) confirm the findings. Applying a similar logic to the one employed in gender, we may expect that groups with greater exposure to care consider opportunity costs more seriously when asked about care preferences. Table 6 shows the results of regression analyses with age and gender subsamples. All regressions include interaction effects and the same controls seen in Table 4. Column 1 is the base model (i.e., model 4 from Table 4). Columns 2 and 3 depict results for male and female subsamples, and column 4 includes only the 35-49 and 50-64 age groups, the two groups with the highest probability of being involved in care according to literature.

Table 6 Average Marginal Effects of education on the probability to prefer formal elderly care, by family values - subsamples.

	(1)	(2)	(3)	(4)
	Base model	*Male subsample*	*Female subsample*	*35-64 year old subsample*
Family values *[base:v. Trad]*				
Traditional	-0.024	-0.001	-0.039	-0.046
	(0.036)	(0.042)	(0.035)	(0.035)
Liberal	0.060	0.052	0.069	0.068
	(0.039)	(0.038)	(0.040)	(0.035)*
V. Liberal	0.077	0.113	0.042	0.088
	(0.028)**	(0.031)***	(0.026)	(0.028)***
Educ effect # fam. v. *[base: 14-16 yr educ]*				
17-19 years educ				
V. Tradit.	-0.025	-0.052	-0.002	-0.049
	(0.019)	(0.026)*	(0.020)	(0.016)***
Traditional	0.097	0.070	0.115	0.139
	(0.018)***	(0.032)**	(0.024)***	(0.035)***
Liberal	0.013	0.020	0.005	0.024
	(0.022)	(0.033)	(0.030)	(0.022)
V. Liberal	-0.014	-0.022	-0.008	-0.021
	(0.031)	(0.034)	(0.035)	(0.022)
20+ educ				
V. Tradit.	0.040	0.051	0.025	0.040
	(0.020)*	(0.041)	(0.023)	(0.031)
Traditional	0.083	0.065	0.087	0.070
	(0.025)***	(0.036)*	(0.036)**	(0.034)*

	(1)	(2)	(3)	(4)
Liberal	0.034	0.046	0.021	0.029
	(0.026)	(0.029)	(0.031)	(0.025)
V. Liberal	0.006	0.003	0.008	-0.003
	(0.014)	(0.015)	(0.018)	(0.015)
Controls and constant	Yes	Yes	Yes	Yes
Country & reg. dum.	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes
R^2	0.21	0.21	0.22	0.22
N	11,326	5,433	5,893	7,996

* p<0.1; ** p<0.05; *** p<0.01
Robust clustered st. errors by country

Results from the table share some commonalities with those in Table 4. For the less educated individuals, those living in liberal and very liberal areas have higher likelihood of preferring formal care than their counterparts in more traditional areas. Furthermore, having higher levels of education only seems to lead to different preferences for individuals living in traditional areas. Similarly, the likelihood of individuals living in very liberal areas to prefer formal care does not vary based on education levels.

The table also shows some differences between male and female respondents. First, among the lowest educated, the difference in preferences across family values areas seem to be higher for men than for women. Men living in very liberal areas are 11% more likely to prefer formal care than their counterparts in very traditional areas. For women with low education, this difference between very liberal and very traditional areas shrinks to 4% and it is not statistically significant. Second, female respondents appear to show a stronger reaction to education levels than their male counterparts. Women with 17 to 19 years of education living in traditional areas are 12% more likely to prefer formal care compared to their less educated counterparts. For men, this difference in likelihood is only 7%. This finding suggests that if anything, on average, women are more sensitive to economic incentives than men. With regards to age, 35 to 64 year old individuals with 17 to 19 years of education living in traditional areas also appear to be more sensitive to economic incentives than the average sample, with the former being 14% more likely to prefer formal care. When looking at the overall sample (column 1), the likelihood declines to 10%.

This subsamples-based analysis hints at a potential heterogeneity of preferences between individuals who are more likely to be potential carers and the rest. However, this analysis is far from decisive, and further examinations of subsamples with this data are difficult to perform due to limited number of observations. The question therefore remains on whether revealed preferences would significantly differ from stated preferences. But if

anything, the analysis suggests that the role of economic incentives in stated preferences may be underestimated.

5. Robustness checks

This section conducts robustness checks on the main independent variables: education and family values. With regards to the education variable, the measure available in the dataset is years of education, which is categorized in the analysis in order to allow for non-linear effects. Although it is logical to expect human capital to be related to years of education, there are two potential measurement problems. The first one pertains to individuals who have invested the same or similar amount of years in education, but achieved different qualifications. These individuals would cluster together in the same categorization. The second problem concerns individuals that have taken different number of years to attain the same level of human capital. These subjects would be placed into different categories. These two measurement problems are exacerbated due to the cross-country nature of the study. In order to minimize the effect of these two problems, I have performed the same regression analysis using, 1. Years of education as a continuous variable, and 2. Substituting education with occupation levels.

Including education as a continuous variable – and thus avoiding its categorization – is likely to partially avoid the problem of having individuals with different human capital in the same group (i.e., the first of the two measurement problems), as those with similar, but not equal years of education would be appropriately treated as having different levels of human capital. However, those individuals with the same number of years of education but different qualifications would still be incorrectly measured. Substituting occupation for education levels provides an alternative measure of human capital which avoids the two problems mentioned above. First, it enables a more accurate human capital categorization for those individuals who have received the same amount of education in years, but acquired different qualifications and skills. Second, it recognizes that different countries may have different education paths (including different years of education) which result in the same level of human capital and skills. The categorization of occupations has been performed according to the International Standard Classification of Occupation (ISCO) 2008. *Appendix E* depicts this categorization, and Table 7 below shows the results for these two alternative measures of education.

With regard to family values, the goal of the robustness check is to see whether the results are similar when the categorization changes. So far, the analysis has clustered regional family values into four categories ranging from very traditional to very liberal. Table 8 below shows the results for care preferences when family values are measured: 1. As a four-

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category variable (our base model), then 2. As a binary variable – liberal and traditional family values – and 3. As a three-category variable – traditional, central and liberal family values.

Table 7 Average Marginal Effects of education for each family values categorization (AME). Education measured as a three-category variable, continuous variable and proxied by occupation categories.

Average Marginal Effects of education for each family values categorization				
	Very traditional	**Traditional**	**Liberal**	**Very liberal**
3-cat. yrs. educ *[base: 14-16 yrs. educ]*				
17-19 yrs. of education	-0.025 *(0.019)*	**0.097 (0.018)***	0.013 *(0.022)*	-0.014 *(0.031)*
20+ yrs. of education	**0.040 (0.020)***	**0.083 (0.025)***	0.034 *(0.026)*	0.006 *(0.014)*
Years of education, continuous				
Yrs educ	**0.006 (0.003)***	**0.014 (0.003)***	0.006 *(0.003)*	0.002 *(0.003)*
Occupation levels *[base: Skill level 1 - low]*				
Skill level 2	-.0010 *(0.044)*	**0.055 0.024)***	-0.008 *(0.037)*	0.000 *(0.027)*
Skill level 3	0.037 *(0.040)*	0.059 *(0.049)*	0.012 *(0.049)*	-0.010 *(0.032)*
Skill level 4	0.044 *(0.064)*	**0.147 (0.034)***	0.014 *(0.033)*	-0.003 *(0.022)*

*Note: standard errors in parenthesis. * p<0.1; ** p<0.05; *** p<0.01*
Robust clustered st. errors by country

Table 8 Average Marginal Effects (AME) of education for each family values categorization. Family values measured as four-category, two-category and three-category variable.

Average Marginal Effects of education for each family values categorization		
	17-19 yrs. of education	20+ yrs. of education
Family values, 2 categories		
Traditional	0.033 *(0.023)*	**0.062 (0.018)***
Liberal	0.007 *(0.019)*	0.025 *(0.013)**
Family values, 3 categories.		
Traditional	-0.000 *(0.022)*	**0.061 (0.024)***
Central	**0.061 (0.020)***	**0.056 (0.020)***
Liberal	-0.002 *(0.029)*	0.017 *(0.014)*

Average Marginal Effects of education for each family values categorization		
	17-19 yrs. of education	20+ yrs. of education
Family values, 4 categories		
Very traditional	-0.025	**0.040**
	(0.019)	**(0.020)***
Traditional	**0.097**	**0.083**
	(0.018)*	**(0.025)***
Liberal	0.013	0.034
	(0.022)	(0.026)
Very liberal	-0.014	0.006
	(0.031)	(0.014)

*Note: standard errors in parenthesis. * p<0.1; ** p<0.05; *** p<0.01 Robust clustered st. errors by country*

Results from Table 7 support the main results, and suggest areas for further research. The three measures of human capital used above confirm that the most substantial differences in outcomes across different levels of human capital are found in traditional areas, followed by those of individuals in very traditional areas. This is corroborated by both the statistical significance of the coefficients, as well as the magnitude of the coefficients. By contrast, preferences on elderly care for those individuals living in liberal and very liberal areas are not affected by the levels of human capital. Therefore, the resilience of the effect of family values is challenged with increasing levels of human capital. The results also suggest that a closer examination of human capital is warranted. When a three-category education variable is used, results show that the impact of receiving 20+ years education is similar to receiving 17-19 years of education when it comes to elderly care preferences (around 10% more likely to choose formal care). One interpretation of this finding is that the effects of human capital exhibit diminishing returns. This conclusion is challenged when weighing human capital in terms of occupation levels. Relative to individuals in low-skill occupations (skill level 1), individuals with low-medium and medium-high skill levels (levels 2 and 3) are around 5-6% more likely to prefer formal elderly care. For those individuals with high-skill occupations (level 4), the likelihood of preferring formal elderly care increases by 15% (again, compared to their counterparts with low-skill occupations). This would suggest that preference for formal care continues to increase with greater investment in human capital.

Results from Table 8 also confirm the previous results regarding the differential impact of human capital levels on elderly care preferences based on family values areas. First, all three categorizations of family values demonstrate that the preferences of individuals in more traditional areas are more likely to be affected by their level of human capital than those of their counterparts living in more liberal areas. With the binary categorization of family values variable, there is a stronger impact of education levels on preferences for elderly care for those individuals living in traditional areas than for those living in liberal areas. The impact of education is stronger when the individual has 20 or more years of

education. When family values are categorized into three levels – traditional, central and liberal – the impact of education remains stronger in both magnitude and statistical significance for those individuals living in traditional and central areas.

This time, however, another pattern emerges: in traditional areas, it is only among those with high levels of education where there is an impact on preferences, whereas in 'central' areas, the impact is seen in those with both mid and high levels of education. Moreover, the impact of education in central areas seems to have diminishing returns. The analysis using a four-category family values variable (i.e., the one used in the main analysis) confirms this trend. Again, it is the individuals living in more traditional areas (rather than those living in more liberal ones) for whom education levels impact the preferences for elderly care. Moreover, the education threshold beyond which individuals are more likely to prefer formal care differs depending on the family values area. Results suggest that in very traditional areas, the likelihood of preferring formal care is higher for those individuals with higher levels of education (20 or more years), but not for those with medium levels of education (17-19 years). The likelihood of the former group to prefer formal care is 4% higher compared to their less educated counterparts, whereas for the latter group, the likelihood is actually 3% lower, although it is not statistically different from zero. By contrast, in traditional areas, the likelihood of preferring formal care is already higher for individuals with medium level of education, and from then onwards, additional years of education have minimal effect. Specifically, individuals with medium and high level of education are respectively 10% and 9% more likely to prefer formal care relative to their less educated counterparts.

6. Discussion and conclusion

Individual preferences regarding forms of elderly care are thought to be subject to economic incentives such as changes in the costs and benefits of certain actions such as caregiving. And yet, these same preferences – especially the ones related to social issues such as elderly care – are arguably rooted in engrained beliefs about the role of the family as care provider, and its responsibilities on issues of welfare for different members of the household. This paper has aimed to shed light on the role that engrained family values and economic incentives play in shaping elderly care preferences. To this purpose, it has examined the resilience of the effect of family values on elderly care preferences in light of different individual economic incentives – namely, different education levels.

Results of this paper suggest that resilience of the effect of family values on elderly care preferences is mediated by the effect of education. Highly educated individuals in more traditional areas have a significantly higher likelihood of preferring formal elderly care than

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their less educated counterparts. By contrast, the likelihood to prefer formal care is similar across educational levels for individuals living in liberal family areas. These findings suggest that the effects of education may be strong enough to 'break' the influence of family values on elderly care preferences. It is important to note that education acts as a catalyst for change in both very traditional and traditional societies. However, the shift in likelihood to prefer formal care happens at different levels of education. In very traditional societies, it is individuals with twenty or more years of education who exhibit a higher likelihood of preferring formal care than their less educated counterparts. In traditional societies, the years of education which result in a similar shift are instead between 17 and 19 years. Individuals with this education level have a markedly higher likelihood of preferring formal elderly care relative to those with low or no education. Furthermore, their preferences are fairly similar to those held by their more educated counterparts.

The paper has some limitations. First, it uses stated preferences rather revealed preferences. The former may be considered 'purer' in the sense that it does not factor in unexpected or unwanted circumstances that may affect final decisions. However, stated preferences may downplay the actual role economic incentives overestimate the impact of norms or wishes relative to what actual choices may suggest. Further research examining revealed preferences is therefore desirable to complement these results. Second, the paper may suffer from endogeneity issues. Parental preferences for elderly care may influence education decisions of the individuals in the sample, which may in turn influence their own preferences for care. Not accounting for such effects – as was the case here due to lack of data – may bias the results and ascribe more importance to economic incentives than what is actually justified. Third, the paper uses education as an example of economic incentive. However, as discussed in the introduction (section 4.3) education can affect preferences on elderly care by increasing the opportunity cost of caring but also by affecting individual family values. That is, education levels could be a measure of more liberal individual family values. These individuals would then select themselves into higher levels of education. In this case, the results would be suggesting that the effect of societal family values is not resilient for individuals who do not individually share these values. Therefore additional research exploring the channel through which education acts as a counter-force to existing societal family values may also be warranted. In spite of these limitations, the paper contributes to existing literature by studying the resilience of the impact of family values when individuals have different levels of education, and the resultant findings have direct policy implications for the choice agenda.

The paper's finding that education limits the resilience of the effect of traditional family values is partially consistent with the literature on education which stresses the higher

opportunity costs faced by highly educated individuals when taking leaves from work (see Jaumotte, 2003; Smeaton, 2006). On one hand, education is seen as a challenging force to traditional values, which are more resilient among less educated individuals. On the other hand, results suggest that the impact of education is less relevant in very liberal societies, where preferences for elderly care are not contingent on education levels. These finding thus open questions on the relevance and impact of education in different family values areas, encouraging further research on the interaction between economic incentives and family values, and more generally – social norms. The paper's finding that different levels of education have different effects depending on the family values area also deserves more attention. What is the education threshold beyond which individual preferences may shift in favour of formal elderly care, and does this threshold vary depending on the prevailing family values of the society? Wage structure – i.e., similar wages between those with low and medium levels of education – or the lack of exposure to 'liberal values' often acquired during education could be potential explanations. Finally, the paper has exposed education as a catalyst for change. What other factors have a similar effect?

The paper primarily speaks to two bodies of literature: literature on social sciences and literature on economics and culture. The social policy literature has thus far focused more on the effects of institutional settings on preferences, rather than the effects of culture and social norms. The revised focus in this paper contributes to the understanding of the rationale behind varied preferences across distinct institutional settings. However, the paper stops short of differentiating the differences across institutional settings brought about by different family values and the effects that such values can have on people's preferences. With the choice agenda increasingly embraced by several European countries, more attention needs to be paid to the cultural and economic incentives individuals face. As stated in the introduction, more choice in social care may better accommodate individual preferences. However, we must be careful, as such choice can also lead to polarization of economic outcomes associated with social care (e.g., female labour force participation) between individuals with different economic incentives, especially in more traditional societies.

Within the literature on economics and culture, there is a broad consensus that 'culture matters'. A large number of papers (see interalia A. F. Alesina et al., 2010; Fernandez, 2007; Guiso et al., 2006; Ichino & Maggi, 2000) show how individuals with more traditional family values consistently make different economic decisions and exhibit different economic preferences than those with more liberal family values. The epidemiological approach used in some of these papers provides evidence that even within the same institutional setting, cultural factors from the country of origin persist and affect individual economic decisions.

The present paper imparts some nuances to this conclusion. By finding that resilience of the effects of family values is weakened by human capital accumulation, it encourages more research on the extent and the circumstances under which cultural factors and social norms are resilient.

Chapter 3 Parental support: the effect of changes in employment status and family values.

Employment status and parental support: Do family values influence parental support for offspring?

Abstract

Changes in unemployment levels have produced heterogeneous individual reactions even when same politics are employed in different countries. This paper examines the impact of family values on parental support provided to adult children when they suffer an adverse change in employment status. This paper uses representative longitudinal data of Europeans over the age of 50 from the Survey of Health, Ageing and Retirement in Europe (SHARE) and controls for institutions and economic conditions to isolate the impact of family values from other factors. The results show that when adult children are faced with an adverse change in employment status, parents in traditional areas significantly increase the probability of providing assistance, whereas their counterparts in liberal areas barely change their behaviour. The results are driven largely by different willingness to permit co-residence. Parents from traditional areas are more likely to accommodate their children, whereas co-residence patterns remain unchanged for parents from liberal areas. These findings suggest that an adverse change in employment status produces heterogeneous responses in terms of parental help, both in intensity and types of support provided.

1. Introduction

In the last two decades there has been a renewed interest among economists on culture and the role it plays in explaining economic behaviour, both at a macro and micro level. In this context, culture has been used as an umbrella term that encompasses social norms, trust, family values, civic virtue and the likes. The outcomes from this body of research suggest that culture affects economic outcomes and individual behaviour even when controlling for institutional and economic factors. Preferences for labour market regulation as well as employment patterns of women and young people are affected by family ties and religion (see interalia A. F. Alesina et al., 2010; Algan & Cahuc, 2006, 2007).). Likewise, cultural factors influence individuals' priors on social mobility (Alberto Alesina & Glaeser, 2004), the exchange of goods and financial assets (Guiso et al., 2004) and GDP growth (Barro & McCleary, 2003; Tabellini, 2010). Cultural patterns can also provide a more complete answer as to why Europeans have a higher preference for leisure compared to Americans (A. Alesina, Glaeser, & Sacerdote, 2005). And last but not least, the literature also documents the interplay between civic virtue or trust and the design of labour market institutions (see Aghion et al., 2011; Algan & Cahuc, 2009).

These findings raise questions about how resilient the effects of culture on economic behaviour are. That is, when institutional or economic conditions challenge the existing cultural norms, which one prevails? Take the case of a policy reform aimed at boosting female labour force participation, which will be analysed in chapter 4. In a context of traditional family values, it may not yield the expected results if existing values encouraging home production prevail over the work-incentives granted by the reform. Similarly, an change in economic incentive within a traditional society may result in an increase in family support not enjoyed by individuals in societies with more liberal values.

This paper addresses this question and specifically examines the distinct impact of family values on parental help given to adult children when they suffer an adverse change in employment status. Three plausible outcomes may arise: in the first one, family values are resilient to the change in economic conditions, and their effect is exacerbated by the change in employment status. Parental help given is therefore expected to be of a bigger magnitude for individuals living in more traditional areas. At the same time, I would expect the type of help to differ across areas with different family values. The existing literature on culture and more specifically family ties suggests that familistic societies tend to support their adult offspring more via co-residence than via financial help (see for example Albertini & Kohli, 2013). Moreover, I would expect parental help to already differ across areas with different family values before any change in economic conditions. A second outcome would see the effect of family values maintained. In this case, individuals across areas with different

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family values would react in a similar way to an adverse change in employment status of their offspring. If the probability of providing parental help was already different before the change in economic conditions, such similar reaction would actually imply that differences in parental help persist. Instead, if the probability of providing parental help was similar to begin with, such reaction would imply that family values never mattered at all, even prior to the change in employment status. Finally, it could be that parents in more liberal areas experience a greater increase their probability of providing help than their counterparts living in more traditional areas. This could be the case if the probability of providing help was lower for the former, and the adverse change in economic conditions leads to a convergence in the likelihood to provide help. In that case the effect of family values would not be resilient to such change.

The results of this paper point towards an important role of family values. They show that, first, the probability of providing parental help when children are employed is higher among individuals living in more traditional areas. The subsequent disaggregation of types of help provided shows that this difference in the probability of giving help is mainly due to financial help. Conversely, the probability of co-residence is of a similar magnitude across areas with different family values. Second, when the adult child is hit by an adverse change in employment status, parents in traditional areas significantly increase the probability of providing help, whereas their counterparts in liberal areas barely change their probability. Note however, that the disaggregation of types of help provided gives a more nuanced picture: parents across different family values areas see a similar increase in their probability of giving financial help, but only parents from traditional areas experience an increase in the probability of providing co-residence.

These results are relevant as they provide evidence for the role of family values in whether and how parents react to offspring in need. It suggests that adult children facing an adverse change in employment status may not only receive different amounts but also different types of support. The impact of the change on the offspring's income is therefore dependent on the prevailing family values. At this point, it is important to note that the *type* of help provided not only has short-term consequences for income, but may also have long-term implications. The literature suggests that co-residence patterns affect future earnings, as one can invest more time in finding a better job match without the pressing need to find an easy and safe job sooner (Kaplan, 2012:450). At the same time, co-residence helps to smooth consumption patterns and decreases the incentives to save (ibid.). The findings also shed light on potential problems that the EU may encounter should it embrace the idea of a fully-fledged fiscal union with a European welfare state. In line with what the

introduction of the thesis suggests, preferences are – at least to a certain extent and in the short run – deeply engrained in family values, and may be difficult to change as a result.

These findings are in line with the growing body of literature which draws upon the so-called epidemiological approach to disentangle institutions from cultural constraints. By analysing the economic behaviour of migrants in the country of residence, this approach provides a natural experiment to analyse the strength of cultural factors as opposed to the influence of institutions and economic conditions. First and second-generation migrants appear to behave differently depending on their origin in several aspects of life, and decisions on female labour force participation, fertility, geographical mobility, and living arrangements among others seem to have a strong basis in the individual's cultural background (A. Alesina & Giuliano, 2010; Fernandez & Fogli, 2009; Fernandez & National Bureau of Economic Research., 2007; Giuliano, 2007).

The rest of the paper is structured as follows: Section 2 provides an overview of the literature on intergenerational transfers, with a focus on social norms and family values. Section 3 explains the empirical and identification strategy, and section 4 describes the data. Section 5 presents the empirical analysis and results and section 6 runs some robustness checks. Then finally, we conclude with section 7.

2. Background

The intergenerational contract in Europe and the relevance of family values

The recent economic crisis has returned the issue of 'intergenerational contract' to the top of the political agenda. Faced with scarcer resources and a rhetoric dominated by austerity, governments are pushed to cut different areas of welfare resulting in a redistribution of resources across different age groups. The terms of the debate are still very much focused on institutional dimensions, namely, how to reform welfare and social institutions and what level of welfare mix to provide. As important as the institutional debate is, this focus has tended to overlook one key provider of intergenerational help: the family. Recent analyses focusing on family assistance suggest that intergenerational help is characterized by a high element of reciprocity. However, detailed analyses of the net flow of help – both in terms of financial help and social support – suggest that more elder parents are net providers than net receivers of help (Albertini, Kohli, & Vogel, 2007; Grundy, 2005). Although this pattern is more pronounced when the children are young, it persists in all age groups (Albertini et al., 2007).

The economics and sociological literatures on intergenerational help emphasise two competing explanations for family exchanges. The first is grounded in altruism, and

suggests this is the driving force behind help within the family and across generations (Altonji, Hayashi, & Kotlikoff, 1997). One implication of this explanation is that parents will provide more help to their disadvantaged or poor children (Grundy, 2005). The second explanation suggests instead that family exchanges are based on rational choices about the costs and benefits of providing help, with parents more likely to provide assistance to the offspring from whom they receive most help. Reciprocity would therefore be key in explaining family exchanges, rather than children's income levels (ibid).

This framework has provided significant insight on the role of socio-demographic factors such as income, social class or gender on intergenerational help. However, evidence is still inconclusive, with results depending on the countries studied or the level of development among others (Grundy, 2005). More importantly, the dichotomy between rationality and altruism are not only difficult to define and discern, but it overlooks an important variable: social norms and family values. Arguably, the level and conceptualization of altruism and rationality expected depend to a large extent on the social norms regarding the role of family in a society.

Grundy (2005) suggests that reciprocity and altruism may not extend to individuals who do not subscribe to normative expectations about the role of family in providing help. Manacorda and Moretti (2005) raise a similar issue in their paper. They argue that if parents like to live with their offspring but this desire is not reciprocated by the latter, they will 'bribe' their children to live with them. However, they admit that the assumption that parents 'like' to live with their children is controversial and may depend on the society explored. This is confirmed by Giuliano (2007), who found that living arrangements of second-generation migrants in the US depend on their country of origin, further suggesting that family values and social norms matter.

On a more theoretical note, Postlewaite (2011) suggests that the claim that social norms affect economic behaviour can embrace both altruistic and rational explanations. Social norms could be linked to altruism if it is assumed that individuals are the same at birth, but interactions with their respective communities differentially shape their preferences (e.g., what makes them happy or sad) as adults. As it applies to intergenerational care, this explanation could be interpreted as parents feeling sad whenever they are unable to provide for an offspring in need. Alternatively, it could be that two individuals share the same deep preferences, but the social structures in the society of residence provide different incentives for behaviour. Therefore, help from parents to adult children could be interpreted as a transactional exchange subject to costs and benefits which vary depending on the societal structures (e.g., provide help to adult children with the expectation that they

will return the favour when they need it). The subject of analysis here has thus shifted from the altruism-rationality dichotomy to social norms.

This paper follows this approach and studies the role that social norms, and specifically family values, play in the decision to provide parental help to an adult offspring in need. Following Reher's understanding of the concept, family values are defined according to the strength and resilience of family loyalties, allegiances and authority within a society (Reher, 1998). Individuals living in societies with traditional family values will exhibit a tendency to believe that the family group takes priority over the individual, and this will shape their economic, political and social preferences. These societies' display of family and kinship solidarity is rooted in a strong sense of moral obligation (Flaquer in Naldini, 2003; Pfenning et al., 2000), and therefore, they are more likely to turn to the family in times of economic problems. By contrast, individuals in more liberal societies believe in individual personal empowerment (Esping-Andersen, 1990). While kinship solidarity may empower those in crisis, it may also pose problems for those individuals in the family who are in the position to provide help. Help is therefore expected from the state, either for those at the fringes of society or for everyone.

Note that this paper focuses on societal family values as opposed to individual ones. Although the latter may differ from the former, as Inglehart and Baker claim, 'generations have collective memories, imprinted in adolescence and early adulthood that persist throughout the life cycle' (R. Inglehart & Baker, 2000). In this sense, the concept of 'values' here is understood as the most invariant part of the set of beliefs linked inextricably to affects that guide our preferences, attitudes and behaviour (Schwartz, 2012).

3. Empirical and identification strategy

This paper examines the effect of an adverse change in employment status on the probability of receiving parental help for individuals living in areas characterized by different family values. The intuition underlying the study is that a child's utility is a component of parents' utility, with the weight placed on the former dependent on the strength of family values. Hence, an adverse change affecting a child's employment status should generate higher disutility for those living in areas with traditional values than those living in less traditional areas. Whether this is indeed the case is the empirical question that this paper aims to address.

To this end the paper uses child-parent dyad panel data from the SHARE survey (Survey of Health, Ageing and Retirement in Europe) for the years 2004, 2006 and 2013[14] to perform a series of Linear Probability Model[15] specifications of the following type:

$$P(y_{jkt}=1) = \alpha + \beta_1 E_{it} + \beta_2 fv_k + \beta_3 E_{it}fv_k + \beta_4 X_j + \beta_5 X_i + \beta_6 d_c + \varepsilon \tag{1}$$

where y_{jt} denotes the probability of a parent j living in an area k with family values fv_k to provide help to an offspring who has employment status E_{it} in year t. fv_k can range from very traditional, traditional, liberal and very liberal and are calculated at an 'area' level[16], whereas E_{it} is a binary variable which can take the form of either employed or not employed (i.e. adult child is either unemployed or disabled). X_i and X_j are child and parent controls: gender, education, number of children, income levels, marital status, age, and health status. d_c are country dummies[17], with standard errors clustered by country. As Cameron and Miller (2015) suggest, failure to control for within-cluster error correlation may result in deceptively low standard errors and low p-values, even when country fixed effects are included. The paper is mainly interested in whether parental help given when the child faces an adverse change in employment status differs across individuals living in areas with different family values. Therefore, the main coefficient of interest is the interaction of β_3.

Longitudinal data

The use of longitudinal data is one of the pillars of the empirical strategy for the paper. Compared to analyses that rely on cross-sectional data, the use of longitudinal data increases the precision in estimation by following the same individuals over a certain period of time (A. C. Cameron & Miller, 2015). More importantly, it also allows for the control of individual-specific effects, so the problem of omitted variable bias is alleviated (Wooldridge, 2010). This is best done with fixed-effects models, as they allow such individual characteristics to be correlated with the regressors. Random-effects models by contrast 'treat any unobserved individual heterogeneity as being distributed independently of the regressors' according to Cameron and Trivedi (2005:697). This is a strong assumption and, may lead to inconsistent estimates if untrue.

However, fixed-effects model also come with significant drawbacks which are particularly salient for this paper. First, the estimates derived may be very imprecise (i.e., high standard

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[14] Further details on the data are provided in the next section.
[15] The model used is the Linear Probability Model (LPM). Although the dependent variable is binary, Angrist and Pischke (2009) suggests that LPM does a good job in estimating marginal effects. They emphasise that although LMP will not give the 'true' marginal effects from the right non-linear model, neither will the 'wrong' nonlinear model. Therefore, it doesn't really make a difference to use LPM or a nonlinear model such as logit or probit.
[16] By area I mean NUTS 2 regions grouped together. More about family values measurement in the following section.
[17] See chapter 2 for a rationale for including country dummies but not regional dummies.

errors) if most of the variation is cross-sectional rather than over time (A. C. Cameron & Trivedi, 2005:715). This makes intuitive sense given that we are using individuals as their own controls, and there should be variability within them. With around 40,000 observations at three different times, the data in this paper is not immune to this problem. Second, fixed-effects models are not useful in estimating the coefficients of time-invariant variables, as its effect is absorbed by the individual-specific effect (A. C. Cameron & Trivedi, 2005). One of the main variables in this paper is family values, which are assigned to each individual depending on the area of residence. Therefore, the variable is time invariant and would be wiped out of the regression if the fixed-effects model was used. Finally, when data used does not cover the entire population (i.e., the dataset does not consist of all potential observations in the population, as it would if the subjects were firms in a country) and is instead a random subset of the population, then random-effects model are more useful, as it allow us to make inferences about other members of the population (Kennedy, 1998:227).

Identification strategy
With all of this in mind, the paper uses a random-effects panel data model, and alleviates the omitted variable bias by adding individual controls for both the adult children and the parents. Despite the addition of such controls, causal interpretation may still be difficult. One specific concern regarding causality is the effect of anticipation. Arguably, employment status is not exogenous, and it is plausible that parents who anticipate their child to suffer an adverse change in employment status may increase help provided ahead of the actual event. So an omitted variable that would likely affect the level of help provided (and correlated with regressors) is previous help – not including it can undermine the effect of the adverse change in employment status on parental help provided. Although this is an important omission, we believe it is unlikely to affect the interaction coefficient significantly, as there is no reason a priori to suspect that the anticipation effect differs across areas with different family values. A similar concern is the influence that past help may have on employment status. On one hand, it could be argued that high level of support from parents can enhance the child's probability of staying employed (e.g., by helping them make ends meet, topping up income, etc.). On the other hand, high support can be seen as a safety net with detrimental effects on employment status. Causality concerns are therefore likely to persist.

The 'filtering' role of family values
As stated in section 2, this paper is more concerned with the role that *societal* family values, rather than *individual* family values, play in influencing economic behaviour. While we could choose to measure family values at the country level, an individual is arguably more

likely to be affected by values closer to his or her own environment – that is, prevalent values in his/her city or county rather than those estimated at the country level. Unfortunately because the dataset does not include information on the county (NUTS 3 in EU terminology) where the individual lives, the paper attributes societal family values at a regional level (NUTS 2) as the basis of the study. To do so, we take the questions from the European Value Study (EVS) to construct a family values composite index[18] at NUTS 2 level, then assign the resulting values to individuals in the SHARE dataset according to the region where they live[19]. Given that many regions across Europe have similar family values, the responses are clustered into four categories: very traditional, traditional, liberal and very liberal. As a result, some countries in our analysis will have regions with different family values categories, and regions in different countries may be grouped into the same category.

Two identification problems arise when the resilience of family values and its effect on economic behaviour is tested. The first one relates to the empirical isolation of the effects of societal family values, or more generally social norms, from the effects of institutional and economic variables. The strategy that this paper adopts is controlling for country and regional effects. This, in effect, results in an underestimation of the effect of family values, as they may be engrained in the specific region or country. But simultaneously, this approach derives estimates which can more credibly be assigned to family values (Guiso et al., 2003). The second identification problem stems from endogeneity concerns. Decisions to provide help to your adult offspring are likely to be influenced by societal family values, and at the same time, these same decisions reinforce societal family values. This paper attempts to mitigate endogeneity problems by constructing family values categories with EVS questions from years prior to the analysis.

4. Data [20]

The Survey of Health, Ageing and Retirement in Europe (SHARE[21]) is a cross-national panel database which contains micro data on health, socioeconomics and family networks. Every other year, it interviews individuals over 50 years old and their partners, regardless of their

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[18] See Chapter 2, section 3 on the thought that went to construct the variable *family values.*
[19] Next section *Data* to describe in detail how the variable is constructed.
[20] Refer to *Appendix J* to see a detailed account of the construction of each variable.
[21] This paper uses data from SHARE Waves 1, 2, 3 (SHARELIFE), 4 and 5 (DOIs: 10.6103/SHARE.w1.260, 10.6103/SHARE.w2.260, 10.6103/SHARE.w3.100, 10.6103/SHARE.w4.111, 10.6103/SHARE.w5.100), see Börsch-Supan et al. (2013) for methodological details. The SHARE data collection has been primarily funded by the European Commission through FP5 (QLK6-CT-2001-00360), FP6 (SHARE-I3: RII-CT-2006-062193, COMPARE: CIT5-CT-2005-028857, SHARELIFE: CIT4-CT-2006-028812) and FP7 (SHARE-PREP: N°211909, SHARE-LEAP: N°227822, SHARE M4: N°261982). Additional funding from the German Ministry of Education and Research, the U.S. National Institute on Aging (U01_AG09740-13S2, P01_AG005842, P01_AG08291, P30_AG12815, R21_AG025169, Y1-AG-4553-01, IAG_BSR06-11, OGHA_04-064) and from various national funding sources is gratefully acknowledged (see www.share-project.org).

age. A proportion of these individuals are followed over the years, and new individuals are added to the sample in every wave. This article employs panel data from the first (A. Börsch-Supan, 2013a; A. Börsch-Supan et al., 2013; A. Börsch-Supan et al., 2005; A. Börsch-Supan & Jürges, 2005), second (A. Börsch-Supan, 2013b; A. Börsch-Supan et al., 2013; A. Börsch-Supan et al., 2008) and fifth (A. Börsch-Supan, 2015; A. Börsch-Supan et al., 2013; Malter & Börsch-Supan, 2015) waves, which took place in 2004/05, 2006/07 and 2013 respectively[22] and includes the following 12 countries: Austria, Germany, Sweden, the Netherlands, Spain, Italy, France, Denmark, Greece, Switzerland, Belgium and the Czech Republic. After deleting the observations for which we do not have the variables required to perform the analysis, we are left with 40,000 observations, with ~3,000 per country on average.

SHARE also provides information on the children of the individuals interviewed. This information includes age, gender, work status, marital status, education and number of children for the four younger children. Crucially, it also includes the amount and type of help that each child receives from parents, which is our variable of interest. I then construct parent-child dyad for each of the reported children, so each observation is a paired parent-child observation.

Dependent variables

This paper aims to understand the role of family values on the probability of providing parental help and the type of help provided when the adult child is faced with an adverse change in employment status. To this purpose, the analysis uses three main dependent variables: The first one is general help, which includes both financial help and co-residence. The variable can take the value of zero or one, zero being that no parental help has been received, one being otherwise. The second dependent variable is financial help. The respondent is asked the following question: *in the last 12 months, have you given financial help > 250€? If yes, to whom?* The answer is coded *yes* if help has been given to the child corresponding to the parent-child dyad, and is coded *no* if otherwise. The third dependent variable refers to the living arrangement of the child, and specifically, whether there is parental co-residence. The question asked is: *Where does the child live?* And the answers can be *a) in the same household, b) in the same building*, and the other options state the distance between the child and parents in kilometres. The variable co-residence is coded *yes* if the child lives in the same household, and *no* if otherwise.

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[22] Wave 3 and 4 were not selected as they do not contain the variables needed for the analysis. However, wave 4 (A. Börsch-Supan, 2013c; A. Börsch-Supan et al., 2013; Malter & Börsch-Supan, 2015) was used to get data for Wave 5. Wave 3 is called 'Sharelife" and focuses on people's retrospective life with regard to children, work, partners, housing and health. In wave 4, the children mentioned in the social networks section cannot be linked to information on the 'Children' section, so we cannot know basic information about the child (e.g., date of birth, work status, etc.) that receives help from parents.

Independent variable: adverse change in employment status

This paper is interested in how an adverse change in employment status affects parental help provided. To ascertain the child's employment status, the following question is used: *what is [child's name]'s employment status?* The answers have been coded as follows: zero when the child is *full-time employed, part-time employed* or *self-employed.* By contrast, if the answer is *unemployed*, *permanently sick or disabled*, it has been coded as one. All other answers, including *in vocational training, retraining or education, parental leave, in retirement or early retirement, looking after home or family* and *other* – have been dropped. This is because the analysis focuses on children's reliance on parents when the former are affected by an adverse event. Of the employment status options provided, the only ones that can unequivocally be categorized as 'adverse' are being unemployed or permanently sick or disabled.

Independent variable: family values

This paper uses questions related to family issues[23] from the European Values Study (EVS) to construct a 'family values' composite index at the regional level (NUTS 2) using Principal Component Analysis (PCA). For this purpose, the paper takes the questions related to family values available in the EVS from 1981 and 1990 (for Greece only 2008 is available), which are shown in *Appendix B*. The categorization of each question is changed, so that the answer is always between 0 and 2 (i.e., three answers can be provided), with the higher number representing a more traditional view. Descriptive statistics for each variable are presented in *Appendix F*. Prior to carrying out PCA, I took the average of the individual answers by country-region (NUTS 2 except for Germany, where NUTS 1 are used), and constructed the correlation matrix. *Appendix G* shows that the difference between the mean and the median values for each country-region is low, showing that the distribution of values within regions is normally distributed.

This regional composite index, whose results are in *Appendix H*, will then be assigned to each parent-child dyad in the sample according to the region where the parents live. The resulting family values variable is a measure of the average values predominant in the region where the individual lives.

In order to avoid causality problems – namely, parental help affecting family values – I looked at survey questions from 1981 and 1990[24]. I then tested how representative the answers are of family values in 2004, 2006 and 2013 by comparing the answers to those

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[23] Examples of questions and statements included are: Children need both parents to grow up happily, or parents' duty is to do their best for their children even at the expense of their own well-being, qualities that children should learn at home, among others.
[24] One exception is Greece, for which there was only data for 2008.

from the EVS in 2008. Most correlations are above 70%, with a few around 60%. I therefore concluded that the family values composite index is representative of the values in the 2000s. By multiplying each of these scores for the standardized variables (grouped by region) by the PCA weights and adding them up, I derived a family values coefficient for each country-region. Because of the way PCA has been conducted, negative coefficients belong to regions which are more liberal than the average, and the opposite is true for positive coefficients. Figure 5 below shows the variability of the coefficients by country, and *Appendix I* shows the variability within country and across regions. It can be seen here that most Nordic countries exhibit more liberal values than most Mediterranean countries, leaving Continental countries somewhat in the middle. Needless to say, the index must be carefully interpreted. Building on existing literature about the role of the family in different European societies, a plausible interpretation is that countries or regions with a higher family values score tend to have a more communalistic ethic which emphasizes family ties and responsibilities, in significant contrast with the individualistic ethic more predominant in the Nordic countries. Using Gal's words, regions where family values are more traditional can be thought of as those where there is still 'an enduring sense of strong and extended family obligations' (2010).

Once coefficients have been assigned to individuals in every region, I categorize the coefficients using the 25th, 50th and 75th percentile, effectively creating four categories of family values, from very traditional (0), traditional (1), liberal (2), to very liberal (3). The paper will also present the results derived using a binary family values variable later on in the paper (see section on robustness checks). Table 9 below shows how many regions in each country belong to each family value category. Most countries in the Table contain more than one category of family values, with the exception of the Netherlands and Denmark. This suggests that, as suspected, a categorization of family values at the country level would have been overly simplistic.

Figure 5 Family values – weighted sum of standard deviation, by country

Family values by country
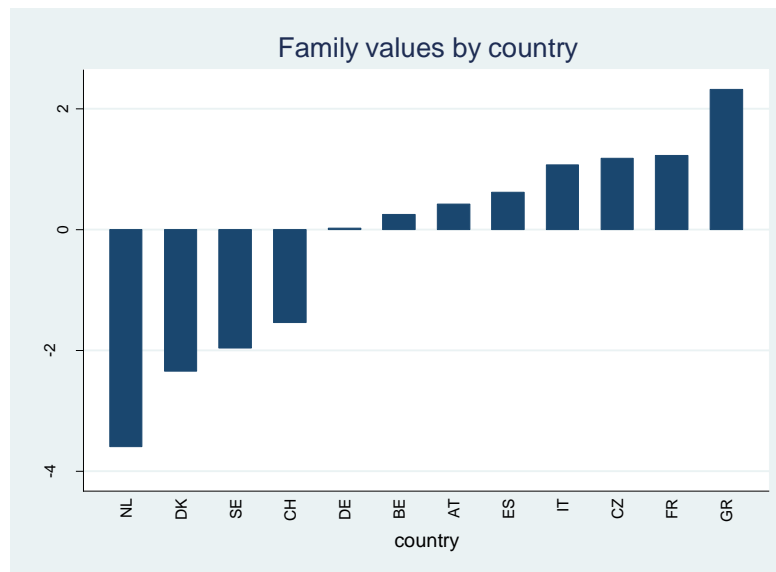
Note: the weighted sum of standard deviation is the result of multiplying the PCA weights to each score of standardized variable (previously grouped by region) and adding up the results for each country-region. In this graph, the grouping has been done by country, to illustrate country-differences.

Table 9 Percentage of regions per country belonging to each category of family values

Country	Obs.	Family values				Total %	Total num. of regions
		V. traditional	Traditional	Liberal	V. liberal		
AT	7,147		**78%**	22%		100%	9
BE	10,691	18%	36%	**45%**		100%	11
CH	4,841		14%	**43%**	43%	100%	7
CZ	7,523	**67%**	33%			100%	3
DE	5,728	25%	13%	**63%**		100%	16
DK	6,098				**100%**	100%	1
ES	7,506	11%	**83%**	6%		100%	18
FR	10,063	**56%**	44%			100%	9
GR	4,428	**92%**	8%			100%	13
IT	7,885	**50%**	39%	11%		100%	18
NL	7,961				**100%**	100%	12
SE	8,187			**75%**	25%	100%	8

Control variables

Several control variables are included in the regression, both from the parents and the children's side. Any variable which is likely to be influenced by family values has been included as a control. This way, what is tested is if family values have any effect 'beyond the ways in which it is already reflected in these choices' as Fernandez (2010) claims. In the case of providing help to children, family values are likely to influence parental education as well as the number of children. For instance, highly educated parents may have more

liberal values and be less receptive to co-residence. As a result, they may be more likely to provide help in a financial way. Education is measured using the ISCED-97 classification. With regards to the number of children, one may expect individuals in traditional areas to have more children per family. However, as the literature suggests (see for example Giuliano, 2010) other factors such as the delay in moving out from parental home (also arguably influenced by family values) may have a negative effect on fertility, suggesting that traditional values may be linked to fewer number of children per family. The controls should also include any variable that is likely to exert an influence on parental help received, so that the effect of the two variables of interest is more credible and does not suffer from bias.

On the parents' side, empirical evidence show that income is likely to have a positive effect on financial help received (Grundy, 2005). However, the effect on co-residence is not as clear-cut. If co-residence is regarded as a substitute for financial help, then its relationship with income should be negative. However, some previous research (see Manacorda & Moretti, 2005) suggests that higher parental income allows parents to offer their children higher consumption in exchange for co-residence. Income levels are therefore included as a categorical variable which asks whether parents have very difficult, difficult, fairly easy or very easy ways to make their ends meet. Marital status is also likely to affect parental help. We expect parents to co-reside more with children if the parent is widowed, divorced or not married. But in this situation, we also expect parents to provide less financial help. Marital status is categorized as either married or non-married, with the latter including widowed, divorced, or otherwise non-married parents. The number of children that parents have is likely to negatively affect the amount of help given, as there will be more 'competitors' for parental help. Poor parental health is included as a five-category variable ranging from excellent to poor. I expect it to negatively affect financial transfers, although a priori it is not clear how it would affect co-residence. Children can decide to co-reside with parents if they have poor health, or conversely, they can regard themselves as a burden and co-reside less. A similar argument can be made with parental age in terms of co-residence. In terms of financial help, older parents may be less inclined to help their children, as they may have less savings left. But they may also want to help them more as they have less time to spend it for them. Children controls such as marital status, number of children, education levels, age and gender are also added, as these characteristics will very likely have an impact on parental help received.

Descriptive statistics

Table 10 presents the descriptive statistics of the data. 17% of observations in the sample engage in at least one type of parental help. The percentage of parent-dyad engaging in financial help is significantly higher than the percentage engaging in co-residence – 13% compared to 6%. Most of the observations are employed, with 7% of the sample being unemployed or permanently sick. With regard to family values, given that it has been categorized according to percentiles, the mean is in between traditional and liberal. Most of the sample is married and the average number of children from the offspring is around one. The sample is biased towards children with upper & post-secondary and tertiary education. Their average age is 42 years-old and there are as many men as women. With regard to parents, the average age is 70 years old and most of them are married. Their average number of children is around 3 and their average health status is good. Most of them do not have pressing problems with income and are on average low educated.

Table 10 Descriptive statistics

Name var	Measurement	Obs	Mean	Std. Dev.	Min	Max
Parental help received	*Categorical:*	87,875	0.17	0.38	0	1
Parental financial help received	[0] - no parental help received	87,214	0.13	0.34	0	1
Parental co-residence	[1] - parental help received	72,279	0.06	0.23	0	1
Employment status	*Categorical:* [0] - employed [1] - unemployed or perm. sick	77,673	0.07	0.26	0	1
Family values	*Categorical:* [0] - very traditional [1] - traditional [2] - liberal [3] - very liberal	68,690	1.51	1.11	0	3
Marital status - child	*Catgorical:* [0] - non-married [1] - married	71,502	0.68	0.47	0	1
Number of children - child	Categorical	55,410	1.49	1.19	0	23
Education level - child	*Categorical:* [0] - primary or less [1] - lower secondary [2] - upper & post-secondary [3] - tertiary	53,649	2.02	0.87	0	3
Age – child	*Categorical*	88,058	42.71	8.62	30	70
Gender – child	*Categorical:* [1] - Male [2] - Female	88,057	1.49	0.50	1	2
Age	*Categorical*	88,055	70.01	9.25	50	104

Name var	Measurement	Obs	Mean	Std. Dev.	Min	Max
Is parental hh a poor household?	*Categorical:* [1] - with great difficulty [2] - with some difficulty [3] - fairly easily [4] - easily	75,200	2.86	0.98	1	4
Marital status	*Categorical:* [0] - married [1] - non-married	69,099	0.38	0.49	0	1
Number of children	*Categorical*	88,058	2.89	1.38	1	17
Health status	*Categorical:* [1] - excellent [2] - very good [3] - good [4] - fair [5] - poor	87,991	3.17	1.05	1	5
Education level	*Categorical:* [0] – none [1] – primary education [2] – lower secondary educ [3] – upper secondary educ [4] – post-secondary educ [5] – tertiary – first stage [6] – tertiary – second stage	66,865	2.34	1.49	0	6

5. Empirical analysis and results

The structure of the empirical analysis is as follows: the first section focuses on the effects that an adverse change in employment status has on the probability that adult children receive any kind of help from parents. The second section considers the different types of parental help that children may receive, and analyses which one prevails in the event of an adverse change in employment status. The two types of help considered are co-residence and financial assistance. Robustness checks can be found in section 6.

All regressions use a probability linear model (OLS) with panel data in which the dependent variable is the probability that parents provide help via financial transfer and/or co-residence. The results are presented in terms of Average Marginal Effects (AME) and predicted probabilities.

5.1. The effects of an adverse change in employment status on the probability that adult children receive any kind of parental help

Parameter estimates for the effect that an adverse change in employment status has on the probability that parents provide help are presented in Table 11. The first column presents the results from estimation of the variables of interest – family values and change in employment status. Column 2 adds the interaction effect between family values and the change in employment status. Finally, columns 3 and 4 add individual controls for adult children and parents, respectively.

The results in column 4 (the full model) show that first, the probability that employed adult children receive parental help is very similar across areas and only statistically different for liberal and very liberal areas at 10% significance level. . Second, the impact of the change in employment status on the probability that children receive parental help is dependent on prevailing family values. The likelihood that individuals living in traditional and very traditional areas will receive parental help increases by 13% to 15% when an adverse change in employment status occurs. Conversely, children living in more liberal areas do not experience any significant increase in help received. Third, as Table 12 and Figure 6 show, the probability that adult children without employment will receive parental help is higher in very traditional and traditional areas than in liberal and very liberal ones. Individuals living in the former areas have a 30% likelihood of receiving parental support, versus ~20% for individuals living in the latter areas. These results suggest that first, parents of employed children give similar help to their offspring. Second, help is more stable in more liberal regions – i.e. help provision is more sensitive to changes in employment status in very traditional and traditional areas.

Table 11 Average Marginal Effects of an adverse change in employment status on the probability to receive parental help, by family values.

GENERAL HELP	(1)	(2)	(3)	(4)
	Base	*Base+ interaction*	*Controls children*	*Controls parents & child.*
Fam v. [base: v.Trad)				
Traditional	0.037	0.042	0.021	0.002
	(0.007)***	(0.009)***	(0.009)**	(0.011)
Liberal	0.054	0.064	0.053	0.035
	(0.011)***	(0.012)***	(0.017)***	(0.019)*
V.Liberal	0.055	0.067	0.047	0.038
	(0.014)***	(0.016)***	(0.016)***	(0.020)*
Not-employed effect Average	0.089 (0.024)***			
Not-employed effect V. Traditional		0.147 (0.044)***	0.132 (0.037)***	0.154 (0.038)***
Not-employed effect		0.111	0.115	0.133

GENERAL HELP	(1)	(2)	(3)	(4)
Traditional		(0.043)***	(0.025)***	(0.022)***
Not-employed effect		0.046	0.022	0.023
Liberal		(0.019)**	(0.025)	(0.023)
Not-employed effect		0.023	-0.005	-0.005
V. Liberal		(0.007)***	(0.014)	(0.017)
non-married(0)			-0.117	-0.123
			(0.031)***	(0.032)***
Child's no of children			-0.010	-0.007
			(0.003)***	(0.003)**
Educ [base: tertiary]				
Primary/ less			-0.033	0.038
			(0.014)**	(0.013)***
Lower sec			-0.044	0.006
			(0.011)***	(0.010)
Upper/post sec.			-0.026	0.004
			(0.006)***	(0.007)
Age child			-0.006	-0.006
			(0.001)***	(0.001)***
Male (0).			-0.008	-0.007
			(0.007)	(0.007)
Age				0.000
				(0.001)
make ends meet [base: difficult]				0.046
				(0.004)***
Marital status				-0.009
				(0.009)
Number of children				-0.027
				(0.004)***
Self-perceived health				-0.003
				(0.002)
Respondent´s education				0.014
				(0.003)***
Constant	0.168	0.162	0.542	0.398
	(0.006)***	(0.009)***	(0.047)***	(0.067)***
Country fixed effects	Yes	Yes	Yes	Yes
R^2 overall	0.02	0.02	0.07	0.10
N	60,591	60,591	44,669	37,772
Groups	36,330	36,330	32,125	27,844

* $p<0.1$; ** $p<0.05$; *** $p<0.01$
Robust clustered st. errors by country

Table 12 Predicted probabilities to receive help when an adverse change in employment status occurs

Predicted probabilities to receive help when an adverse change in employment status occurs		
	Employed	**Non-employed**
V. Traditional family values	0.17	0.32
	(0.01)***	(0.04)***
Traditional family values	0.17	0.30
	(0.01)***	(0.02)***
Comparison to prob for v.traditional fv	*(0.01)*	*(0.04)*
Liberal family values	0.20	0.22
	(0.01)***	(0.03)***
Comparison to prob for v.traditional fv	*(0.01)**	*(0.05)**
V. Liberal family values	0.20	0.20
	(0.01)***	(0.02)***
Comparison to prob for v.traditional fv	*(0.02)**	*(0.05)***
Obs	37,772	

Note: standard errors in parenthesis. The second row of standard errors and stars tells us the difference in probabilities compared to the probabilities of receiving help for individuals living in very traditional regions.

Figure 6 Predicted probabilities to receive help when an adverse change in employment status occurs.
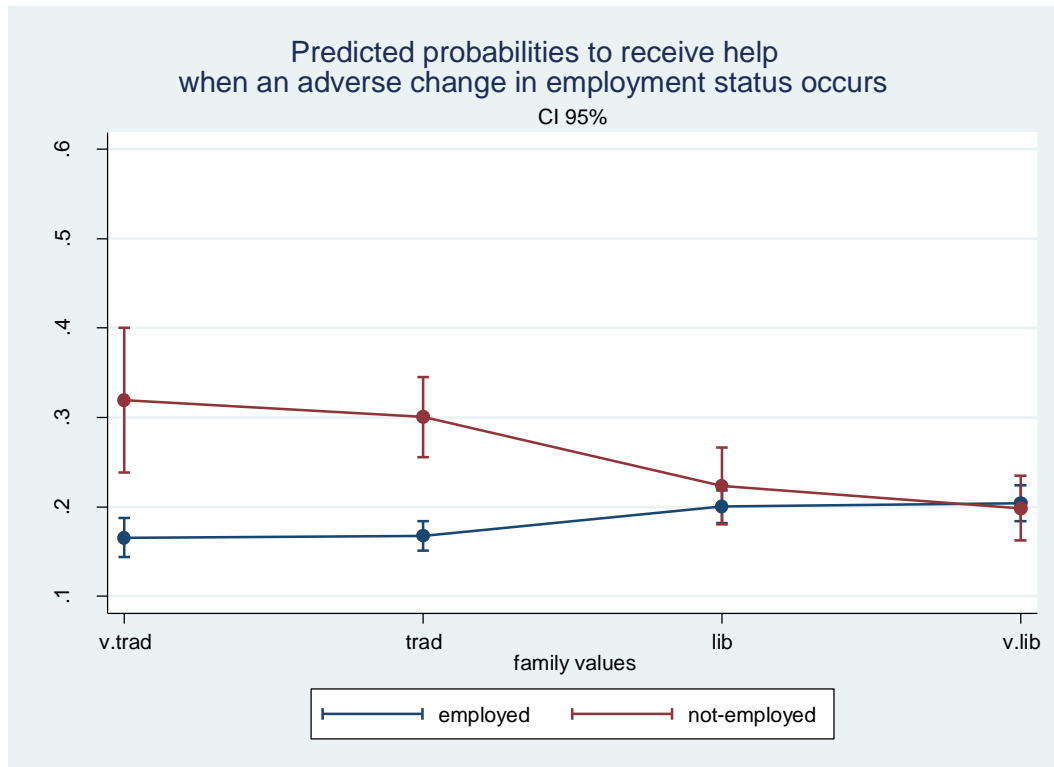
The results are robust to the inclusion of several control variables. In particular, the difference in reaction between individuals living in areas with different family values when an adverse change in employment status occurs becomes more salient once we add children's controls. The marital status of the child affects the probability of help in a very significant and expected way: married children are approximately 12% less likely to receive help than non-married ones. The child's age and the number of offspring are also statistically relevant and negatively correlated with the probability of receiving help, although their coefficient is very small. Children with lower levels of education receive more help, although the difference here is only significant for the very poorly educated. With regard to parents' characteristics, the most relevant are the ability of households to make ends meet, the number of children they have in total, and the education of the primary parent. As expected, receiving help from parents is 5% more likely when it easier is for them to make ends meet. If parents have more children, the probability of receiving help from them is 3% lower, and more educated parents are 1.5% more likely to provide their children with help.

5.2. Dealing with heterogeneity of help provision

Parents can provide help to their adult children through two main avenues: financial help or offer of co-residence[25]. By analysing these two types of help separately, we attain a better understanding of the two means of help used by individuals living in areas with different family values. Columns 1 and 2 in Table 13 below show the results for financial help and co-residence, respectively. These results show that first, there are no substantial differences between financial help received by employed individuals from very traditional areas and that received by the rest. Interestingly enough, individuals in liberal and very liberal areas are 1% more likely to co-reside with their offspring than their counterparts living in very traditional areas. The effect is significant at 5% confidence level. The first column of Table 14 and Table 15 tell the same story, showing the predicted probabilities of receiving financial help and co-residence for employed individuals by family values areas.

Second, the overall difference in the probability of receiving help in the event of an adverse change in employment status across family values areas is explained by an increase in both co-residence and financial help for individuals living traditional and very traditional areas. Note however that the increase in co-residence is higher than the increase in financial help. This is shown in Table 13 and Figure 7and Figure 8. Column 2 in Table 13 shows that individuals living in more traditional areas experience a higher increase in the probability

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[25] A third alternative would be to consider time help, for which the survey also has data. Nevertheless, given that the change considered is a negative employment one, basic descriptive statistics – not shown in the paper – suggest that time help decreases, as arguably children have more time to spend.

of co-residing than their counterparts living in more liberal areas. When an employment change occurs, they are between 9% and 11% more likely to start parental co-residence, compared to the much smaller effect seen among individuals living in more liberal areas. By contrast, column 1 shows that the probability of receiving financial help increases between 4% and 6% for individuals with more traditional family values. The comparative difference in reactions is illustrated in Figure 7, which shows the Average Marginal Effects of an adverse change in employment status on the probability of receiving financial help, and Figure 8, which shows the same effect on the probability of co-residence.

Third, parents in more traditional areas increase the provision of both types of help when an adverse change in employment occurs, although the increase in co-residence is larger. By contrast, parents in more liberal areas barely increase help.

Table 13 Average Marginal Effects of an adverse change in employment status on the probability of co-residence and receiving financial help for individuals living in regions with different family values.

	(1)	(2)
	Financial help	*Co-residence*
Family values [base: v.Traditional)		
Traditional	-0.000	0.003
	(0.011)	(0.006)
Liberal	0.030	0.010
	(0.019)	(0.005)**
V.Liberal	0.032	0.011
	(0.019)*	(0.005)**
Not-employed effect	0.060	0.106
V. Traditional	(0.031)*	(0.039)***
Not-employed effect	0.037	0.086
Traditional	(0.015)**	(0.019)***
Not-employed effect	0.014	0.015
Liberal	(0.020)	(0.009)
Not-employed effect	0.023	-0.029
V. Liberal	(0.020)	(0.010)***
Children's controls	Yes	Yes
Parents controls	Yes	Yes
Country & region fixed effects	Yes	Yes
Constant	0.206	0.224
	(0.031)***	(0.062)***
R^2 overall	0.07	0.16
N	37,562	37,752
Groups	27,730	27,830

* p<0.1; ** p<0.05; *** p<0.01
Robust clustered st. errors by country in parenthesis

Table 14 Predicted probabilities of receiving financial help before and after an adverse change in employment status, by family values

Predicted probabilities of receiving financial help when an adverse change in employment status occurs		
	Employed	**Not-employed**
V. Traditional family values	0.12	0.18
	(0.01)***	(0.03)***
Traditional family values	0.12	0.16
	(0.00)***	(0.01)***
Comparison to prob for v.Traditional fv	*(0.01)*	*(0.03)*
Liberal family values	0.15	0.16
	(0.01)***	(0.01)***
Comparison to prob for v.Traditional fv	*(0.02)*	*(0.03)*
V. liberal family values	0.15	0.17
	(0.01)***	(0.02)***
Comparison to prob for v.Traditional fv	*(0.02)**	*(0.04)*
Obs	37,562	

Note: standard errors in parenthesis. The second row of standard errors and stars tells us the difference in probabilities compared to the probabilities of receiving help from individuals living in very traditional regions.

Table 15 Predicted probabilities of co-residing with parents before and after an adverse change in employment status, by family values.

Predicted probabilities of co-residing with parents when an adverse change in employment status occurs		
	Employed	**Not-employed**
V. Traditional family values	0.05	0.16
	(0.00)***	(0.04)***
Traditional family values	0.05	0.14
	(0.00)***	(0.02)***
Comparison to prob for v.Traditional fv	*(0.01)*	*(0.03)*
Liberal family values	0.06	0.08
	(0.00)***	(0.01)***
Comparison to prob for v.Traditional fv	*(0.01)***	*(0.04)**
V. liberal family values	0.06	0.03
	(0.00)***	(0.01)***
Comparison to prob for v.Traditional fv	*(0.01)***	*(0.03)****
Obs	37,752	

Note: standard errors in parenthesis. The second row of standard errors and stars tells us the difference in probabilities compared to the probabilities of receiving help from individuals living in very traditional regions.

Figure 7 Average Marginal Effects of an adverse change in employment status on the probability of receiving financial help, by family values.
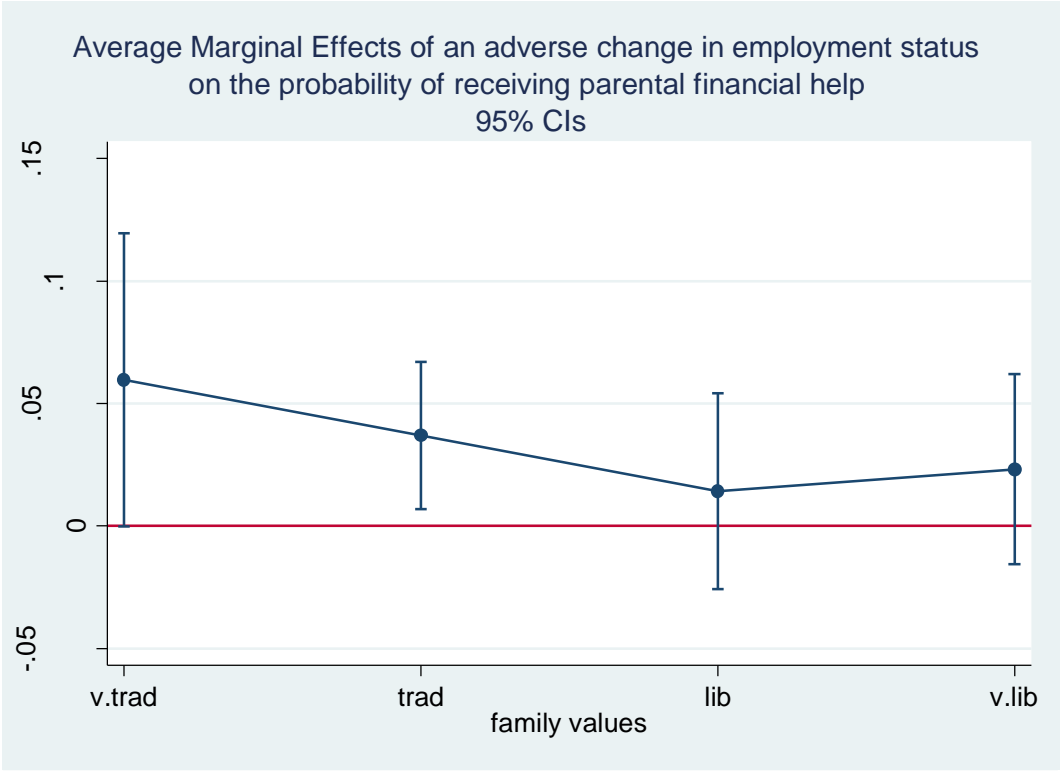
Figure 8 Average Marginal Effects of an adverse change in employment status on the probability of co-residence, by family values.
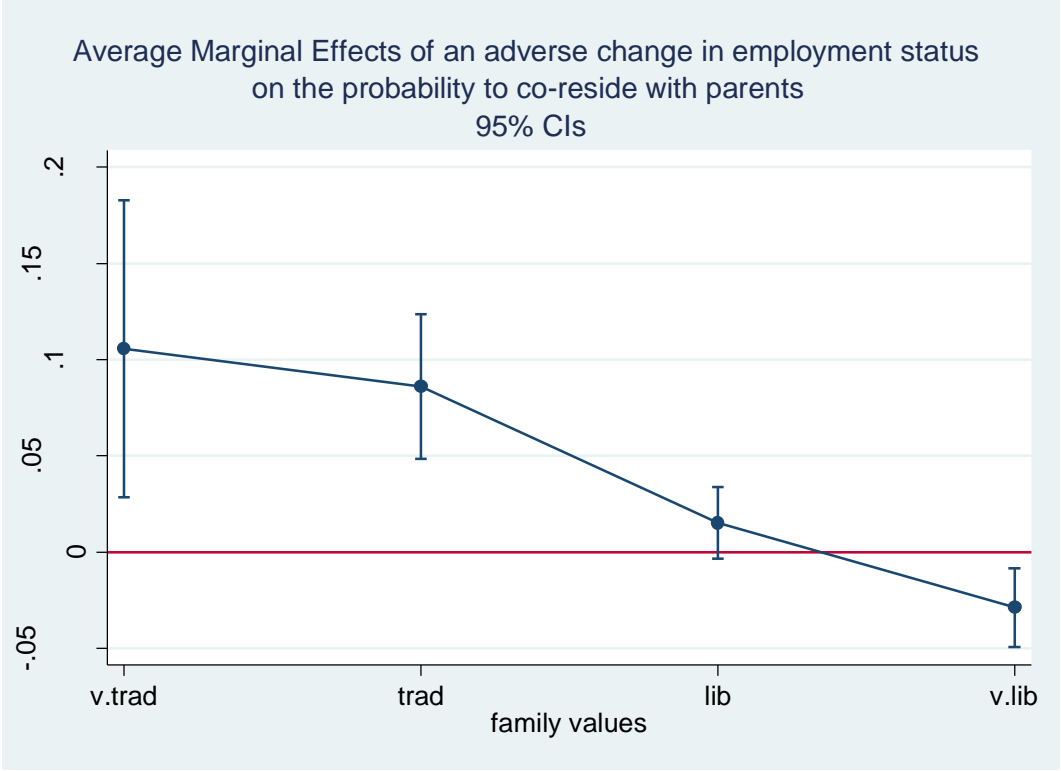
6. Robustness checks

Three main robustness checks are carried out in this section. They pertain to the measurement of family values and potential omitted variables, as well as the measurement of the treatment effect.

6.1. Measurement of family values

In the previous section family values have been treated as a four-category variable, ranging from very traditional to very liberal. Results are very similar when binary family values variable is used instead. For each dependent variable, Tables 16-18 compare the main results in the previous section with the results produced using dichotomized family values.

Table 16 shows the comparative results for help in general. In both cases (four-category variable and binary variable), the impact of an adverse change in employment on the probability of receiving help is dependent on family values, with individuals living in traditional areas experiencing significantly greater increase in the probability of receiving help than those living in areas with more liberal values.

Table 17 shows the comparative results for financial help specifically. Again, the binary categorization of family values does not affect the overall result. As seen in the previous section, financial help increases with an adverse change in employment status for individuals living in more traditional areas.

Finally, Table 18 shows the corresponding results for co-residence, which again are very similar regardless of whether the four-category or binary variable is used. Parents living in more traditional areas significantly increase their probability to offer co-residence when an adverse change in employment status occurs, whereas their counterparts living in more liberal areas do not undergo any significant change in co-residence patterns.

6.2. Family values and potential omitted variables

The results from the main analysis suggest that individuals from traditional areas are more likely to see an increase in the probability of co-residence in the event of an adverse change in employment status than their counterparts from more liberal areas. One critical issue here is to rule out the potential existence of omitted variables which affect co-residence patterns and/or vary in a systematic fashion across family values areas. The existing literature on co-residence patterns emphasises two main macroeconomic variables that impact co-residence levels: housing costs and unemployment rates (see for example Manacorda & Moretti, 2005) – two variables that could plausibly vary based on family

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values area. For instance, it could be argued that higher unemployment rates are more prevalent where family values are more traditional. Indeed, Alesina et al. (2010) suggest that family ties make labour mobility costlier, and individuals with strong family ties will thus choose regulated labour markets which usually lead to lower employment. It could also be argued that housing costs are more expensive in areas where family values are more traditional, since countries with strong family ties have higher rates of homeownership (Castles & Ferrera, 1996). However, the link between family values and housing costs is relatively indirect with weak empirical evidence. With this in mind, I have compiled regional data on unemployment rates and housing costs from Eurostat[26] and constructed a four-category variable for each measure to add to the regression. If either of these variables co-vary with family values areas, we would expect the latter to be insignificant.

Results in Table 19 below demonstrate that the inclusion of these two variables does not render family values insignificant and results do not change significantly. Additionally, it seems to confirm that in the absence of an adverse change in employment status help provision is not statistically different across family values areas.

Table 16 Average Marginal Effects of an adverse change in employment status on the probability of receiving general help for individuals living in regions with different family values. Comparison between four-category and binary family values.

(1)		(2)	
Four-category family values		Binary family values	
Family values		Family values	
[base: v.Traditional)		[base: traditional)	
Traditional	0.002		
	(0.011)		
Liberal	0.035	Liberal	0.023
	(0.019)*		(0.02)
V.Liberal	0.038		
	(0.020)*		
Not-employed effect	0.154	Not-employed effect	0.142
V. Traditional	(0.038)***	Traditional	(0.03)***
Not-employed effect	0.133		
Traditional	(0.022)***		

[26] Code for unemployment rates: [lfst_r_lfu3rt] - Unemployment rates by sex, age and NUTS 2 regions (%), from 25 years old or over and years 2004, 2006 and 2013.
With regard to housing costs, I have taken the ratio of the allocation of primary income account of households by NUTS 2 regions on paid property income [code: nama_r_ehh2p] to disposable income of household at the same regional level [code: nama_r_ehh2inc]. Data was available until 2011, so I have taken data from 2004, 2006 and used 2011 data for year 2013.

(1)		(2)	
Not-employed effect Liberal	0.023 (0.023)	Not-employed effect Liberal	0.014 (0.02)
Not-employed effect V. Liberal	-0.005 (0.017)		
N	37,772	*N*	37,772
Groups	27,844	*Groups*	27,844
Note: all regressions include children and parental controls, country dummies and a constant.			

* p<0.1; ** p<0.05; *** p<0.01
Robust clustered st. errors by country in parenthesis.

Table 17 Average Marginal Effects of an adverse change in employment status on the probability of receiving financial help for individuals living in regions with different family values. Comparison between four-category and binary family values.

(1)		(2)	
Four-category family values		Binary family values	
Family values [base: v.Traditional)		Family values [base: traditional)	
Traditional	-0.000 (0.011)		
Liberal	0.030 (0.019)	Liberal	0.018 (0.02)
V.Liberal	0.032 (0.019)*		
Not-employed effect V. Traditional	0.060 (0.031)*	Not-employed effect Traditional	0.049 (0.02)**
Not-employed effect Traditional	0.037 (0.015)**		
Not-employed effect Liberal	0.014 (0.020)	Not-employed effect Liberal	0.019 (0.01)
Not-employed effect V. Liberal	0.023 (0.020)		
N	37,562	*N*	37,562
Groups	27,730	*Groups*	27,730
Note: all regressions include children and parental controls, country dummies and a constant.			

* p<0.1; ** p<0.05; *** p<0.01
Robust clustered st. errors by country in parenthesis.

Table 18 Average Marginal Effects of an adverse change in employment status on the probability of co-reside for individuals living in regions with different family values. Comparison between four-category and binary family values.

(1)		(2)	
Four-category family values		Binary family values	
Family values [base: v.Traditional)		Family values [base: traditional)	
Traditional	0.003 (0.006)		
Liberal	0.010 (0.005)**	Liberal	0.007 (0.01)**
V.Liberal	0.011 (0.005)**		
Not-employed effect V. Traditional	0.106 (0.039)***	Not-employed effect Traditional	0.095 (0.03)***
Not-employed effect Traditional	0.086 (0.019)***		
Not-employed effect Liberal	0.015 (0.009)	Not-employed effect Liberal	-0.003 (0.01)
Not-employed effect V. Liberal	-0.029 (0.010)***		
N	37,752	*N*	37,752
Groups	27,830	*Groups*	27,830
Note: all regressions include children and parental controls, country dummies and a constant.			

* p<0.1; ** p<0.05; *** p<0.01
Robust clustered st. errors by country in parenthesis.

Table 19 Average Marginal Effects of an adverse change in employment status on the probability of receiving general help, financial help or offer of co-residence for individuals living in regions with different family values. Inclusion of regional housing costs and unemployment rates in shaded columns.

HELP TYPE	General help		Financial help		Co-residence	
	(1)	(2)	(1)	(2)	(1)	(2)
Fam. v. [base:v.Trad.]						
Traditional	0.002 (0.011)	-0.009 (0.012)	-0.000 (0.011)	-0.008 (0.012)	0.003 (0.006)	-0.000 (0.009)
Liberal	0.035 (0.019)*	0.016 (0.012)	0.030 (0.019)	0.015 (0.013)	0.010 (0.005)**	0.005 (0.008)
V.Liberal	0.038 (0.020)*	0.012 (0.012)	0.032 (0.019)*	0.012 (0.013)	0.011 (0.005)**	0.003 (0.009)
Not-employed effect						
V. Traditional	0.154 (0.038)***	0.148 (0.041)***	0.060 (0.031)*	0.051 (0.027)*	0.106 (0.039)***	0.106 (0.046)**
Traditional	0.133 (0.022)***	0.135 (0.023)***	0.037 (0.015)**	0.041 (0.016)***	0.086 (0.019)***	0.085 (0.019)***
Liberal	0.023 (0.023)	0.031 (0.022)	0.014 (0.020)	0.019 (0.021)	0.015 (0.009)	0.018 (0.009)*
V. Liberal	-0.005	-0.003	0.023	0.024	-0.029	-0.028

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HELP TYPE	General help		Financial help		Co-residence	
	(0.017)	(0.018)	(0.020)	(0.021)	(0.010)***	(0.011)***
N	37,772	34,275	37,562	34,075	37,752	34,255
Groups	27,844	25,908	27,730	25,795	27,830	25,892

* p<0.1; ** p<0.05; *** p<0.01
Robust clustered st. errors by country in parenthesis.
Note: all regressions include children and parents controls, country and regional dummies and a constant.
Note columns: (1) No housing costs or unemployment rates included; (2) Housing costs and unemployment rates included

6.3. Treatment on the treated

The main analysis has focused on the average treatment effect, meaning that the expected value of those whose employment status has not changed has also been taken into account. This approach can arguably bias the impact of an adverse change in employment. Individuals who have never worked may in general receive much more help than those who have just stopped working. Including such subjects will therefore overestimate the impact of an adverse change in employment status.

One way to overcome this potential overestimation effect is to only include individuals who have suffered an adverse change in employment status at some period of time – i.e., calculate the treatment on the treated. Note however, that this approach comes with one drawback: anticipation effects are likely to be exacerbated, leading instead to an underestimation of the effect of employment change on parental help. This is because those individuals who work in all time periods, and those who are arguably less prone to receiving help relative to those who suffer from an adverse change in employment at some period of time are excluded from the analysis. The calculation of the effect of the treatment on the treated is therefore useful as the lower bound effect, whereas the calculation of the average treatment effect could be considered as the upper bound effect.

Table 20 shows the Average Marginal Effects (AME) of the treatment on the treated for general help, financial help and offer of co-residence. Only those individuals who suffer an adverse change in employment are included, which leaves us with around 1,000 observations. For comparison, the table also includes the results from the previous analysis, showing the average treatment effect for general parental help (full model from Table 11, column 4), financial help and co-residence (Table 13). These results show that first, relative to the average treatment effect coefficients are smaller in all cases, and not statistically significant. This is consistent with the above-mentioned hypothesis that the effect of the treatment on the treated would be useful as the lower bound effect. Higher variance seen here may be due at least in part to the significant reduction in observations. Second, and more importantly, the trends are similar, especially in the case of general help and co-residence patterns. Average increase in probability for these two types of help is greater for

very traditional and traditional parents than those with liberal and very liberal family values.

Table 20 A comparison of the effect of the treatment on the treated and the average treatment effect for different types of help, by family values areas.

	Treatment on the treated			Average treatment effect		
	Gen. help	Fin. help	Co-resid.	Gen. help	Fin. help	Co-resid.
Very traditional	0.099	-0.013	0.074	0.154	0.060	0.106
	(0.075)	(0.057)	(0.052)	(0.038)***	(0.031)*	(0.046)**
Traditional	0.044	0.033	0.017	0.133	0.037	0.085
	(0.025)*	(0.022)	(0.020)	(0.022)***	(0.015)**	(0.019)***
Liberal	0.005	0.029	-0.013	0.023	0.014	0.018
	(0.020)	(0.023)	(0.021)	(0.023)	(0.020)	(0.009)*
Very liberal	0.006	0.004	-0.001	-0.005	0.023	-0.028
	(0.031)	(0.025)	(0.006)	(0.017)	(0.020)	(0.011)***
Num. obs		1,056		37,772	37,562	37,752

Note: all regressions include children and parental controls, country dummies and a constant.

* p<0.1; ** p<0.05; *** p<0.01

Robust clustered st. errors by country in parenthesis.

7. Conclusion

This paper has examined the filtering effect of family values on parents' decision to provide help for their adult children in the event of an adverse change in the latter's employment status. Results suggest that after controlling for both institutional and economic environment, the effect of family values on help given is significant. Three main points are worth mentioning: first, parents from different family values areas have a similar likelihood of providing with any type of help when their child is employed. Second, when adult children experience an adverse change in employment status, parents from very traditional and traditional areas experience a 13-16% increase in their likelihood of provide help. Conversely, parents living in liberal and very liberal areas do not experience a significant increase in help given. Third, this heterogeneity across family values areas is driven by both co-residence and financial help pattern, although the increase in the former is higher.

These findings add to three strands of literature. First, they contribute to the literature on culture and economics. The paper shows that family values are resilient even with a change in economic conditions. As demonstrated, with institutions controlled for, when an adverse change in employment status occurs, parents in more liberal family values areas are less likely to provide help to their offspring relative to those in more traditional areas. Within this literature, the role of culture on female labour force participation has been extensively analysed, and yet, the analysis of social policy has been generally neglected. By focusing on

intergenerational help, this paper sheds light on another aspect that intersects with labour force participation.

Second, the paper contributes to the literature on social policy, and more specifically, to that on intergenerational contract. This literature has focused largely on the role played by public institutions on the provision of welfare surrounding the intergenerational contract – i.e., unemployment benefits and pensions among others. This has meant that the role of the family has sometimes been overlooked. This paper suggests that family, with a focus on parents, is still a relevant pillar when it comes to smoothing the effects of negative change in employment status on individuals. At the same time, it has shown that parental help decisions are filtered significantly by societal family values, which affect both the intensity and the type of help provided.

Chapter 4 Pace of return to work after childbirth: the effect of a parental leave policy reform and family values.

Do family values affect the pace of return to work after childbirth?

Abstract

This paper examines the effect of the 2007 parental leave policy reform in Germany on the pace of return to work following childbirth for mothers with different family values background. Using data from before and after the reform and an epidemiological approach to family values, the paper demonstrates that the policy reform accelerated the pace of return to work mainly for mothers with traditional family values background, thus leading to overall convergence between mothers with different family values backgrounds. However, the magnitude of convergence differs across education levels. Mothers with vocational education exhibit high levels of convergence, followed by mothers with low education, who exhibit low but significant levels of convergence. Conversely, highly-educated mothers diverge in their pace of return to work. This paper thus suggests that mothers with traditional family values background may use the educational system either as way to enhance their cultural investment or as a marriage market, and therefore will not be very sensitive to changes in economic incentives.

1. Introduction

Female labour force participation has been on the rise across Europe and other developed economies over the last few decades. Several factors have contributed to this rise: the spread of durable household goods, medical advances in contraception, and broader access to childcare among others. And yet, even after accounting for these material and institutional changes, differences across societies remain salient. This has prompted economists to turn their attention to beliefs and values in order to account for cross-country differences in labour market outcomes (see for example Aghion et al., 2011; A. Alesina & Giuliano, 2010; Algan & Cahuc, 2007; Fernandez, 2007).

This paper investigates how a parental leave policy reform interacts with family values background to affect the pace of return to work after childbirth. The paper will show that the policy reform accelerated the pace of return to work mainly for mothers with traditional family values background, thus leading to overall convergence between mothers with different family values backgrounds. However, the magnitude of convergence differs across education levels. Among mothers with traditional family values background, it is those with vocational education and (to a lesser extent) low education who significantly accelerate their pace of return to work, therefore contributing to the aforementioned convergence. This is in stark contrast with highly-educated mothers, who do not react to the policy in any significant way. This lack of response, together with a strong reaction from highly-educated mothers with liberal family values, results in a divergence in the pace of return to work for highly-educated mothers with different family values. This finding is policy relevant as it points at the limits of labour market interventions in increasingly multicultural societies, and it speaks to the limitation of policy transfers. Furthermore, the findings from this paper may be of interest for countries which, having a low female labour force participation, attempt to replicate successful care policies of countries whose population has different family values on average.

Establishing a causal effect of family values on female labour market participation is difficult because of omitted variable bias. In particular, mothers may choose to stay at home because of lower career aspirations, or because they are less successful, or for another reason that is difficult to identify and/or measure. I therefore use a natural experiment in Germany aimed at accelerating mothers' pace of return to work after childbirth. This 2007 policy reform incentivized an earlier return to work by reducing the paid parental leave subsidy from two to one year. In order to disentangle any possible institutional effects from the effects of family values, I use migrant population in Germany to compare the effect of the reform across mothers who have different migrant origin. This identification strategy is known in the literature as the epidemiological approach (Fernandez, 2010), and it is

especially useful in disentangling the institutional effects from the "cultural" ones. Migrant groups face the same institutional and economic environment as the native individuals in the country of residence, but they are assumed to preserve, to a certain extent, family values of their country of ancestry. Thus, individual migrants are assigned the historic family values of their country of ancestry, to avoid reverse causality problems.

The analysis uses the cross-section form of the German Socio-Economic Panel data (GSOEP) for the years 2005 to 2009 – therefore including observations before and after the policy implementation. The paper discusses the potential anticipation effects that may give rise to biased results and runs some robustness checks to rule them out. In order to identify whether the reform has a different impact on mothers with different family values background, it interacts family values with a time dummy that represents the reform cut-off point.

This paper contributes to the literature on social economics by examining how family values affect the effectiveness of a policy reform, and by suggesting that the former is a factor that explains the lack of convergence across societies. Institutional economic approaches have either pointed to the persistence of inefficient formal institutions to explain this limited convergence or to the existence of different types of institutional settings corresponding to equally efficient labour market performance (Amable, 2003; R. Freeman & Schettkat, 2001; Hall & Soskice, 2001; Scharpf & Schmidt, 2000).

But despite their vast contribution to the understanding behind the lack of convergence in economic outcomes, these approaches have arguably led to more questions. First, empirical analyses suggest that the residual is large even after accounting for differences in institutions (Del Boca, Pissarides, & Boeri, 2005). Second, the persistence of inefficient or different institutional settings cannot be fully understood unless beliefs and values are taken into consideration. This is particularly true for labour market institutions and policies that are closely related to family life, such as childcare and parental leave policies. Consequently, a growing body of research in the field of economics has turned to values, social norms and beliefs to explain the differences in institutions and economic outcomes. In this field, recent analyses on the persistence of certain labour market institutions support this view by showing that beliefs and values co-evolve with labour market regulations, reinforcing each other and creating multiple equilibria from which it is difficult to depart (Aghion et al., 2011; Aghion, Algan, Cahuc, & Shleifer, 2010).

The acknowledgement of the existence of this two-way interaction between values and institutions broadly enhances our understanding of the persistence of such institutions. And yet, it does not tell us much about what would happen to female labour force

participation if this co-evolution were to be broken and instead, an institutional change in contradiction with the engrained values in society took place. And this is what this paper aims to do – it analyses whether the power of engrained family values is strong enough to dampen the effects of new institutional changes/policy reform on female labour force participation.

The rest of the paper is organized as follows: section 2 describes the policy reform and section 3 explains the empirical strategy. Section 4 provides an explanation of the data used, and section 5 presents the results. Then finally, I conclude in section 6.

2. Background

2.1. An overview of Germany's parental leave reforms

Numerous parental policy reforms implemented in Germany in the past three decades reflect an ongoing conflict between the traditional breadwinner model and the dual-earner-carer model, as can be seen in detail in Table 21. Women today enjoy 14 weeks of leave with full wage replacement (6 before the child is born and 8 after childbirth), but the introduction of maternity leave dates back to the 1920s. Then in 1979, parental leave period after the statutory maternal leave was implemented for the first time on the basis of protecting women's health and well-being (Leitner, 2010). Subsequent reforms of the 1980s and 1990s were to a great extent the continuation of the traditional breadwinner model (see Fleckenstein, 2011; Leitner, 2010 for a review of the main reforms). This changed at the start of the twenty-first century, when new reforms began to acknowledge the individual right to parental leave by permitting both parents to take leave simultaneously, allowing for some part-time work. There was also a commitment to expand childcare facilities for children under the age of 3. By the end of 2006 (and before the 2007 reform), employed and non-employed new mothers and fathers were paid a means-tested, flat-rate benefit of up to €300 per month for two years. Additionally, parents were allowed an unpaid parental leave period of one more year with part-time work permitted.

The 2007 reform – called *Elterngeld* – represented a further step away from the traditional breadwinner model. It replaced the flat-rate benefit with a wage-replacement benefit of up to 67% of earnings before maternity leave, funded by the federal government through public taxation (Blum, 2012). A cap of €1800 with a minimum of €300 was set, and the non-employed were entitled to this minimum. Perhaps more importantly, the reform also decreased the benefit span from two years to one year, and committed resources to the expansion of childcare facilities.

2.2. The expected benefits of the 2007 parental leave reform

The *Elterngeld* policy was deliberately designed to alter the work behaviour of both low- and high-income mothers. Prior to the reform, low-income mothers were entitled to a maximum of €300 per month, whereas after the reform, they were entitled to 67% of their pre-maternal earnings with a minimum of €300 – a substantial increase in benefit. However, employed low-income mothers experienced a total elimination of the benefit in the second year. The work behaviour of high-income employed mothers is more likely to change in the first year versus the second year. Before the reform, high-income mothers did not receive any benefit. Following the reform, they would receive 67% of their earnings during the first year (with a cap of €1800) and nothing in the second year.

The argument this paper makes is that preferences to work are likely to be influenced not only by the reform, but also by family values. As Bork states in his paper (2011), attitudes towards working mothers in Germany have been rather negative over the years, especially in West Germany. A term has even been coined to describe working mothers with young children: 'Rabenmütter' (raven mother). Fleckenstein (2011) makes a similar point in his paper when he argues that, despite a decline in traditional family values, 'West Germany remains relatively conservative by international standards' (p. 548). Therefore, this paper suggests that the impact of the reform on the pace of return to work will differ depending on the mothers' family values background.

Table 21 Parental policy reforms in Germany since 1970s.

Year of reform	1979	1986	1993	2000	2007
Duration of paid parental leave (in months)	6 months	10 months	24 months	24 months	12-14 months
Duration of non-paid parental leave (in months)	-	-	12 months	12 months	22-24 months
Total duration of parental leave (in months)	6 months	10 months	36 months	36 months	36 months
Benefits	- Capped-earning related - Partner's earnings not accounted	- Flat-rate benefits - Partner's earnings accounted		- Flat-rate - Higher if benefit span reduced from 2 to 1 year	- Wage-replacement up to 67% wage. - Capped at €1,800 - Minimum of € 300.
Target	Formerly employed mothers	Employed and non-employed mothers		Employed and non-employed mothers	- Employed - The non-employed are entitled to the minimum benefit

Year of reform	1979	1986	1993	2000	2007
Part-time work	not allowed	allowed: up to 18-19 hours week		allowed: up to 30 hours week	allowed: up to 30 hours week
Parental leave for fathers	not allowed	allowed		allowed, and simultaneously with the mother	allowed, and simultaneously with the mother

Source: own elaboration, based on Leitner (2010) and Ostner, Reif, Schmitt & Turba (2003).
Notes: This table shows how the different reforms affected the period of paid and non-paid parental leave, the calculation of the benefits, the potential beneficiaries and whether part-time work was allowed.

3. Empirical and identification strategy

3.1. Identifying the effects of the policy reform

Two main identification issues are discussed. The first one relates to isolating the effect of the policy from other existing trends. The second one relates to anticipation effects.

As mentioned above, the paper is interested in analysing whether the policy reform has different effects on the pace of return to work for mothers with different family values background. In other words, the interest is on the interaction term between the policy reform and family values, as opposed to the effect of the policy *per se*. In order to be able to infer that it is the effect of the policy that it is being measured - and not other potentially confounding trends - it is important to check that the trends of the two groups before the policy are similar. Figure 9 shows the months of total leave taken by mothers in 2005 and 2006, which shows a similar trend (as well as a similar level of average leave).

Figure 9. Trend in average parental leave taken by mothers with different family values before the 2007 policy reform.
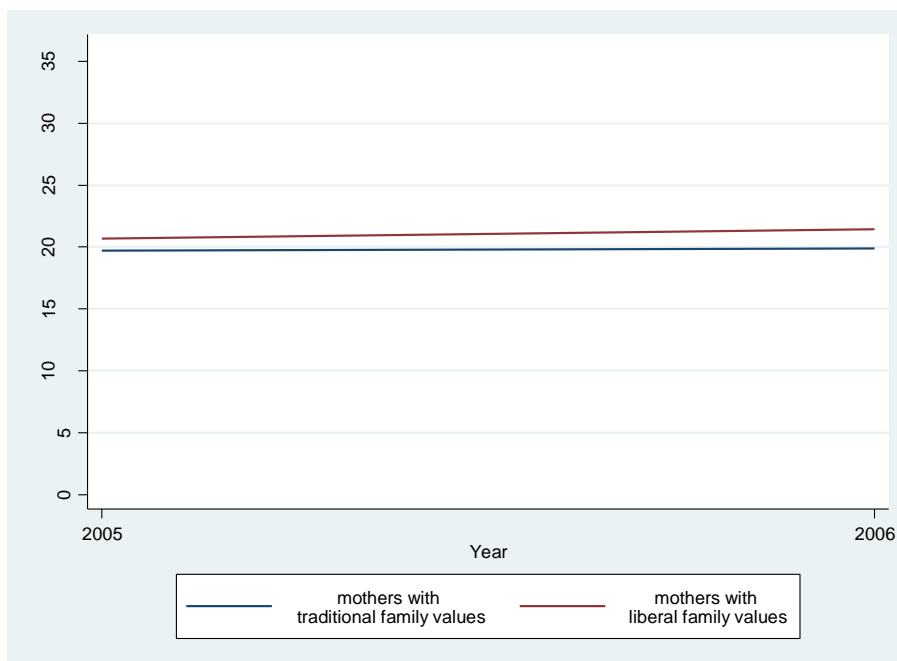
With regard to anticipation effects, the analysis is likely to lead to reliable estimates insofar as the parents do not change their fertility behaviour as a consequence of anticipating the reform. Two changes in fertility behaviour are considered. One refers to the aggregate number of births in the preceding and succeeding years. Could parents anticipate the reform and give birth before January 2007 in order to get a longer parental leave subsidized period? If that was possible, our estimates could overestimate the impact of the policy, as those mothers who would have preferred longer leave could have given birth before the policy was implemented. As Bergemann and Riphahn (2010) and Kluve and Tamm (2009) suggest, this seems rather implausible, as the legislation process was fast enough to prevent fertility behaviour to be affected. The main features of the reform were discussed in May 2006 and drafted in June. Then, the law was passed in September 2006 before going into effect on 1 January 2007 (J. T. Kluve, M., 2009). **Error! Reference source not found.** also shows that there is no sign of aggregate number of births spiking in 2006.

There is however another plausible change in fertility behaviour, which is the timing of birth for those births which had to take place around the implementation of the policy. Parents could potentially try to either schedule births forward or delay them by some days, depending on their incentives to do so. The *Elterngeld* reform is suggested to have different effects on households depending on their income level and the labour force participation of the mother. In general, high income households or households where women were working before childbirth would receive more benefit payments with the reform than prior to it. The opposite was true for low income households or households where women were not working before childbirth (Bergemann & Riphahn, 2010; Tamm, 2013).

In effect, Figure 10 below shows the number of monthly births from 2004 to 2009 and it seems to suggest that the number of births was higher in January 2007 than in December 2006 compared to other years. This result is also confirmed by Tamm (2013), in a paper where he concludes that more than 1,000 parents postponed the delivery of their children from December 2006 until January 2007. In order to account for this possible bias, the paper includes a robustness check where the observations from January 2007 and December 2006 are dropped. The results remain the same.

Figure 10. Birth by months across years.
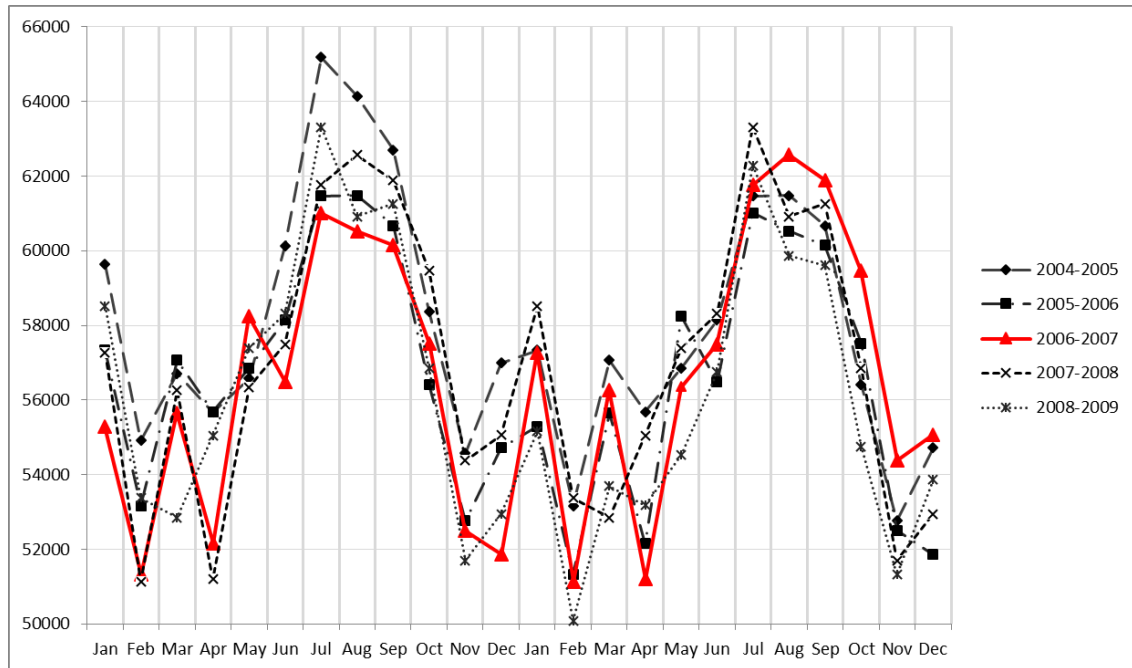
Source: German Federal Statistical office

3.2. Identifying the effects of family values

The paper's main interest is to understand whether the reform affected the length of parental leave depending on the family values background of the mother. The difference in the level of impact across groups is then captured by an interaction term between family values and a time dummy. Family values background, and more generally 'cultural factors' are nonetheless difficult to identify. In the past decades an increasing availability of survey data has made it easier for values to be identified.

However, identification problems still remain, not least because of the difficulty of disentangling the effects of formal institutions and economic circumstances from values and culture. In this sense some notable advancements have been made within the literature of social economics with the use of the so-called epidemiological approach. This approach uses migrants to isolate the effects of values and culture. Migrant groups face the same institutional and economic environment as the native individuals in the country of residence, but they are assumed to preserve, to a certain extent, family values of their country of ancestry. Thus, and using survey data, individual migrants are assigned the family values of their country of ancestry, and in order to avoid reverse causality problems, historic data is used.

There are several different ways of proxying family values within the epidemiological literature[27]. Carroll, Rhee and Rhee (1994) use a dummy variable for the immigrant's home country region. As Fernandez (2007) points out, this has the drawback of not being clear on what is being measured, and why it matters that someone is from a different country or region. Fernandez and Fogli (2009) use the female labour force participation rates of the country of ancestry as cultural proxies. These rates are likely to reflect individual factors as well as economic, institutional and cultural factors of the country. Then, as Fernandez (2007) points out, if these rates have explanatory power for why, in a certain country, "women from one ancestry work more than women from another ancestry after controlling for their individual economic attributes, only the cultural contribution to this variable can be responsible" (p. 312).

Nevertheless, this choice also comes with some drawbacks. For example, female labour force participation rates in one country with traditional family values may be very high due to high female wages. In this case, female labour force participation rates would not be an accurate representation of existing family values (Fernandez & National Bureau of Economic Research., 2010). Another alternative suggested and used by Fernandez in some of her papers (see for example Fernandez & National Bureau of Economic Research., 2007) is to proxy family values with attitudes towards women with children and work expressed by individuals in the migrant's country of origin in previous years, in order to avoid reverse causality. This approach follows a similar logic to that stated above. Attitudes towards women and work in the country of ancestry may reflect individual factors as well as economic and institutional ones. If these attitudes are useful proxies for attitudes of women from the same country of origin who live in another country (with different economic circumstances and institutional settings), then it suggests that cultural aspects of these attitudes has explanatory power.

The observations included in the analysis are women who have given birth at some point between 2005 and 2009. The inclusion of these years allows the inclusion of an acceptable number of observations and at the same time it accounts for potential delays in behavioural changes.

The paper therefore runs a series of logit specifications of the following type:

$$P(y_{it}=1) = \alpha + \beta_1 T_{it} + \beta_2 f v_j + \beta_3 T_{it} f v_j + \beta_4 X_i + \varepsilon \tag{2}$$

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[27] For a thorough discussion on the epidemiological approach see Fernandez (2010).

where y_{it} is mother i's labour market outcome (i.e., the probability of preferring a fast return to work after maternity). T_{it} stands for the timeframe (i.e., whether the observation takes place before or after the policy), fv_j is a proxy for the family values of each individual who can hold either traditional or liberal family values, $T_{it}fv_j$ is the interaction between the time dummy and family values, and X_{it} includes a set of individual characteristics as controls. Standard errors are clustered by country of origin.

4. Data

The data used in the analysis come from the German Socio-economic panel data (GSOEP)[28], an annual longitudinal dataset (available from 1984 through 2011, the latest wave) which interviews all members of the household, including newcomers and leavers in new households. The GSOEP has gradually increased its sample over the years, with some of the increase attributable to a focus on migrants (see *Appendix K* for details on sample). The present analysis examines women who work and have had a child in one of the years from 2005 to 2009 (see coding of childbirth in *Appendix K*). After dropping missing observations and coding all of the necessary variables, 300 to 450 observations remain (depending on the specification).

4.1. Dependent variable

The policy is intended to reduce the number of months mothers spend on parental leave by up to one year (twelve months). Therefore, the variable of interest would ideally be the number of months spent in parental leave. Unfortunately, the dataset only provides information on the total number of months spent on maternity and parental leave together. Given that maternity leave is compulsory for eight weeks following childbirth (and only optional for a maximum of six weeks preceding childbirth), the cut-off point of interest will be fourteen months (rather than twelve), to accounting for a minimum two extra months attributable to this compulsory maternity leave. With fourteen months thus as the cut-off point, the dependent variable – total number of months in maternity and parental leave – can be dichotomized either as a fast or a slow return: fast if the mother returns within fourteen months, and slow if she returns after fourteen months. To avoid misclassifying mothers who spend some or all of six optional weeks of maternity leave before childbirth as "slow returners," robustness checks are performed with the cut-off point set at fifteen months.

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[28] The data used in this paper were extracted using the Add-On package PanelWhiz v4.0 (Oct 2012) for Stata. PanelWhiz was written by Dr. John P. Haisken-DeNew (john@panelwhiz.eu). The PanelWhiz generated DO file to retrieve the SOEP data used here, and any Panelwhiz Plugins are available upon request. Any data or computational errors in this paper are my own. Haisken-DeNew and Hahn (2010) describe PanelWhiz in detail.

4.2. Independent variable

The main independent variables are family values and a time variable to identify an observation as before or after the reform.
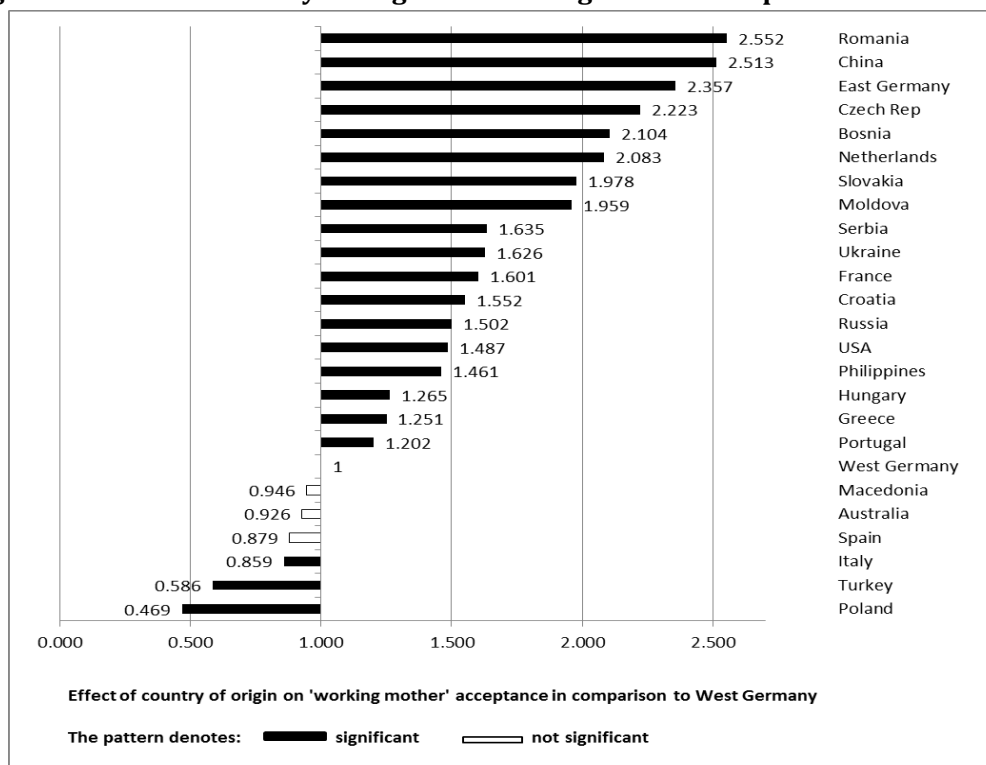
Family values

This paper proxies family values with attitudes towards women with children and work expressed by individuals in the migrant's country of origin in previous years. For this purpose it first identifies the country of origin of each individual, and then it relies on attitudinal survey data to assign corresponding family values to the same individuals. The country of origin is detailed in the GSOEP dataset, which provides each individual's migration background with the categories being "no migration background", "direct migration background" (i.e., first generation migrant), or "indirect migration background" (i.e., second generation migrant). For individuals with direct and indirect migration background, the country of origin and the parental country of origin are provided. The dataset also contains information to differentiate observations from East and West Germany. Therefore, those observations with "no migration background" would be coded as natives from either East or West Germany (see *Appendix A* for details).

With the information on migration background gathered, data from the 1990s waves[29] of the World Value Survey (WVS, 2006) and the European Value Survey (EVS) are used to construct a proxy for family values. First, a question related to women, children and work is chosen: '*Do you agree with the following statement? A working mother can establish just as warm and secure a relationship with her children as a mother who does not work*'[30]. Then, I look at how the country of origin affects the response to this question, controlling for other relevant variables such as age, age squared, size of town, marital status, sex, and education. Following Fernandez (2007) I perform an individual probit regression, with the response to the question as the dependent variable and country dummies as the main independent variable to isolate the effect. The base 'country' is 'West Germany' and the country dummy coefficients are used as a proxy for the independent variable. That is, these coefficients estimate the likelihood that an individual from a certain country or region will agree with the previous statement compared to an individual from West Germany. Figure 11 depicts the results. All coefficients are statistically significant (most of them at 1% significance level) with the exception of Macedonia, Australia and Spain.

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[29] Mostly the wave 1995-1998.
[30] Data for this question is not available for the following countries of origin in my sample: Austria, Switzerland, Iran, Bolivia, Tunisia, Cuba, Brazil, Kazakhstan, Lebanon, Eritrea, Uzbekistan. This amounts to around 20 observations.

Figure 11 effects of country of origin on 'working mother' acceptance

	value	country
	2.552	Romania
	2.513	China
	2.357	East Germany
	2.223	Czech Rep
	2.104	Bosnia
	2.083	Netherlands
	1.978	Slovakia
	1.959	Moldova
	1.635	Serbia
	1.626	Ukraine
	1.601	France
	1.552	Croatia
	1.502	Russia
	1.487	USA
	1.461	Philippines
	1.265	Hungary
	1.251	Greece
	1.202	Portugal
	1	West Germany
	0.946	Macedonia
	0.926	Australia
	0.879	Spain
	0.859	Italy
	0.586	Turkey
	0.469	Poland

Effect of country of origin on 'working mother' acceptance in comparison to West Germany

The pattern denotes: ▬ significant ▭ not significant

Source: World Values Survey (wave 1995-1998) and European Values Survey (1999).
Note: the bars represent the effect of country/region dummies on the attitudinal question selected relative to people with ancestors from West Germany, the excluded region. The dependent variable is as follows: 'Do you agree with the following statement? A working mother can establish just as warm and secure a relationship with her children as a mother who does not work'. Therefore, a coefficient of, say, 1.202 (Portugal), suggests that an average individual from Portugal is 20% more likely to agree with the statement than an average individual from West Germany.

Before proceeding, it is important to confirm that these country coefficients are a good proxy for family values of the individuals in the study sample because while family values are thought to change slowly, it may be that family values of first and second-generation individuals in the 2000s have completely evolved from the family values of individuals in their country of origin in the 1990s. To check, I compare the country coefficients derived with the current family values of first and second-generation migrants in Germany. A high correlation would suggest that the proxy used – family values expressed by individuals in the migrant's country of ancestry in the 1990s – is a good one.

To obtain the current family values of first and second generation migrants in Germany I use the German sample of the European Social Survey (ESS) database (ESS, 2004, 2010) for the years 2004 and 2010 – that is, before and after the policy reform. In an ideal scenario, I would find the same question from the WVS in the ESS database, run an individual-level probit regression with the question as a dependent variable and country dummies as the main independent variable, then compare these coefficients with the country coefficients of the proxy used. Unfortunately, the ESS does not include the same statement on working

mothers as the one found in the WVS. But it does include a similar question, namely: 'Women should be prepared to cut down on paid work for sake of family". Furthermore, the ESS also includes another question about job scarcity – 'men should have more right to women to work when job is scarce' – which is also included in the WVS in several waves. These two questions are used to run a similar individual-level probit regression as the one described above, with the country dummies as the main independent variable. Because the German ESS sample of first and second-generation migrants is rather small, only those countries with more than twenty observations are retained (the result is also robust if only those countries with more than fifty observations are kept) to carry out the analysis, which leaves nine countries for each question[31].   The resulting correlation between the coefficients from this regression for both questions and the coefficients from the previous regression using the WVS is very strong at around 0.80. This suggests that family values with regard to women, children and work have not evolved in a very substantial way, and therefore the proxy used in the study is valid.

The initial country coefficients are then assigned to the individuals in my sample who have migration background from the relevant country. For those with indirect migrant background, the mother's migrant origin is used[32]. Each observation is then assigned either traditional or liberal family values background according to whether the value is below or above the mean value. Following Fernandez (2007), observations with indirect migration background whose parents came from a country that became a centrally planned economy during World War II (11 observations) are dropped. This is because there may be a possibility that their parents emigrated during or before this time, and therefore it would not be accurate to assign them the values of these countries in 1990. The following table, Table 22, shows the migration background and the number of observations. Unfortunately, as the table shows, most of the observations are from East and West Germany, weakening the effect of the epidemiological approach.

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[31] These countries are: Austria, Serbia, Czech Republic, Kazakhstan, Italy, Poland, Romania, Russia and Turkey, altogether adding up to roughly 500 observations aside from West and East Germany, with roughly 5,000 observations.

[32] Father's country of origin differs from that of the mother in only five observations. Empirical results (not shown in the paper) do not change when mother's country of origin is substituted with that of the father.

Table 22 Country of origin of observations

No migration background	East Germany	145	
	West Germany	401	
Direct migration background		84	Turkey, Greece, Italy, Austria*, France, USA, Rumania, Poland, Iran*, Hungary, Bolivia*, Portugal, Czech Republic, Russia, Philippines, Tunisia*, Cuba*, Brazil*, China, Moldova, Kazakhstan*, Lebanon*, Ukraine, Eritrea*, Uzbekistan*, The Netherlands, Croatia, Bosnia, Macedonia, Slovakia, Kosovo, Serbia,
Indirect migration background		48	Turkey, Greece, Italy, France, Portugal, Australia,
TOTAL		678	

Source: own elaboration based on GSOEP.
Note: this table shows the migration background of the sample. The indirect migration background shows the mother's country of origin. Countries with asterisk do not have information on family values from the WVS.

Time variable

As noted earlier, the other independent variable of interest is the time variable, with the value of 0 assigned for years before the policy (years 2005 and 2006), and 1 assigned for years after the policy (years 2007 to 2009). The analysis also includes an interaction term between family values and the time variable (the difference-in-difference estimator).

4.3. Control variables

Several control variables are included in the regression, including those pertaining to the individual and the partner, as well as regional fixed effects. A good selection of controls is critical to make a persuasive argument that family values matter. This is because, as Fernandez (2010) points out, many of these controls may be influenced by the individual's family values. For example, with working behaviour, family values are likely to influence an individual's education as well as her choice of partner (more specifically, the partner's age, education, and/or income). Therefore, failure to include such variables can raise doubts on what the family values proxy is measuring. By including those same variables, we ensure that – borrowing Fernandez's words – what is effectively being tested is "whether [family values] have an influence on work outcomes beyond the ways in which it is already reflected in these choices" (2010). Mother's education is therefore included using the 1997 ISCED classification, further grouped into elementary, vocational, and higher education categories[33]. For partners, age, education (using the same classification as the mother) and

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[33] The 1997 ISCED classification available in the dataset is as follows: general elementary, middle vocational, vocational plus *abitur*, higher vocational and higher education. This more disaggregated categorization does not give different results (results not shown).

net income are included. Other variables that are likely to be orthogonal to family values and exert an influence on working behaviour are the age of the mother, marital status, net household income and the presence of children younger than 16 years old at home. Measurement of these variables is included in *Table* 3. Regional fixed effects have also been included to account for regional institutional differences such as availability of childcare, tax incentives, and other influences.

4.4. Descriptive statistics

Table 23 presents some basic descriptive statistics of the data before and after the policy. The data reveals statistically significant differences in the means of revealed preferences, with mothers accelerating their pace of return to work after the policy. With regard to the independent and control variables, there are no significant differences between the two periods (i.e., before and after the policy), with the exception of number of children younger than 16 at home – there are more individuals with children at home after the policy than before the policy. The data also shows a bias towards observations with more traditional family values. The average maternal age is around 31 years old, and most of the observations in both periods are married. Average household income amounts to approximately €2800 per month, and the average level of educational attainment for the sample is vocational training. With regard to partner's characteristics, they tend to be slightly older than their spouses, with a similar average education and a mean net income of around €2000 a month.

Table 23 Descriptive statistics

	Measurement	Before the reform 2005-2006		After the reform 2007-2009	
Number of children born		**269**		**277**	
Variables		**Mean**	**SD**	**Mean**	**SD**
Pace to return to work (0/1)	*Categorical*: [0] – within 14 months [1] – after 14 months.	0.39***	0.49	0.53***	0.50
Family values (0/1)	*Categorical*: [0] – traditional family values [1] – liberal family values	0.41	0.49	0.33	0.47
Age	*Continuous*	31.15	6.04	31.69	5.32
Marital status (0/1)	*Categorical*: [0] –separated, single, divorced, widowed [1] – married	0.67	0.47	0.71	0.46
Net income household	*Continuous*	2860.57	1558.6	2789.48	1182.25
Net income household (0/1)	*Categorical*:	0.47	0.50	0.52	0.50

	Measurement	Before the reform 2005-2006		After the reform 2007-2009	
	[0] – below the median (€2,500) [1] – above the median.				
Education (0, 1, 2)	*Categorical*: [0] – elementary [1] – vocational [2] – higher education.	1.13	0.61	1.20	0.58
Children<16 at home (1/2)	*Categorical:* [1] – yes [2] – no	1.39**	0.49	1.31**	0.46
Partner age	*Continuous*	34.5	6.68	34.9	6.22
Number of children born		**269**		**277**	
Variables		**Mean**	**SD**	**Mean**	**SD**
Partner education (0, 1, 2)	*Categorical*: [0] – elementary [1] – vocational [2] – higher education	1.18	0.63	1.22	0.59
Partner net income	*Continuous*	1990.98	1130.87	1952.02	1079.9
Partner net income (0/1)	*Categorical*: [0] – below the median (€2,500) [1] – above the median.	0.50	0.50	0.48	0.50

Note: this table contains descriptive statistics from the main variables used in the regression analysis. T-tests indicate statistically significant differences between subgroups at 1% and 5% levels.

5. Empirical analysis and results

The structure of the empirical analysis is as follows: the first section focuses on the aggregate effects of the 2007 *Elterngeld* policy reform on mothers with different family values background. Table 24 and Table 25 present the results of the empirical analysis. All regressions use a logit model in which the dependent variable is the probability of returning to work after childbirth within 14 months. The results are presented in terms of Average Marginal Effects (AME) and predicted probabilities. Then, the second section examines the role of education and its interaction with family values background in greater detail. Finally, the section concludes with robustness checks.

5.1. The aggregate effects of the Elterngeld policy reform

Parameter estimates of the policy reform are presented in Table 24. The first column presents the results from estimation of the impact of the variables of interest – namely, family values and policy reform – on the pace of return to work. Column 2 adds the interaction effect between family values background and the policy reform, and columns 3 and 4 add on individual controls and partner's controls, respectively. Finally, column 5 shows the results with regional dummies added to account for regional institutional differences such as availability of childcare, tax incentives and other influences.

These results show that first, family values background is consistently significant throughout the different iterations of the model. Column 5 (the full model) suggests that before the policy reform, mothers from a more liberal family background are around 15% more likely to return to work at a faster pace than mothers from a more traditional family background. Second, the reform has had a significant effect of accelerating the pace of return to work for all mothers; this result in line with existing literature on the effect of the *Elterngeld* reform (see for example Bergemann and Rhiphan, 2010). Third, the magnitude of this effect is dependent on family values background, albeit not in the direction that this paper initially suggested. The policy has had a stronger effect on mothers with traditional family background relative to mothers with liberal family background. Specifically, the former are 21% more likely to return to work within 14 months of taking parental leave than before the policy. This figure is in contrast with 10% for mothers with a liberal family background. The combination of these three findings suggests that while mothers with traditional family background returned to work at a slower pace than mothers with liberal family background *before* the policy, this difference has practically disappeared *after* the policy, resulting in a convergence of the pace of return to work for mothers from different family values background.

Table 24 Average Marginal Effects (AME) of parental leave reform policy on the probability of return to work within 14 months for mothers holding different family values.

VARIABLES	(1)	(2)	(3)	(4)	(5)
Fv: [0]tradit; [1] liberal	0.076***	0.108***	0.102***	0.174***	0.145***
before the policy	(0.028)	(0.026)	(0.038)	(0.048)	(0.052)
Policy treatment	0.156***				
Average	(0.018)				
Policy treatment		0.183***	0.201***	0.222***	0.214***
Traditional fv		(0.034)	(0.048)	(0.041)	(0.037)
Policy treatment		0.118***	0.134***	0.119***	0.103*
Liberal fv		(0.026)	(0.022)	(0.040)	(0.057)
Age			-0.067**	-0.102***	-0.145***
			(0.028)	(0.030)	(0.039)
Age sq			0.001**	0.001***	0.002***
			(0.000)	(0.000)	(0.001)
Marital st [base:single]			-0.011	0.081*	0.101*
			(0.023)	(0.049)	(0.059)
Dummy net income median			0.025	0.164***	0.165***
			(0.033)	(0.030)	(0.033)
Educ [base: elementary]			0.020	0.119	0.138**
Vocational			(0.046)	(0.101)	(0.065)
Educ [base: elementary]			0.110	0.216***	0.217***
Higher educ			(0.068)	(0.064)	(0.071)
Childr<16 at home			0.093***	0.115***	0.115***
			(0.031)	(0.028)	(0.036)

VARIABLES	(1)	(2)	(3)	(4)	(5)
Age partner				0.009***	0.012***
				(0.003)	(0.004)
Educ partner [base: elementary]				0.060	0.035
Vocational				(0.136)	(0.103)
Educ partner [base: elementary]				0.049	0.048
Higher educ				(0.142)	(0.106)
Dummy net income median hubs				-0.151***	-0.116**
				(0.052)	(0.051)
Regional fixed effects	no	no	no	no	yes
Observations	455	455	430	308	307
Log pseudo likelihood	-304.6	-307.3	-285.8	-195.5	-184.1
Pseudo R2	0.02	0.02	0.04	0.08	0.13

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

This finding is corroborated by examining the predicted probabilities of return to work. As Table 25 and Figure 12 show, mothers from a traditional family background had a 29% probability of going back to work within 14 months before the policy, which is significantly lower than 46% probability for mothers from a liberal family background. The confidence intervals in Figure 12 suggest that this difference is significant. However, after the *Elterngeld* policy reform the picture changes: mothers from a traditional family background now have a 50% probability of going back to work within 14 months, which is only 5% lower than mothers with a liberal family background. And as Figure 12 shows, this difference is not statistically significant.

These results are robust to the addition of several control variables. In particular, the effect of family background on the probability of returning to work remains significant after controlling for mother's education and partner characteristics. Mother's education has a significant influence on the probability of accelerating the pace of return to work, something that was both expected and in line with the literature on human capital. Age has a strong negative relationship with working behaviour, with the probability of accelerating the pace of return to work decreasing by 14% with each year. Being married has a positive but barely significant effect on work behaviour. With regard to partner's characteristics, net income is the most relevant variable. Women with high-income partners are less likely to accelerate their pace of return to work relative to women with low-income partners. At the same time, women with a high net household income are more likely to accelerate their pace of return to work. But the dataset shows a strong correlation between net household income and partner's income to the tune of 0.73%, suggesting that the effects are likely to at least partially offset in the sample. Partner's education is statistically insignificant and

age is significant with an increase in one year having a 1% effect on the probability of accelerating the pace of return to work. Given the strong correlation between mother's age and partner's age (75%), coupled with significantly stronger effect of mother's age over partner's age, the effect of the latter does not seem to change the picture in a substantial way. Finally, having children below sixteen years old at home increases the probability of having a faster return to work.

Table 25 Predicted probabilities of return to work within 14 months

Predicted Probability of return to work within 14 months	
Before policy	
Traditional family values	0.285***
	(0.033)
Liberal family values	0.457***
	(0.033)
After policy	
Traditional family values	0.500***
	(0.025)
Liberal family values	0.559***
	(0.028)
Observations	307

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Figure 12 Predicted probability of return to work within 14 months
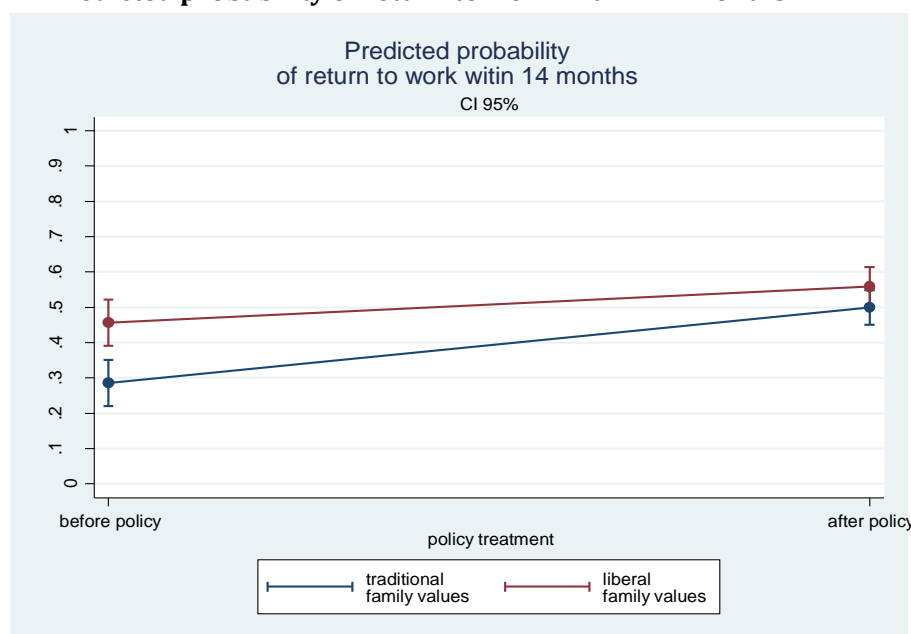
5.2. Considering heterogeneity effects: the role of education for women with different family backgrounds

Convergence in the pace of return to work between mothers with different family backgrounds suggests that pre-policy differences in their choice of work can be minimized

by affecting their economic incentives. In other words, it can be suggested that while family values matter, economic incentives such as those created by policy reforms can diminish their significance. In this section, we suggest that this convergence in the pace of return to work between mothers with different family values background is subject to the mother's level of education.

One strand of literature on education and female labour force participation argues that education strengthens the attachment of women to the labour market by increasing their potential earnings and reducing the scope of specialization within the couple (Jaumotte, 2003). Furthermore, highly educated women in higher level occupations face higher opportunity costs when taking leaves from work because their jobs are more typically characterized by career ladders and deferred rewards (Smeaton, 2006). Therefore, the effect of the policy should be driven mainly by highly-educated mothers. Given the stronger initial predisposition of mothers with liberal family values to go back to work earlier and the convergence (in the pace of return to work) achieved after the policy, one would expect highly-educated mothers with traditional family background to be the ones reacting most strongly to the policy.

This view is in contrast with another perspective which emphasizes the heterogeneous effects of education on female labour force participation based on different 'lifestyle preferences'. This literature (see for reference the work of Hakim, 2000) argues that regarding education as an investment in human capital is useful in understanding why most men and some women choose to pursue higher education. But in doing so, it fails to explain the decisions of 'home-centred' women who place priority on children and family life over work. This group of women may choose not to work outside home or defer work until they get married and/or have children. They can also return to work under certain circumstances: at few hours a week, under pleasant social contacts, and/or nearby home (Hakim, 2000, p. p.159). And yet, contrary to what is often assumed in economics, home-centred women do not necessarily have low educational attainment. Education is regarded as a cultural investment or even as a means to enter the marriage market (Hakim, 2000, p. p.160), and as a consequence, they are more likely to choose non-vocational education paths. This line of reasoning suggests that in effect, the policy reform is unlikely to have a significant effect on highly-educated mothers with traditional family background. In terms of convergence, this implies that convergence can still happen in aggregate, mostly due to the effects of the policy on mothers with traditional family values who hold low or vocational education. However, highly-educated mothers with different family values may not experience a convergence in the pace of return to work, and may even experience divergence if those with liberal family background react strongly to the policy.

The results below confirm that education is understood in different terms depending on the family background of the mother. As a result, women sharing similar levels of education have reacted differently to the policy depending on their family values background. Figure 13 (and table in *Appendix L*) shows the average marginal effects for the main variables based on the level of education. For mothers with traditional family background, the impact of the policy is stronger when they have vocational education: with vocational education, their probability of accelerating return to work is about 32%, compared to 14% for low educated and null for highly educated. Conversely, for mothers with liberal family background the effect is only significant for the highly-educated group. This group has a 25% probability of accelerating their return to work. Mothers with vocational training do not significantly accelerate their return to work after the policy, and the effect on mothers with low education is uncertain, as the variation is too large to draw meaningful conclusions.

Figure 13 Average Marginal Effects of the policy reform on the probability to return of work within 14 months.
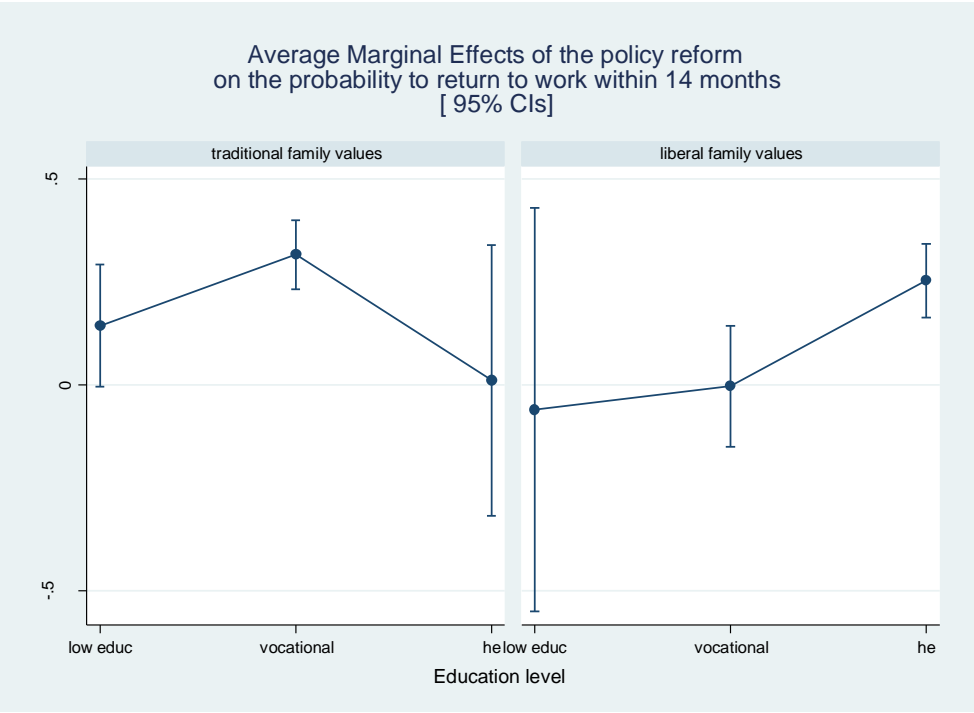
A note of caution must be added here. The variation of the effect among highly-educated mothers with traditional family background is quite large, suggesting a more heterogeneous response from this group relative to their counterparts with liberal family backgrounds. However, the predicted probabilities in Table 26 and Figure 14 suggest that the policy has exacerbated the difference in the pace of return to work among highly educated mothers in a statistically significant way. After the policy, highly-educated

mothers with a liberal family background have almost 80% probability of accelerating their return to work, compared to 40% probability for their counterparts with traditional family background. For those in the other two categories of education – and especially for vocational education – the effect has been one of convergence.

Table 26 Predicted Probability of return to work within 14 months

	Before policy	After the policy
Low education		
Traditional fv	0.13	0.28
Liberal fv	0.56	0.50
Vocational education		
Traditional fv	**0.26**	**0.57**
Liberal fv	0.42	0.42
Higher education		
Traditional fv	0.40	0.41
Liberal fv.	**0.50**	**0.76**
Observations	307	307

Note: all values are significant at 1% level except for the ones related
to the low educated with traditional family values, significant at 5% level.

Figure 14 Predicted probabilities of return to work within 14 months
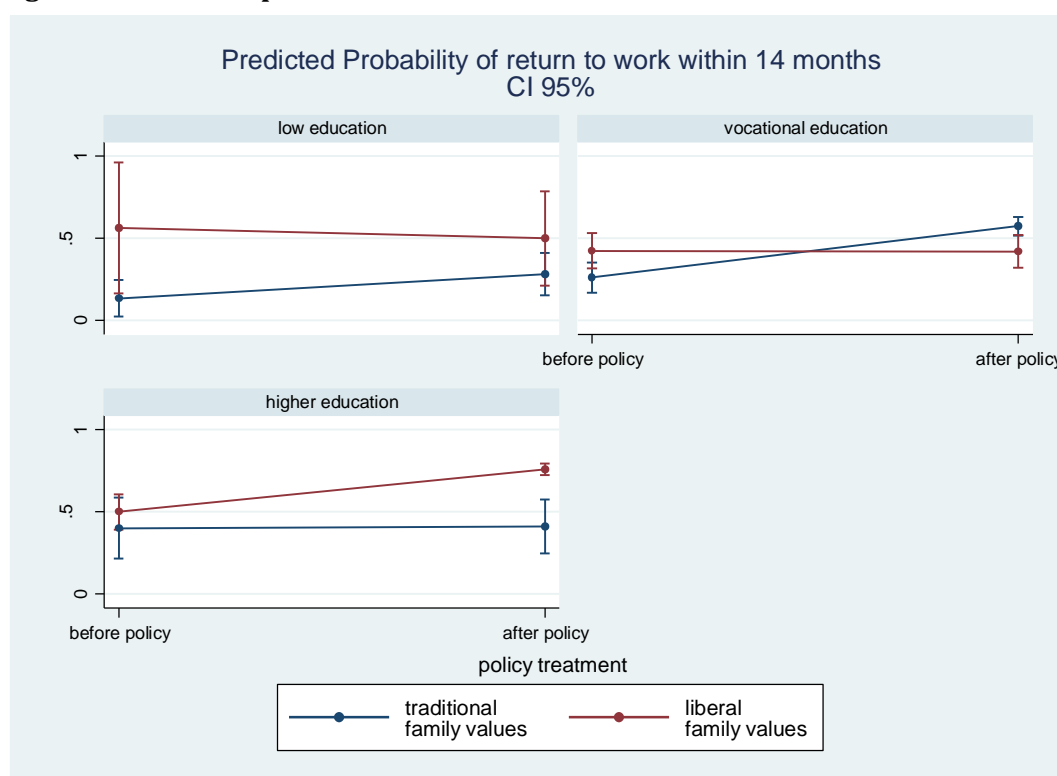
6. Robustness checks

This section conducts robustness checks on the results above. These checks show that, firstly, an alternative measurement of the dependent variable does not significantly change results. Secondly, an analysis of income is performed in order to rule out that this variable could act as an alternative explanation to the results found in section 5.2. Finally, observations from December 2006 and January 2007 are dropped to rule out that the results are biased due to parents choosing the timing of birth.

6.1. Measurement of the dependent variable

For reasons explained in section 4.1, the cut-off point used to dichotomize the dependent variable reflects the number of months for paid parental leave under the new *Elterngeld* policy (12 months) plus the number of months for compulsory maternity leave (2 months). However, mothers also have six optional weeks of maternity leave before childbirth. Therefore, using fourteen months as the cut-off creates a risk of underestimating the effect of the policy, especially if most mothers redeem these optional weeks. Conversely, if most mothers forego these optional weeks, establishing the cut-off at fifteen months may yield an overestimation of the policy effects. Given that the paper is focused on the effect of the policy on the pace of return to work for mothers with different family values background, the cut-off dilemma is not of critical importance. An exception would be if mothers with different family values background systematically redeem non-compulsory maternity leave at a significantly different rate. It is not implausible that this may be the case, and thus there is a possibility that the impact of the policy for mothers with traditional family backgrounds may have been underestimated.

Table 27 reproduces the original model in column 1 (model 5 from Table 24), together with a new model in column 2, with the dependent variable cut-off established at 15 months. The resulting differences between the two models are minimal. One exception is the effect of the policy for the traditional low-educated mothers. Here, column 2 shows a bigger effect of the policy, suggesting that convergence in the pace of return to work after the policy reform takes place not only for mothers with traditional family background and vocational education, but also for their less-educated counterparts. This result, however, does not significantly change the conclusion of the paper; if anything, it reinforces it.

Table 27 Comparison of the Average Marginal Effects (AME) of the policy reform on the probability of return to work within 14 months and within 15 months.

VARIABLES	(1)		(2)	
Family values: [0]tradit; [1] liberal	0.145***	(0.04)	0.127***	(0.04)
Policy treatment				
Traditional fv	0.214***	(0.04)	0.241***	(0.03)
Policy treatment				
Liberal fv	0.103*	(0.06)	0.080	(0.05)
Policy + traditional fv				
Low educ	0.144*	(0.08)	0.316***	(0.10)
Vocational educ	0.316***	(0.04)	0.340***	(0.07)
Higher educ	0.010	(0.17)	0.016	(0.16)
Policy + liberal fv				
Low educ	-0.060	(0.25)	0.038	(0.20)
Vocational educ	-0.000	(0.08)	-0.030	(0.06)
Higher educ	0.25***	(0.05)	0.240***	(0.05)

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

6.2. Income: the key missing variable?

Together with education, income is the one variable that has a significant impact on the pace of return to work. Given its relevance, there is a need to discuss and confirm that it is education – together with values – which explains the lack of convergence on the pace of return to work for highly-educated mothers with different family backgrounds.

Figure 15 shows that, other things equal, mothers with low income have reacted more strongly to the policy than mothers with high income. Before the policy, their pace of return to work differed, and after the policy it has converged. This result is consistent with other research on the effect of the *Elterngeld* policy reform on the pace of return to work for mothers with different levels of income[34].

Given the stronger reaction from low-income mothers, there are two cases in which the results seen in the previous section could be attributed to income rather than education levels:

The first case is represented in Figure 16. This figure shows a hypothetical relationship between education and income which is dependent on family background. Specifically, it shows a positive correlation for the sample of mothers with traditional family background,

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[34] See for example Bergeman and Riphahn (2010). They even suggest that high-income mothers may return later after the reform due to wealth effects, although their claim is not substantiated by their empirical analysis.

with a negative correlation for the sample of mothers with liberal family background. If these correlations hold for my sample, the results in the previous section – which found that low educated mothers from traditional family backgrounds and highly-educated mothers with liberal family values had a stronger reaction to the policy reform – could be perfectly explained in terms of income: low income mothers with traditional family background are those with low education, and low-income mothers with liberal family background are those with high education.

Figure 15 Predicted probabilities of return to work within 14 months for mothers with different income levels.
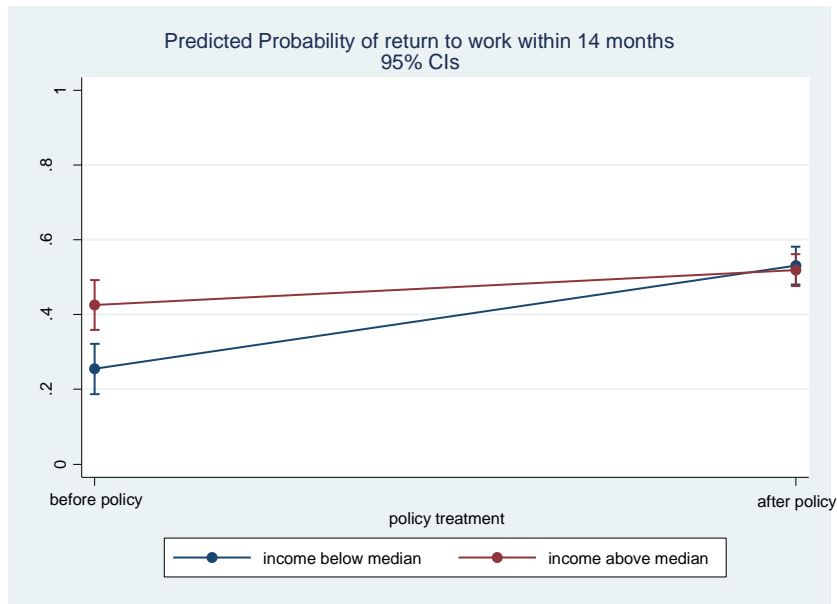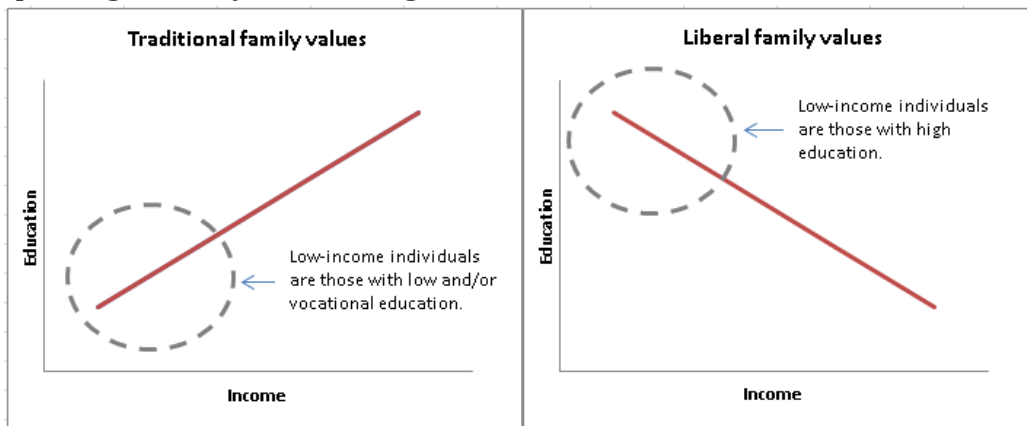

Figure 16 Hypothetical inverse correlation between education and income depending on family values background.

A priori there is no theoretical foundation for family background to affect the direction of correlation between income and education. Moreover, data from Table 28 confirms that correlation between these two variables is positive regardless of family background.

Table 28 OLS simple regression of income on education levels for subsamples of traditional and liberal family values background.

	Dependent variable: levels of education (ISCED)			
	(1)		(2)	
	Traditional family background		Liberal family background	
Income (low/high)	0.525***	(0.06)	0.277***	(0.08)
R2	0.18		0.05	
N	301		182	

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

The second case is represented in Figure 17. Here, the figures show a hypothetical relationship between family values background and income dependent on education levels. Specifically, it shows a positive correlation for the sample of mothers with low or vocational education, with a negative correlation for the sample of mothers with high education. Again, if these correlations hold for my sample, the results in the previous section could be perfectly explained in terms of income: low income mothers with traditional family background are those with low education, and low-income mothers with liberal family background are those with high education.

Figure 17 Hypothetical inverse correlation between family values background and income depending on education levels.
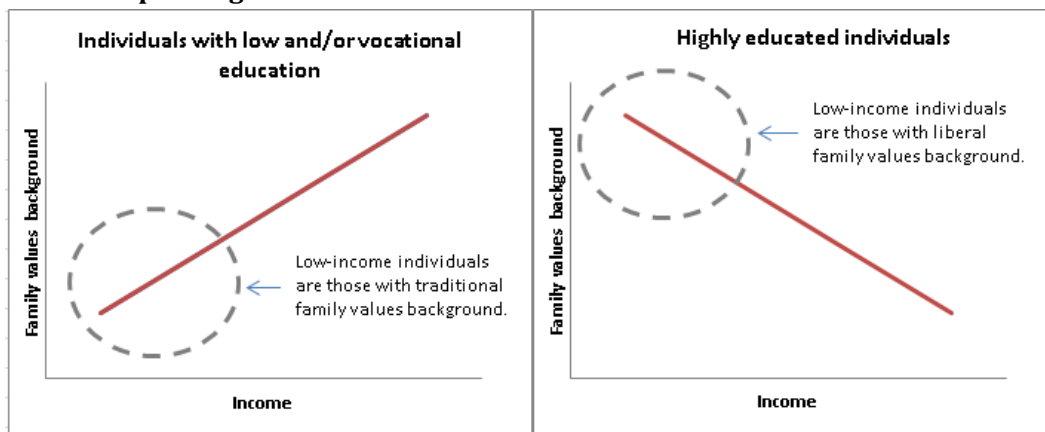
As with the preceding hypothetical case, a priori there is no theoretical foundation for education to affect the direction of correlation between income and family values background. Moreover, data from Table 29 confirms that correlation between these two variables is negative regardless of education levels.

Table 29 OLS simple regression of income on family values background for subsamples of highly-educated and low/vocationally educated individuals.

	Dependent variable: family values (traditional – liberal)			
	(1)		(2)	
	Low and vocat. educated		Highly educated	
Income (low/high)	-0.135***	(0.05)	-0.433***	(0.09)
R2	0.02		0.14	
N	348		135	

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

6.3. Timing of birth and its effect on coefficient bias

Section 3 discussed the possibility of parents manipulating the timing of birth and it made reference to a paper (Tamm, 2013) which suggested that this had been the case, with some parents postponing the delivery of their children from December 2006 to January 2007. If this is the case in the paper's sample, then the results may suffer from bias, as the parents who self-selected for the new policy may have a preference for an early return. The plausibility of this effect showing in the paper's results is low, as the sample has only 6 observations in December 2006 and January 2007. Moreover, given that the paper includes observations beyond January 2007 (from 2007 to 2009), the extent of the bias, if existent, should be mitigated. In spite of this low plausibility, a sensitivity test dropping these observations is carried out.

Table 30 shows the full model (from Table 5, column 5) in the first column compared to the new model without observations from December 2006 and January 2007 (second column). As it can be seen, the results remain very similar, which suggests that the analysis done in the paper does not suffer from bias due to the manipulation of the timing of birth.

Table 30. Comparison of the Average Marginal Effects (AME) of the policy reform on the probability of return to work excluding observations in Dec'06 and Jan'07.

VARIABLES	(1)	(2)
Fv: [0]tradit; [1] liberal	0.145***	0.140**
before the policy	(0.052)	(0.057)
Policy treatment	0.214***	0.222***
Traditional fv	(0.037)	(0.038)
Policy treatment	0.103*	0.106*
Liberal fv	(0.057)	(0.057)
Observations	307	301
Log pseudo likelihood	-184.1	-179.5
Pseudo R2	0.13	0.13

Robust standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

7. Conclusion

This paper investigated the effect of a parental leave policy on the pace of return to work for mothers with different family values backgrounds. In line with previous analyses of the same policy (Bergemann & Riphahn, 2010; J. T. Kluve, M., 2009), this paper suggests that the policy has had an overall positive effect in accelerating the pace of return to work for mothers in Germany. The paper's focus on family values reveals that it is those mothers with traditional family values background who react most to the policy, as opposed to their peers with more liberal family values background. Given that their pace of return to work differed before the policy, the results lead to convergence on the pace of return to work for mothers with different family values background

However, the paper also finds that the magnitude of convergence is dependent on the mother's level of education, with only those mothers with vocational education converging in their pace of return to work. Conversely, the difference in the pace of return to work for low educated mothers narrows, but convergence is not achieved. At the same time, and perhaps more surprisingly, highly-educated mothers from different family values background do not converge in their pace of return to work and, if anything, divergence is observed. The paper suggests that family values may impose an upper limit on the effect of education on the decisions to return to work, a limit which would have already been reached by highly educated mothers with a traditional family background.

The paper contains some limitations. The small number of observations has an effect on the additional analyses on education, with standard errors being too large to allow for a robust interpretation of the results. Relatedly, the number of individuals with migrant background is small, with most of the sample being composed of East and West German individuals. This waters down the epidemiological approach and therefore it weakens the disentanglement of 'culture' and institutions that the paper aimed to achieve.

The findings contribute to the literature on culture and economics. The consensus within this literature is that family values –and more generally attitudes towards women, family and work – have explanatory power in understanding women's participation rates in the formal labour market, along with other economic variables such as household arrangement or fertility outcomes (see for example A. Alesina & Giuliano, 2010; Fernandez, 2007; Fernandez & Fogli, 2009; Giavazzi, Schiantarelli, & Serafinelli, 2013). The literature on the topic also emphasize the feedback effect between economic policies and attitudes towards women and work (see for example Aghion et al., 2011). This paper adds to this literature by providing some evidence for the idea that differences in behaviour attributable to 'culture' can be partially offset by policy reforms.

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Chapter 5 Conclusions

The overarching objective of this thesis has been to investigate the resilience of the effects of family values on individuals' behaviour in the light of a change in economic incentives. The thesis has presented a conceptual framework which brings together the different relationships between institutions, changes in economic incentives and outcomes. The existing institutionalist and social economics literature has previously explained some of the relationships within the framework. It is now widely established that formal and informal institutions affect economic outcomes. At the same time, institutionalist economists have extensively documented that any change in economic incentives is very likely to be 'filtered' by formal institutions, therefore giving rise to different economic outcomes depending on the formal institutions in place. In other words, the effect of formal institutions is usually resilient to changes in economic incentives.

With this in mind, the thesis has asked whether a similar resilience can be found in the effects of informal institutions on outcomes in the light of a change in economic incentives. In other words, the aim has been to understand whether the same change in economic incentives taking place in societies with different informal institutions will result in different economic outcomes. This is the main contribution of the thesis. While the literature on social economics had previously examined and asserted the effects of informal institutions on outcomes and on formal institutions, their resilience to changes in economic incentives had been understudied.

The thesis focuses on individual behaviour and preferences for social care; that is, preferences for elderly care, amount and type of parental support for adult children and duration of parental leave. With regard to informal institutions, the focus is on social norms, and more specifically, on those concerning the role of the family in society, that is, family values. The first paper has examined the heterogeneity of the effect of family values on preferences for elderly care prior to any change or policy reform. The aim has been to understand whether the effect of family values was resilient to different socio-economic characteristics, and specifically, education attainment. The second paper has examined the resilience of the effect of family values on parental support given to offspring when the latter experienced a change in economic incentives given by an adverse change in their employment status. An the third paper has analysed the resilience of the effect of family values on the pace of return to work after a policy reform on parental leave was implemented in Germany.

The papers have relied on an understanding of the relevance of informal institutions provided by the growing literature on social economics. This one focuses on culture, values,

social norms, attitudes and beliefs and argues that their inclusion in economic models does not compromise their parsimony. At the same time it helps account for behaviour that would have otherwise not been very well accounted for with existing economic tools. Borrowing from this framework, the thesis posits that individuals need to choose their actions or behaviour – more specifically they need to choose whether to care for their relatives or not. Their actions depend on the costs associated to it, but importantly, they also depend on their 'identity', or the social categories assigned to them. These categories refer to the family values they are expected to have; i.e. family values which are prevailing in the society they live in, and they are associated with a prescribed behaviour. In traditional societies prescribed behaviour assigns a strong caring role to the family members, whereas in liberal societies such role is assigned to either the market or the state. Therefore, individuals need to take action based on their costs and their identity. A change in economic incentives changes the costs, either exacerbating them or decreasing them, thus changing the balance between costs and identities. Their behaviour thus depends on the resilience of 'identity' to changes in economic incentives.

The research question has been motivated by the trend within the EU to engage in policy transfers via changes in economic incentives with the aim of achieving convergence. Given that many of these changes can be done within the same formal institutional framework (i.e. changing some policies and laws, but not engaging in structural reforms), it is usually assumed that there are no major barriers to their successful implementation (one exception would be political feasibility). As a result, the effect of informal institutions has been largely overlooked.

In this concluding chapter I first discuss the main results and the overall answer to the research question. I then move on to a more detailed analysis of the main findings for each paper. Broader implications of the results are then discussed and finally, limitations and a proposed future research agenda are presented.

1. Main results

Results point towards an existing but limited resilience of the effect of family values on individual behaviour in the face of changes in economic incentives. First, all empirical analyses confirm previous findings in the literature of social economics that family values affect individual behaviour.

- Chapter 2 (Paper 1) showed that the effect of family values is subject to educational attainment, with individuals with higher levels of education being less influenced by family values.

- Chapter 3 (Paper 2) argued that the effect of family values is exacerbated by a change in economic incentives which does not conflict with prevailing values.
- Chapter 4 (Paper 3) demonstrated that the effect of family values is only partially resilient to a policy reform which conflicts with them. The extent of resilience depends on the socio-demographic characteristics of the individuals.

Paper 1 – Are the effects of family values on elderly care preferences resilient to changes in educational attainment levels?

The literature on elderly care provision suggests that there are two main set of factors which affect preferences. One is economic incentives, which can range from cost of services or availability to more individual constraints such as employment, education, age and the like. The other set of factors relate to normative beliefs and social norms about the role of the family in caring for relatives. Whereas the economics literature and reports from international organizations have focused on the former, sociological literature has focused on the latter, mainly using qualitative data and studies.

The chapter has merged the focus of both groups of literature and, using quantitative methods, the interplay between the two set of factors, namely economic incentives and normative family values has been explored. The aim has been to understand how resilient normative family values are in the light of different economic incentives faced by individuals. To this purpose it has used cross-country European survey data to conduct a regression analysis where preferences for elderly care were explained by educational attainment, family values and the interaction of the two. Family values have been constructed from survey data which includes questions about attitudes and values about the family. After the index has been constructed at a regional level, values have been assigned to individuals according to the region they live in and values have been dichotomised from very traditional and traditional to liberal and very liberal. The paper has aimed at identifying the effects of values from other formal institutional effects by controlling for country fixed effects. Moreover, the composite index has been constructed from historical values, in order to avoid endogeneity problems.

Results have suggested that resilience of the effect of family values on elderly care preferences is mediated by the effect of education. Highly educated individuals in more traditional areas are more likely to prefer formal elderly care than their less educated counterparts. By contrast, the likelihood to prefer formal care is similar across educational levels for individuals living in liberal family areas. These findings suggest that the effects of education may be strong enough to override the influence of family values on elderly care preferences. Interestingly, the effects of education on preferences happens at different level

of education for very traditional and traditional societies. In very traditional societies, individuals with twenty plus years of education exhibit a higher likelihood of preferring formal care than their less educated counterparts. In traditional societies, the years of education which result in a similar shift are instead between 17 and 19 years.

The paper's finding that education limits the resilience of the effect of traditional family values is partially consistent with the literature on education. This one stresses the higher opportunity costs faced by highly educated individuals when taking leaves from work. Whereas this is what the paper finds in areas with traditional and very traditional family values, education does not seem to play a big role in shaping preferences for elderly care in liberal and very liberal areas. These results therefore point at a very different effect of education on preferences and, arguably, open questions about the effects of 'economic incentives' in societies where values are already geared towards more individualist purposes.

Paper 2 – Are the effects of family values on parental support to offspring resilient to changes in children's employment status?

Family exchanges and support are usually discussed in the literature using two different theoretical frameworks. The first one is grounded on altruism, which is argued to be the driving force behind support provided within the family and across generations. The second framework suggests instead that family exchanges are based on rational choices about the costs and benefits of providing help, with parents more likely to provide assistance to the offspring from whom they receive most help. Whereas in the former framework children's income levels would be a key variable in the decision of providing support, in the latter the key variable would be reciprocity.

Evidence on which framework has a greater explanatory capacity is inconclusive. This paper suggests that the dichotomy between rationality and altruism overlooks an important variable: social norms and family values. Arguably, the level and conceptualization of altruism and rationality expected depend to a large extent on the social norms regarding the role of family in a society. The paper therefore shifts away from the discussion on altruism and rationality and focuses on the impact of social norms about the family on the decision to give parental support. More specifically, the paper has aimed at understanding the resilience of prevailing family values on the decision to give parental support to offspring when they suffer an adverse change in employment status.

To this end the paper uses longitudinal survey data which covers 12 European countries to carry out regression analyses. The probability of parental support provided to offspring

and the type of support – financial and co-residence – is calculated both when offspring are employed and when they suffer an adverse change in employment status. The variable to explain is therefore parental support and type of support, and the main factors to analyse are employment status of the offspring, family values and the interplay between the two. As with the previous paper, a family values composite index is constructed with questions from survey data at a regional level, assigned to individuals depending on the region they live in and then grouped into four categories – very traditional, traditional, liberal and very liberal.

Results have suggested that the effect of family values on help given is significant and exacerbated by the change in employment status. They have showed that, first, the probability of providing parental help when children are employed is similar among individuals living in different areas. Second, when the adult child is hit by an adverse change in employment status, parents in traditional areas significantly increase the probability of providing help, whereas their counterparts in liberal areas barely change their probability. The results are driven by both an increase in the willingness to permit co-residence and an increase in the provision of financial help, although the increase of the former type of help is larger. These findings suggest that an adverse change in employment status produces heterogeneous responses in terms of parental help, both in intensity and types of support provided.

The findings are in line with the literature on social economics which emphasises the effects that social norms have on individual behaviour.It shows that parental support after an adverse change in employment status of the offspring is dependent on family values. The findings are of relevance for the literature on social policy, and more specifically, the one concerned with the intergenerational contract. The focus has usually been on formal institutional differences, overlooking social norms. The results suggest that even within the same institutional setting, the effects of a change in employment status may result in different levels of intervention by families.

Paper 3 – Are the effects of family values on the pace of return to work after childbirth resilient to parental leave policy reforms?

Germany has traditionally been a country where the male breadwinner model predominated, which was reflected in maternity and parental leave policies in the 1980s and the 1990s. Arguably, these policies have been partially rooted in the traditional family values that West Germany has. A term even exists for these mothers who decide to work instead of taking care of their small children: *rabenmutter*. Nevertheless, at the turn of the

century new reforms began to acknowledge individual rights to parental leave and there was a commitment to expand childcare services.

This paper has analysed one of these reforms, the 2007 Elterngeld reform, which aimed, among other things, at decreasing the period of paid parental leave from two years to one years, therefore increasing the incentives of mothers to return to work earlier. The goal of the paper has been to understand whether the effect of the reform differed for mothers with different family values background. As with the previous papers in this thesis, its basic premise is that mothers with traditional family values will face a conflict between the reform and their normative values.

The paper has adopted a regression discontinuity design model using German household survey data to establish the effect of the policy reform on the duration of parental leave. Moreover, a difference-in-difference design has allowed the comparison between the effects of the policy on mothers with distinct family values background. An epidemiological approach has been used to analyse the effect of values, using migrant population in Germany and assigning them a family values background according to the family values in their country of origin.

In line with previous analyses of this policy, the findings have pointed out at an overall positive significant effect in accelerating the return to work of mothers in Germany. More importantly for the purposes of the paper, the effect of the policy has been bigger for mothers with traditional family values, therefore increasing convergence in the pace of return to work for mothers with different family values background. Resilience of the effect of family values is therefore put into question. A closer look at the convergence rate reveals that the magnitude of convergence is dependent on the mother's level of education, and not entirely in the way predicted by existing literature on education and human capital.

Mothers with vocational education exhibit high levels of convergence, followed by mothers with low education, who exhibit low but significant levels of convergence. Conversely, highly-educated mothers diverge in their pace of return to work. The paper has suggested that mothers with traditional family values background may use the educational system either as a way to enhance their cultural investment or as a marriage market, and therefore will not be very sensitive to changes in economic incentives. By contrast, mothers with liberal family values background may use the educational system as a way to enhance their human capital, which can then be deployed at work. This suggests that the latter will be more sensitive to changes in economic incentives than the former.

The findings contribute to the literature on social economics by providing evidence that the effect of family values is partially resilient even in the case of a policy reform which 'conflicts' with traditional family values. At the same time, it contributes to the literature on social policy by focusing on a variable– social norms – which has been largely overlooked. In increasingly heterogeneous societies in terms of cultures and values, it is worth identifying potential causes that may limit the effect of social policies.

2. Policy recommendations

Overarching recommendation

The ongoing and increasing amount of policy transfers within the EU, especially in the aftermath of the crisis, has generally assumed that there is a set of good practices which countries need to follow to achieve convergence in outcomes. The thesis stresses the necessity of taking family values into account when assessing the reforms a country's needs, especially when it comes to policy transfers related to care.

Measurement of family values and other social norms has been made available via cross-country surveys with extensive information on attitudes and beliefs. At the same time, methods to isolate the effects of social norms from formal institutions and other economic variables have been improved and they have been able to benefit from the increasing availability of longitudinal household surveys. With all these new data and methods, excluding social norms from country analyses and policy recommendations may lead to less effective policies being implemented.

Similarly, the analysis of the consequences of common problems would also benefit from an inclusion of social norms. Policy recommendations sometimes follow after such common problems. As the thesis has hopefully conveyed, such problems do not necessarily lead to the same behaviour, and one source of such heterogeneity is social norms.

Specific policy recommendations

a. Choice agenda in elderly care

As Chapter 2 documents, one common ground of EU reforms regarding elderly care has been to allow more choice between in-kind services and cash-for-care. On the one hand, institutional choice has been welcome as a way to ensure carers and carees' preferences are respected. On the other hand, choices depend to a great extent on the social norms prevailing in a society. Given the consequences that caring has on the potential earnings, job prospects and eventually income for retirement of the carers, social norms can be a source of inequality exacerbated by choice.

As Chapter 2 findings suggest, individuals with distinct socio-demographic characteristics are influenced by the social norms in society to a different extent. More specifically, education seems to be key to override the effects of social norms on preferences for elderly care. This effect therefore suggests that institutional choice may lead low educated individuals living in more traditional societies to choose informal care as a default option. Instead, their more educated counterparts are more likely to choose formal care as the default option. Social norms can thus be not only a source of inequality across societies with different norms, but also within societies where traditional social norms prevail.

b. The effects of co-residence as an answer to a change in employment status

The literature (see for example Kaplan 2012) suggests that co-residence with parents in the event of unemployment acts as a channel of insurance against labour market risks. The consequences in regards to consumption and saving patterns as well as labour elasticities and earnings are not negligible: consumption reacts less to job losses, there are lower savings, higher long term earning growth and higher labour elasticity for the youth (Kaplan 2012).

This 'insurance' effect of co-residence suggest that big changes in employment status in societies with traditional family values may potentially lead to longer-term unemployment, and while this may not translate in a sharp decrease in consumption patterns, it may lead to households spending retirement income and increase the risk of poverty at old age. Although these effects may be far-fetched, European policy makers need to factor them in when giving policy recommendations to countries with different social norms. Similarly, in countries where social norms differ a lot – be it for historical differences or because of an increase in migrant population holding different normative beliefs on the role of the family – a common problem may lead to very asymmetric consequences in terms of consumption, savings and potential earnings. Again, such countries should think about how their policies will affect individuals with different social norms who use different channels to counter the negative effects of unemployment.

c. Parental leave policies to boost female labour force participation

Chapter 4 has suggested that parental leave policies which incentivise mothers to return to work are, to a certain extent, effective. The thesis therefore supports the view that such policies should be promoted if the goal of a government is to increase female labour force participation. At the same time, the findings point at a lower reaction to economic incentives from low and high educated mothers – as opposed to those with vocational education – from a traditional background. This hints at the possibility that social norms

have a stronger influence on their decisions, and therefore, for these groups, economic incentives might need to be of a higher magnitude to override the effect of social norms. The recent suggestions in Germany to pay stay-at-home mums who choose to care for their babies at home goes in the opposite direction of the 2007 parental leave. The policy has been finally implemented in Bavaria, and, as policy implications in (a) have suggested, increasing choice might lead to stark differences in choices that mums from different family values background take. Choice in itself is of course legitimate, but consequences stemming from different social norms need to be considered in full when assessing the effects of the policy.

3. Limitations and future research agenda

3.1. Limitations of the study

Limitations fall under three broad categories: data availability, measurement and methods.

Data availability

Chapter 2 (Paper 1) uses Eurobarometer data to examine the impact of family values on preferences for elderly care for individuals with different educational attainment. The dataset only provided stated preferences for elderly care. That is, the dependent variable used in the paper has been taken from the following question: *Imagine an elderly father or mother who lives alone and can no longer manage to live without regular help because of his or her physical or mental health condition. In your opinion, what would be the best option for people in this situation?*' Answers have been coded according to the informal-formal spectrum. Stated preferences are interesting to analyse because they do not include unexpected or unwanted circumstances that may affect final decisions. In some way, they are 'purer', free of noise. However, they can also undermine the actual role economic incentives play and overestimate the impact of norms or wishes relative to what actual choices may suggest. Further research examining revealed preferences is therefore desirable to complement these results.

Chapter 3 (Paper 2) uses SHARE data to examine the impact of family values on parental support given to adult children when the latter suffer an adverse change in employment status. The type of support analysed is financial support and co-residence. The dataset included a third type, namely time help, which includes help given to their offspring on practical household chores, paperwork or personal care. The amount of individuals providing time help to their offspring however was very low. Of a total of around 38,000 observations, only 3,000 reported giving time help. Although it would have been interesting to understand what happens to this specific type of help, its exclusion is not a big drawback,

as I expect time help from parents to offspring to decrease when unemployment hits the adult child, and the paper is more interested in evaluating the increases of help and the extent to which this differs depending on family values.

Chapter 4 (Paper 1) has two problems of data availability. The first one is the overall number of observations. The German SOEP is a large dataset. Yet, after dropping missing observations and leaving only mothers who gave birth between 2005 and 2009, the number of observations amounts to between 300 and 450, depending on the specification. This suggests that the groups that form the interaction between family values and the policy treatment are even smaller, which may have effects on the consistency of results. The second problem is that the number of migrants is also rather low, amounting to 132. The rest are observations from East and West Germany. Given the large differences in family values between the two regions, the results are still interesting. However, this slightly undermines the epidemiological approach used in the paper.

Finally, a data availability problem which affects the three papers is the fact that family values are assigned to individuals depending on the region they live in. Ideally, and endorsing the hypothesis that basic values are largely fixed by the time individuals reach adulthood (Inglehart and Baker 20020), values should have been assigned according to the region where individuals grew up. Unfortunately none of the dataset provide information on this aspect, and therefore, it is their actual region which has been taken as the basis for their values. In chapter 4 therefore I may have miscategorised some eastern and western Germans, affecting the consistency of results. In the two other chapters the problem is arguably less pressing, as regional family values have been further re-categorised in four big areas – very traditional, traditional, liberal and very liberal – and therefore any mobility within those areas does not represent a problem.

Measurement

One of the dependent variables in Chapter 3 (Paper 2) is financial help. The question used in the database is whether financial help of more than 250€ has been given in the past 12 months, and if this is the case, to whom. The database also includes another question asking the amount of help given. However, information on this question contained a lot of missing values and, more importantly, it was not available for the last wave. Given this drawbacks, the paper has not analysed the question from the point of view of intensity of transfers. Nonetheless, recent research on intergenerational transfers has found that while individuals in Mediterranean countries report giving less financial support to their offspring, the intensity of the exchange is larger; i.e. the amount given for each exchange is greater than in other countries (Albertini and Kohli 2012). This is therefore one substantial

limitation of the paper, as it directly affects the conclusion. Nevertheless, it can be argued that, if anything, this result from other papers would reinforce the findings by pointing at an even greater support from parents to offspring in traditional family values areas.

In Chapter 4 (Paper 3) the dependent variable may also suffer from measurement problems. The policy analysed aims at reducing the number of months mothers spend on parental leave up to one year. Ideally, therefore, the variable of interest would be the number of months of parental leave, and further dichotomize the variable between those individuals who spend twelve months and those who spend more than twelve months. Unfortunately, the database only contains the number of months of maternity and parental leave together. Given that maternity leave is compulsory for eight weeks following childbirth (and only optional for a maximum of six weeks preceding childbirth), the paper has taken as a cut-off point fourteen months (rather than twelve), to account for a minimum two extra months attributable to this compulsory maternity leave. However, there is still the risk that mothers spending some or all six optional weeks of maternity leave before childbirth are categorized as "slow returners,". To minimize the mistake, robustness checks are performed with the cut-off point set at fifteen months.

The last relevant measurement problem encountered in the thesis refers to the measurement of family values and affects chapter 2 and 3 (Papers 1 and 2). Family values in the thesis refer to the social norms on the role of the family to which individuals in a social group try to conform. As explained in both papers, the variable family values has been taken from the European Value Study, it has been aggregated at NUTS 2 regional level and further dichotomized so that there would be four main 'family values areas' ranging from very traditional and traditional to liberal and very liberal. This aggregation has allowed a better control of institutional and economic variables by adding NUTS2 and country level dummies. However, this has been done at the expense of aggregating family values to very large areas. An alternative could have been to aggregate the family values index at a NUTS3 level, still allowing for the inclusion of NUTS2 and country dummy variables, but having a more precise measure of family values. I could have also dichotomized it as robustness checks if needed. Unfortunately, this alternative has not been possible to take on board given the lack of data on NUTS3 regional level in the databases.

Methods

Endogeneity problems are present in Chapter 3 (Paper 2). The paper has assumed that the adverse change in employment status is a exogenous. However, this may not be necessarily the case and the results may suffer from the Omitted Variable Bias (OVB) problem. At the same time, reverse causality problems are likely to be present. One of the variables which

might affect employment status is parental support. Those individuals who know their parents are likely to support them in case of being unemployed may be more prone to experience a change of status towards unemployment. This may result in inconsistent estimators. Ideally, the use a of fixed-effects model would have alleviated the OVB problem. However, a random-effects model was eventually chosen for the reasons explained above in the chapter. Therefore, the problem persists and causality is unwarranted.

The epidemiological approach used in Chapter 4 (Paper 3) has its own set of problems as a method. These are discussed in detail in Fernandez (2007) and Fernandez (2010), so I am only going to briefly mention them in here. First, immigrants in the host country may exhibit a different behaviour due to the shock of moving countries (i.e. language barriers, discrimination, uncertainties and the likes). Second, because culture is socially constructed it might not necessarily replicate in a similar way when it is taken out of context. Third, immigrants may assimilate into the culture and norms of the host country, therefore weakening the influence of their native culture. These three drawbacks are likely to underestimate the effect of culture and, in this thesis, the effect of family values. Therefore, if I still find an effect, as I do in Chapter 4 (Paper 3), then it is very likely that the actual effect of family values is still bigger.

There are however two more relevant limitations of the approach used in the Paper, also discussed in the two aforementioned papers. First, migrant women in the sample may not be a random selection of their country of origin, and therefore, a positive coefficient of family values may be driven by selection bias. More precisely, if there is an identical distribution of family values across different countries, problems of selection would arise if the sample of women from countries of origin where attitudes are liberal were taken from the low-disutility-of-labour portion of the distribution, and the sample of women from countries of origin where attitudes are traditional were taken from the high-disutility-of-labour portion of the distribution (Fernandez 2010). This is a limitation of the paper, as the problem cannot be ruled out. However, as Fernandez notes, 'selection is a problem for all empirical methodologies' (2010:19).

Another limitation refers to the omitted variable bias problem. It may be the case that there is an omitted variable which varies in a systematic fashion across countries of origin for purely economic reasons (Fernandez 2010:19-20). This is why it is so important to control for individual education, husband's education or income and other variables which are likely to reflect differences across individuals rather than family values. However, there are other sets of variables which are more difficult to control for, because they may be unobserved. Fernandez notes that in the case of female labour force participation one of

these variables might be unobserved human capital. She then suggests ideas to control for it, which the paper has not applied.

3.2. Avenues for future research

The evidence in this thesis points to several ideas that could be further explored: the resilience of the effect of family values and the role of socio-economic characteristics; the long-run consequences of 'weak resilience' of the effect of family values; the role of family values in shaping different purposes of educational attainment and further analysis on policy changes and family values.

Resilience of the effect of family values: the role of socio-economic characteristics

Results from Chapter 2 (Paper 1) have pointed towards different levels of resilience of the effect of family values depending on educational attainment. Two main potential avenues for research stem from here. One is to systematize the effect of socio-economic characteristics; that is, which individual characteristics are likely to override effects of family values? Two potential candidates are educational attainment and income, but others may also be relevant. Akerlof and Kranton (2000) suggest that identity and social categories can to a certain extent be 'chosen' and as a consequence experiences such as professional and graduate schools as well as political involvement can alter the identity of an individual.

This leads to the second avenue of research. What is the mechanism through which socio-economic characteristics override the effect of family values? Following Akerlof and Kranton's framework (ibid.), at least two mechanisms arise: first, socio-economic characteristics may change economic incentives; second, one's own 'identity' can be altered by certain characteristics and therefore conflict with the prescribed behaviour assigned to the social identity. In the first case it would be the *effect* of social norms which ceases to be resilient for individuals with certain characteristics (say, because their effect is override by economic incentives); in the second case it would be *the social norm in itself* which ceases to be followed by the individual. Take the case of higher education in Chapter 2. The reason why highly educated individuals have a higher preference for formal elderly care can be ascribed to the fact that their opportunity costs of not working is higher to their less educated counterparts. This does not necessarily imply that their individual family values are in conflict that of the society or group the individual belongs to. Alternatively, it could be that higher education has indeed altered this individual's family values, which cease to be in line with that of the society.

One could think that the difference is fairly irrelevant, as in the end, regardless of whether it is family values or economic incentives that change, the outcome is the same: a higher

likelihood of preferring formal elderly care. But as Postlewaite (2011) suggests when he talks about deep and reduced form preferences, the difference is not trivial. If it is only economic incentives but not family values that change, at the time of bargaining with the family – in this case the elderly parents – these ones will have more bargaining power than if the individual's family values have also changed. This is because in the former case, the individual is conflicted between the economic incentives and his family values, and in the latter this conflict disappears.

The long-run consequences of weak resilience of the effect of family values

An implication of the aforementioned claim that one individual's own family values may enter in conflict with that of the society he inhabits may be that, if enough individuals find themselves in such situations, society's family values may be altered over time. The pace at which this happens and the role of different socio-economic characteristics or shocks can be an interesting further avenue for research. This partially relates to Chapter 3 (Paper 2) and the potential long-run effects that a large shock such an economic crisis may have on attitudes, values and social norms.

The role of family values in shaping different purposes of educational attainment

One of the findings in Chapter 4 (Paper 3) points towards the different effects education has on individual's behaviour depending on the prevailing family values. Education appears to increase the likelihood of an early return to work for individuals with liberal family values. This is not the case for highly educated individuals with traditional family values background, for whom the pace of return to work remains unchanged. While I have already warned in the limitations section in this chapter of the consistency of these results due to the small number of observations, the finding in itself is interesting and challenges the conventional explanations on the effects of education. A plausible explanation, in line with what Hakim (2002) argues, would be that educational attainment and other economic incentives have less of an effect on labour force participation for who she calls 'home-centred' mothers. An avenue for further research would be to empirically test this hypothesis against the more conventional hypothesis which regards educational attainment as a source of human capital.

Policy changes and the resilience of family values

Chapter 4 (Paper 3) has analysed how a policy reform has impacted the resilience of the effects of family values, with results pointing at partial resilience depending on the educational attainment of the individual. An interesting avenue for further research would look at a) the characteristics of policy reform that makes them successful in the light of

conflicting family values (the extent of economic incentives, their implementation, their design…), b) the different areas of policy reform; i.e. some areas such as social care are arguably more likely to be affected by family values than other areas. Acemoglu and Jackson (2014) suggest that smoking regulations are one example of changes in law which have been successfully implemented. They ascribe at least part of this success to the gradual implementation of the reforms, which made a change in social norms possible over time.

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Appendices

Appendix A. Construction of family values composite index - regional categorisation

EVS database contains data on regions. In most cases, these regional groupings coincide with the Eurobarometer regional groupings. When that was the case, NUTS 2 groupings were preferred, given that it allows for regional differences within countries (and therefore getting a more precise estimate of family values), while simultaneously providing enough observations per region to allow the analysis. There are two cases in which regional grouping were not conducted using NUTS 2. The first one concerns the cases where splitting the data into NUTS 2 would result in very small groups. In these cases, the whole country has been used. The second case pertains to situations where the EB and EVS regional groups differ. In these cases, either NUTS 1 or a larger categorization that allows comparison between EB and EVS data has been used.

Table 31 Regional categorization of family values

Regional categorization	
Country	**NUTS**
Austria	NUTS 2
Belgium	NUTS 2
Denmark	NUTS 2
Finland	no nuts, 1 region only
France	NUTS 1
Germany	NUTS 1
Greece	NUTS 1
Ireland	no nuts, 1 region only
Italy	NUTS 2
Luxembourg	no nuts, 1 region only
Netherlands	NUTS 2
Portugal	NUTS 2
Spain	NUTS 2
Sweden	NUTS 2
Great Britain	no nuts, larger categorization

Appendix B. Questions in family values in the European Value Study.

Table 32 Questions on Family Values in the EVS

QUESTIONS ON FAMILY VALUES IN THE EVS (1981,1990)

Love and respect for parents:

Which of these two statements do you tend to agree with?
  A) Regardless of what the qualities and faults of ones parents are, one must always love and respect them.
  B) One does not have the duty to respect and love parents who have not earned it by their behaviour and attitudes

Parents responsibilities to their children

Which of the following statements best describes your views about parents' responsibilities to their children?
  A) Parents' duty is to do their best for their children even at the expense of their own well-being.
  B) Parents have a life of their own and should not be asked to sacrifice their own well-being for the sake of their children.
  C) Neither

Children responsibilities to their parents

Which of the following statements best describes your views about responsibilities of adult children towards their parents when their parents are in need of long-term care?
  A) Adult children have the duty to provide long-term care for their parents even at the expense of their own well-being
  B) Adult children have a life of their own and should not be asked to sacrifice their own well-being for the sake of their parents
  C) Neither

Learn children at home

Here is a list of qualities which children can be encouraged to learn at home. Which, if any, do you consider to be especially important?
  - Independence, feeling of responsibility, obedience

Abortion when woman is not married

Do you approve or disapprove of abortion under the following circumstances? Where the woman is not married.

Trust

Generally speaking, would you say that most people can be trusted or that you can't be too careful in dealing with people?

Children need both parents to grow up happily

If someone says a child needs a home with both a father and a mother to grow up happily, would you tend to agree or disagree?

Women need children in order to be fulfilled

Do you think that a woman has to have children in order to be fulfilled or is this not necessary?

Marriage is outdated

Do you tend to agree or disagree with this/the following statement? Marriage is an outdated institution

Woman single parent

If a woman wants to have a child as a single parent, but she doesn't want to have a stable relationship with a man, do you approve or disapprove?

Working mother and children

Can you tell me how much you agree with the following statement? A working mother can establish just as warm and secure a relationship with her children as a mother who does not work

Housewife being fulfilling

Can you tell me how much you agree with the following statement? Being a housewife is just as fulfilling as working for pay

QUESTIONS ON FAMILY VALUES IN THE EVS (1981,1990) (continued)

Contribution of both spouses to household income

Can you tell me how much you agree with the following statement? Both the husband and wife should contribute to household income

Working mother and pre-school children

Can you tell me how much you agree with the following statement? A pre-school child is likely to suffer if his or her mother works

Appendix C. Descriptive statistics and PCA details.

Table 33 EVS questions - descriptive statistics

Descriptive statistics EVS questions					
Variable	**Obs**	**Mean**	**Std. Dev.**	**Min**	**Max**
Love and respect for parents should be earned	29,942	0.66	0.94	0	2
Parents responsibilities to children w/o much sacrifice	31,303	0.54	0.83	0	2
Children should learn to be independent	32,501	0.90	1.00	0	2
Children should learn to be responsible	32,504	1.44	0.90	0	2
Children should learn to be obedient	32,495	0.60	0.92	0	2
Abortion when woman is not married is OK	30,687	0.65	0.94	0	2
People can't be trusted	30,061	1.24	0.97	0	2
Children need both parents to grow up happily	31,424	1.73	0.68	0	2
Women need children in order to be fulfilled	28,871	0.92	1.00	0	2
Marriage is outdated	30,273	0.37	0.78	0	2
Woman being a single parent is OK	31,423	1.06	0.87	0	2
Working mother cannot take care of children	25,668	0.62	0.92	0	2
Housewife is as fulfilling as full-time job	23,626	0.86	0.99	0	2
Contribution of both spouses to household income is OK	24,901	0.49	0.86	0	2
Working mother can take care of pre-school children	25,276	0.67	0.95	0	2

Note: This table contains all variables from Table 31 except for the one related to 'Children responsibilities to their parents'. This is because data for this variable was not available in the 1981 and 1990 waves.

Table 34 EVS questions - Comparative descriptive statistics for Spain and Sweden

Comparative descriptive statistics EVS question for Spain and Sweden – as example to see the differences						
	Spain			**Sweden**		
Variable	*Obs*	*Mean*	*Std. Dev.*	*Obs*	*Mean*	*Std. Dev.*
Love and respect for parents should be earned	17	**0.34**	0.17	8	**0.98**	0.13
Parents responsibilities to children w/o much sacrifice	17	0.39	0.19	8	0.50	0.09
Children should learn to be independent	17	0.73	0.17	8	0.70	0.13
Children should learn to be responsible	17	1.63	0.11	8	1.79	0.08
Children should learn to be obedient	17	0.78	0.22	8	0.50	0.13
Abortion when woman is not married is OK	17	0.62	0.22	8	0.78	0.15
People can't be trusted	17	1.25	0.21	8	0.66	0.12
Children need both parents to grow up happily	17	1.88	0.05	8	1.73	0.09
Women need children in order to be fulfilled	17	0.96	0.22	8	0.39	0.05
Marriage is outdated	17	0.36	0.17	8	0.27	0.06
Woman being a single parent is OK	17	1.47	0.11	8	0.76	0.14
Working mother cannot take care of children	17	0.59	0.25	8	0.57	0.12
Housewife is as fulfilling as full-time job	17	0.87	0.27	8	0.75	0.17
Contribution of both spouses to household income is OK	17	0.30	0.17	8	0.23	0.09
Working mother can take care of pre-school children	17	0.98	0.19	8	0.52	0.13

Principal component analysis

The results of PCA – shown in Table 35 and Table 36– suggest that several components are useful in explaining the variance in the data. According to Table 35, nearly 30% of the variance in the data is captured by the first component. The normalized loadings in Table 36 shows the relative contributions of each variable to each of the components (I have just included the first three components in this table). The Table also shows that some of the variables contribute disproportionately to the variance, whereas others have a very small contribution. I use only those loadings larger than 50%, which deliver a high KMO (Kaiser-Meyer-Olkin) value, indicating that overall, variables have much in common and thus PCA analysis is warranted. I interpret the first component as a general measure of family values. Overall, the sign of the contribution of each variable is as expected, in accordance with the way the question was formulated.

I then obtain the weights that I will apply to each variable for each observation, and after standardizing the variables, I multiply them by the weights. The final result is a single score for each country-region, generating a family values coefficient for each country-region. Keeping in mind that more liberal regions will have a lower and probably negative score, we should interpret the family values scores as follows: if a country-region has a score which is very close to zero, this suggests that compared to other regions, it has 'average' family values – not too liberal, not too traditional. Whenever the score is negative, it implies that, relative to other regions, this region has a more liberal attitude towards family values. Given that the variables have been standardized, the final score is the weighted difference from the overall mean in number of standard deviations. Therefore, a coefficient of 0.5 for a certain country-region indicates that the family values coefficient for this region is half a standard deviation above the weighted overall mean. Appendix D shows the regional difference in family values by country to provide an idea of how regions in each country fare.
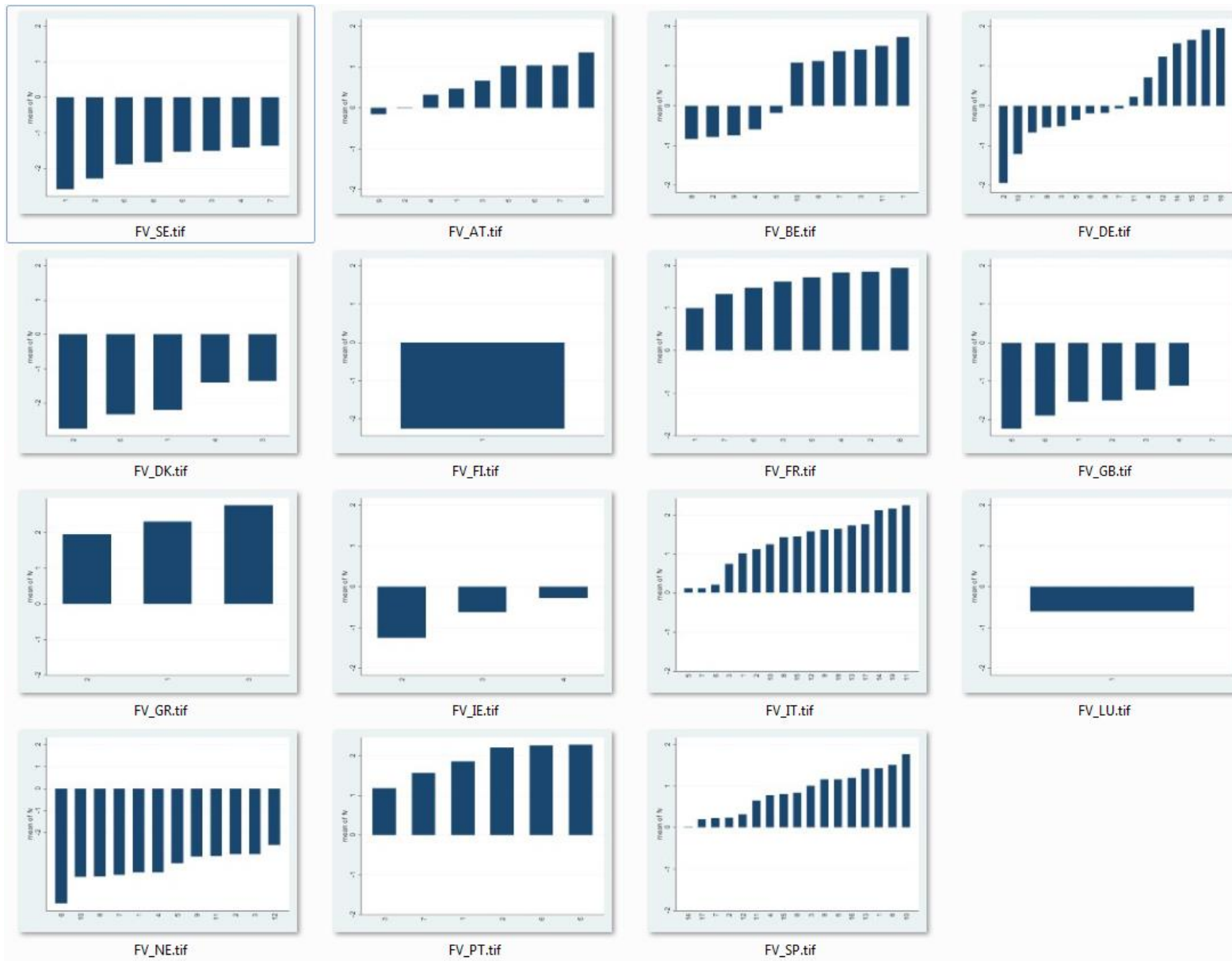
Table 35 Principal components

Principal Components (eigenvalues)

Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	4.16	1.43	0.28	0.28
Comp2	2.73	0.52	0.18	0.46
Comp3	2.21	0.99	0.15	0.61
Comp4	1.22	0.21	0.08	0.69
Comp5	1.01	0.24	0.07	0.76
Comp6	0.78	0.07	0.05	0.81
Comp7	0.71	0.23	0.05	0.85
Comp8	0.47	0.08	0.03	0.89
Comp9	0.40	0.07	0.03	0.91
Comp10	0.33	0.03	0.02	0.93
Comp11	0.30	0.06	0.02	0.95
Comp12	0.24	0.04	0.02	0.97
Comp13	0.20	0.08	0.01	0.98
Comp14	0.12	0.01	0.01	0.99
Comp15	0.11	.	0.01	1.00

Number of observations: 123　　　Trace: 15
Number of components: 15　　　Rho: 1.00000
　　　　　　　　　　　　　　　Rotation: unrotated

Table 36 Principal Components Loadings

Principal Components loadings

	Comp1	Comp2	Comp3
Love and respect for parents should be earned	0.86	-0.11	-0.07
Parents responsibilities to children w/o much sacrifice	0.64	-0.40	0.30
Children should learn to be independent	0.43	-0.52	0.49
Children should learn to be responsible	-0.17	-0.25	0.66
Children should learn to be obedient	-0.52	0.48	-0.43
Abortion when woman is not married is OK	0.54	0.44	0.42
People can't be trusted	-0.72	-0.02	0.11
Children need both parents to grow up happily	-0.83	-0.26	0.24
Women need children in order to be fulfilled	-0.64	0.09	0.44
Marriage is outdated	0.02	0.53	0.11
Woman being a single parent is OK	0.06	0.47	0.58
Working mother cannot take care of children	-0.22	-0.82	-0.10
Housewife is as fulfilling as full-time job	0.08	-0.01	0.51
Contribution of both spouses to household income is OK	0.60	-0.26	-0.44
Working mother can take care of pre-school children	0.45	0.69	0.09

Appendix D. Regional family values by country

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FV_DE.tif

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FV_GB.tif

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FV_LU.tif

FV_NE.tif

FV_PT.tif

FV_SP.tif

Appendix E. Categorization of occupations in the database following ISCO 2008 standards.

The definition of different skills levels according to ISCO 2008 can be found in the International Standard Classification of Occupations (ILO).

Table 37 Categorization of occupations in the database – following ISCO 2008 standards

Occupation	Observations	ISCO classification - 2008
Unskilled manual worker, etc.	2,846	Skill Level 1 [Low]
Farmer	838	Skill Level 2 [Low-medium]
Fisherman	24	
Owner of a shop, craftsmen, etc.	1,299	
Employed position, at desk	3,450	
Employed position, travelling	1,062	
Employed position, service job	3,127	
Supervisor	472	
Skilled manual worker	3,959	
Business proprietors, etc.	578	Skill Level 3 [Medium-high]
Middle management, etc.	2,903	
Professional (lawyer, etc.)	516	Skill Level 4 [High]
Employed professional (employed doctor, etc.)	606	
General management, etc.	649	

Source: International Standard Classification of Occupations (ILO, 2012).

Appendix F. Principal Component Analysis - PCA

Table 38 Descriptive statistics

Variable	Obs	Mean	Std. Dev.	Min	Max
Love and respect for parents should be earned	23,288	0.65	0.94	0	2
Parents responsibilities to children w/o much sacrifice	24,493	0.57	0.84	0	2
Children should learn to be independent	25,496	0.98	1.00	0	2
Children should learn to be responsible	25,496	1.51	0.86	0	2
Children should learn to be obedient	25,496	0.53	0.89	0	2
Abortion when woman is not married is OK	24,228	0.64	0.93	0	2
People can't be trusted	23,432	1.23	0.97	0	2
Children need both parents to grow up happily	24,605	1.77	0.64	0	2
Women need children in order to be fulfilled	22,508	0.99	1.00	0	2
Marriage is outdated	23,581	0.34	0.75	0	2
Woman being a single parent is OK	24,604	1.07	0.86	0	2
Working mother cannot take care of children	20,252	0.69	0.95	0	2
Housewife is as fulfilling as full-time job	18,592	0.80	0.98	0	2
Contribution of both spouses to household income is OK	19,607	0.46	0.84	0	2
Working mother can take care of pre-school children	19,929	0.65	0.94	0	2

Note: This table contains all variables from Table 31 except for the one related to 'Children responsibilities to their parents'. This is because data for this variable was not available in the 1981 and 1990 waves.

Figure 18 Absolute difference between mean and median values for each country region
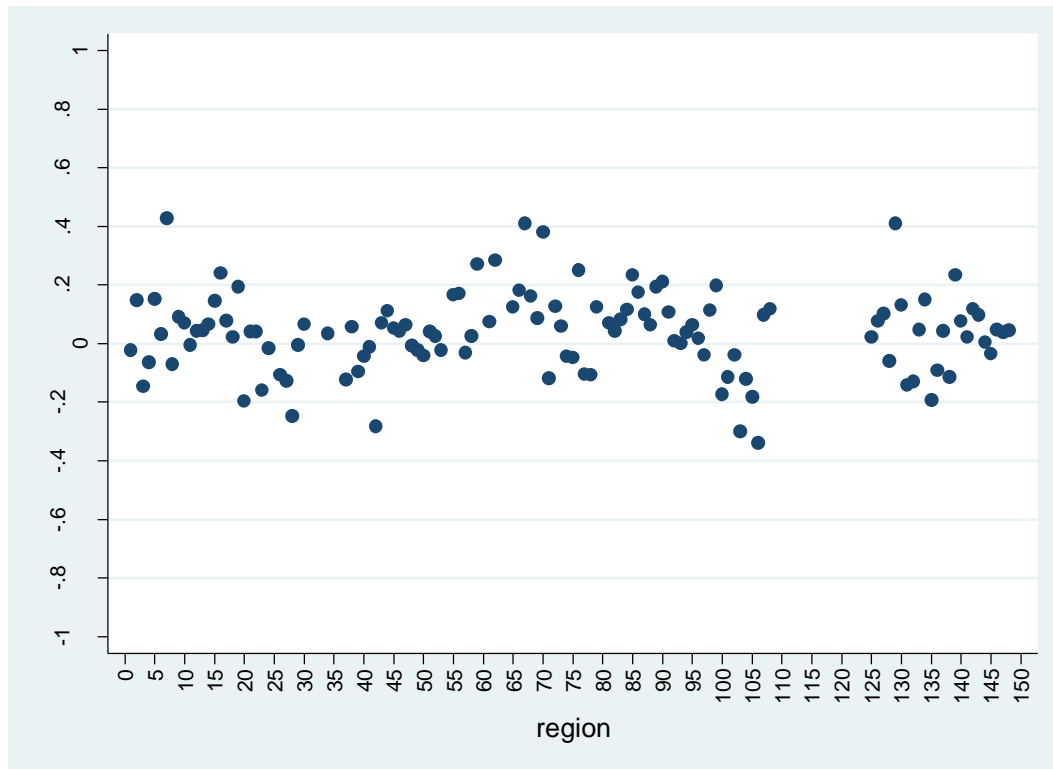
Appendix H. PCA results

Results

Table 39 shows the eigenvalue of each component and the proportion of the variance in the data captured by each one. The first component, which will be the one used as a composite index, captures 25% of the variance in the data. The normalized loadings in Table A.4 shows the relative contributions of each variable to each of the components. Some loadings are negative, suggesting that whenever an observation responds positively to a question with a positive loading, it responds negatively to a question with a negative loading. For example, according to Table A.4, if an observation agrees that people cannot be trusted, it will disagree with the statement that love and respect for parents should be earned. Following this logic, when the scores for each country-region is calculated, the more traditional regions will have a positive score, whereas the more liberal regions will have a negative score. The table also shows that some of the variables – such as the one about love and respect for parents or the one on trust – seem to contribute disproportionately to the variance, whereas others have a very small contribution, suggesting that they are less useful for the composite index. I use only those loadings larger than 50%, which deliver a high KMO (Kaiser-Meyer-Olkin) value, indicating that overall, variables have much in common and thus PCA analysis is warranted.

Table 39 Principal Components - Eigenvalues

| Component	Eigenvalue	Difference	Proportion	Cumulative
Comp1	3.73	1.08	0.25	0.25
Comp2	2.65	0.46	0.18	0.43
Comp3	2.19	1.01	0.15	0.57
Comp4	1.18	0.11	0.08	0.65
Comp5	1.07	0.11	0.07	0.72
Comp6	0.96	0.20	0.06	0.79
Comp7	0.76	0.17	0.05	0.84
Comp8	0.59	0.17	0.04	0.88
Comp9	0.43	0.02	0.03	0.90
Comp10	0.41	0.10	0.03	0.93
Comp11	0.31	0.07	0.02	0.95
Comp12	0.24	0.02	0.02	0.97
Comp13	0.22	0.07	0.01	0.98
Comp14	0.15	0.02	0.01	0.99
Comp15	0.12	.	0.01	1.00

Number of observations: 123	Trace:15
Number of components:	Rho:
15	1.0000
	Rotation: unrotated

Table 40 Principal component loadings

	Comp1
Love and respect for parents should be earned	-0.89
Parents responsibilities to children w/o much sacrifice	-0.38
Children should learn to be independent	-0.25
Children should learn to be responsible	0.02
Children should learn to be obedient	0.35
Abortion when woman is not married is OK	-0.32
People can't be trusted	0.73
Children need both parents to grow up happily	0.87
Women need children in order to be fulfilled	0.85
Marriage is outdated	-0.21
Woman being a single parent is OK	0.11
Working mother cannot take care of children	0.07
Housewife is as fulfilling as full-time job	-0.11
Contribution of both spouses to household income is OK	-0.62
Working mother can take care of pre-school children	-0.21

I then obtain the weights that I will apply to each variable for each observation, and after standardizing the variables, I multiply them by the corresponding weights. The final result is a single score for each country region, generating a family values coefficient for each country-region. Keeping in mind that – as mentioned above – more liberal regions will have a lower and probably negative score, we should interpret the family values scores as follows: if a country-region has a score which is very close to zero, this suggests that compared to other regions, it has 'average' family values – neither too liberal nor too traditional. Whenever the score is negative, it implies that, relative to other regions, this region has a more liberal attitude towards family values. Given that the variables have been standardized, the final score is the weighted difference from the overall mean in number of standard deviations. Therefore, a coefficient of 0.5 for a certain country-region indicates that the family values coefficient for this region is half a standard deviation above the weighted overall mean. Figure A.1 below shows the regional difference in family values by country to provide an idea of how regions in each country fare.

Appendix I. Regional family values by country
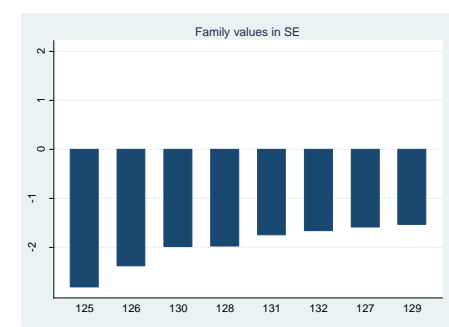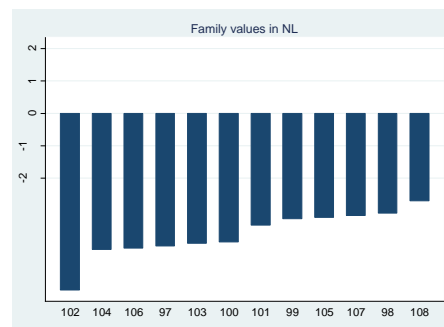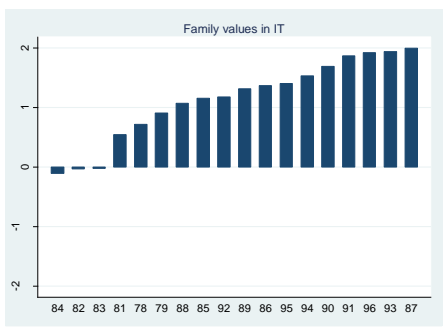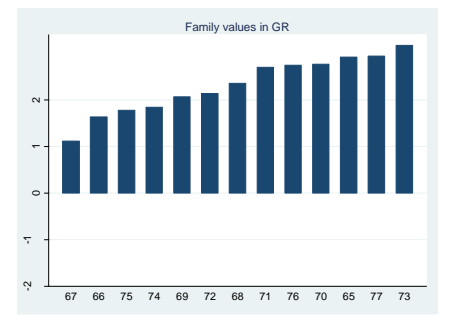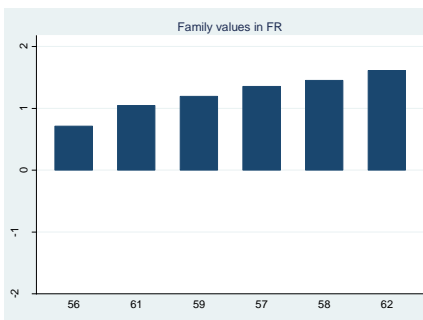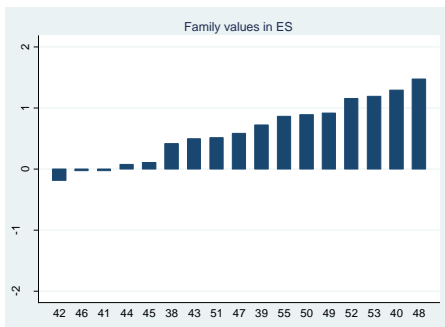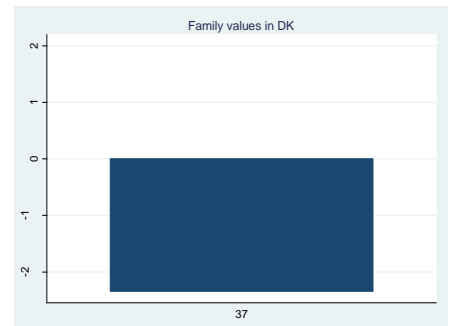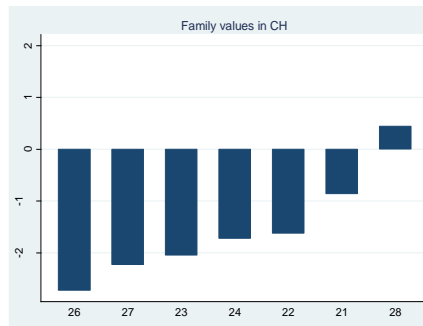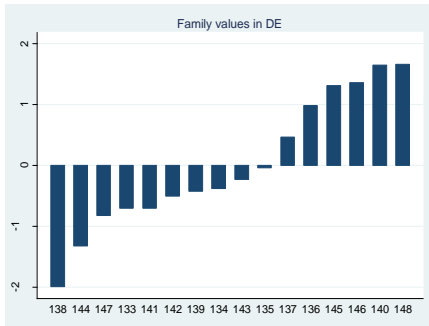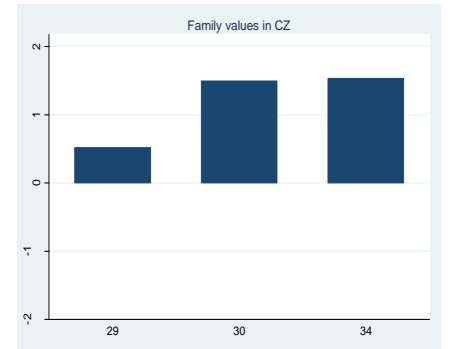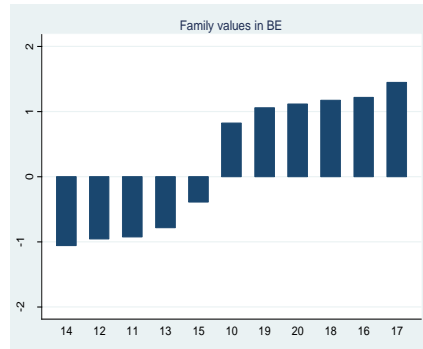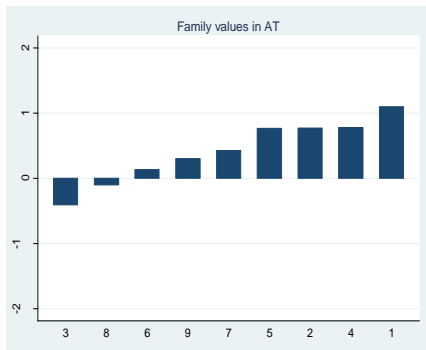
Appendix J. Description of data mining

Both the respondent and the partner – whenever there is one – are asked about most of the questions. To avoid having duplicate observations, I move the partner's information to the same row as the respondents'. At the same time, each parent will answer the same questions about the first four children. I therefore create as many parent-child observations as existing children (i.e., up to four). I do this procedure for waves 1, 2, 4 and 5. Wave 4 is used to get information needed for wave 5 – some relevant questions ask whether the status quo has changed, so it is necessary to know what the status quo in wave 4 was. Once information from wave 4 has been retrieved, it is erased. This is because according to SHARE documents, information on the 'children' module (CH module) cannot be linked to information on help modules, and therefore we cannot link the child's personal characteristics to the recipient of help indicated in the help modules.

I am interested in the longitudinal section of the data, and therefore I delete new observations which are not followed in the subsequent year.

1. Coding of the dependent variables

There are three dependent variables used in the analysis: financial help given, parent-child co-residence and the sum of the two, which form overall help.

Co-residence

The question asked is: *where does the child live?* And the answers can be *a) in the same household, b) in the same building*, and the other options state the distance between the child and parents in kilometres [code: ch007]. The variable co-residence is coded *yes* if the child lives in the same household, and *no* if otherwise.

In the case of couples, for all waves, the survey identifies whether the respondent or the partner are in charge of responding to questions about family (variable *dumfamr* indicates this).

Waves 4 and 5 vary in the way the question is asked for the longitudinal survey. Individuals are asked whether child has moved house [code: ch524]. If the answer is *no*, we take the answer from the previous wave. If the answer is *yes*, they ask about which of the children has moved [code: ch525] and where to [code: ch526]. The answer is changed accordingly.

Financial help

The question asked is as follows: *in the last 12 months, have you given financial help > 250€? If yes, to whom?* [code ft002 and ft003]. The respondent can list three recipients of help. I have coded the answer as 'yes' whenever parents answer that they have given financial help and the person is the child belonging to the parent-child dyad.

In wave 1, respondents and partners can choose to both answer questions if they state that they do their finances separately. Whenever that is the case, and both have answered questions on financial help, I have coded financial help as a 'yes' if at least one of the parents has given help to the child. I have coded 'no' if both parents claim that they have not given help. In waves 2, 4 and 5, questions on finances are only answered by one person on behalf of the couple.

Overall help

The variable *help* is generated and coded *yes* whenever the answer to financial help or co-residence is *yes*.

Table 41 Number of observations and relationship to support provided

Type of help	Observations giving help		Observations not giving help	
	Absolute number	%	Absolute number	%
Co-residence	2,217	6%	35,535	94%
Financial help	5,165	14%	32,397	86%
Overall help	7,181	19%	30,591	81%

2. Coding of the children control variables

Marital status of the child [code: ch012 and ch013]

Marital status of child is asked and the answer can be: married, separated, divorced, widowed. If they answer anything other than married, they are asked if they have a partner. This is because someone can be separated and live with a new partner. The answer is coded as *married* whenever the child is married or is not but has a partner.

Waves 4 and 5 vary in the way the question is asked for the longitudinal survey. Individuals are asked whether there has been any change in the marital status of the child [*code: ch514*]. If the answer is *no*, we take the answer from the previous wave. If the answer is *yes*, they ask which of the children has changed his/her status [code: ch515] and what the new status is [*code: ch516*]. The answer is changed accordingly.

Child's number of children [code: ch019]

Child's number of children is asked. In waves 4 and 5, individuals from the longitudinal section are not asked about child's number of children, but whether the child has had another child [*code: ch517*]. If the answer is *no*, we replace the answer with the answer from the previous wave. If the answer is *yes*, the survey asks about which child has had another child [*code: ch518*]. The answer is changed accordingly.

Child's education [code: isced]

Answers follow ISCED-97 classification and the question is asked in waves 1 and 2. For waves 4 and 5 and longitudinal survey, questions vary as follows: if child is below 22 years old, the survey asks whether the child has obtained a school leaving certificate [*code: ch508*] and which child the respondent is referring to [*code: ch509*]. If the answer is *no*, the answer from the previous wave is taken. If the answer is *yes*, a question on the level achieved is asked [*code: ch510*].

If the child is below 32 years old, the survey asks whether the child has obtained any higher education or vocational degree [*code: ch512*], and which child the respondent is referring to [*code: ch512*]. If the answer is *no*, the answer from the previous wave is taken, and if the answer is *yes*, the specific qualification is asked [*code: ch513*]. If child is above 32 years old, the question is not asked and I take education level from the previous wave.

Child year of birth and gender [code: ch006 and ch005]

The questions are asked in all waves.

3. Coding of the parental control variables

Parental education [code: isced]

Answers follow ISCED-97 classification and the question is asked in wave 1 and 2. For waves 4 and 5 the answers are taken from previous waves, as suggested in the FAQs of the survey. The education level of the respondent is included.

Year of birth and number of children [code: dn003 and ch001]

The questions are asked in all waves.

Marital status [code: dn014]

Marital status of the child is asked and the answer can be: married, separated, divorced, widowed. Wave 2 marital status needs to be taken from wave 1, as there is no such question on it. Waves 4 and 5 vary in the way the question is asked for the longitudinal survey. Individuals are asked whether there has been any change in their marital status [*code: dn044*]. If the answer is *no*, I substitute the answer with the one from previous wave. If the answer is *yes*, the survey asks about the change using the same code [*code: dn014*]. The answer is changed accordingly.

Health status [code: sphus]

The question asked is about the self-perceived health status, and the answer can range from *excellent*, *very good, good, fair* and *poor*. All waves ask this question. The health of the respondent is included.

Poverty striken household [code: co007]

The question asked is whether the household is able to make ends meet. The answers range from *with great difficulty, with some difficulty, fairly easily, easily*.

Appendix K – Samples in dataset and coding details of some variables

Table 42 GSOEP samples relation

Name/ Value	Label	Start Year	House-holds	Persons	Description
A/1	German West	1984	4,528	9,076	Head is either German or other nationality than those in Sample B
B/2	"Foreigner" West	1984	1,393	3,169	Head is either Turkish, Italian, Spanish, Greek or from the former Yugoslavia
C/3	Germans East	1990	2,179	4,453	Head was a citizen of the GDR (expansion of survey territory)
D/4	84-93 Immigrant (West)	1994/1995	522	1,078	At least one household member has moved to Germany after 1989 (expansion of survey population)
E/5	Refreshment 1998	1998	1,056	1,910	Random sample covering all existing subsamples (total population)
F/6	ISOEP 2000	2000	6,043	10,880	InnovationRandom sample covering all existing subsamples (total population)
G/7	High Income	2002	1,224	2,671	Monthly net household income is more than 4.500 Euro (7.500 DM)
H/8	Refreshment 2006	2006	1,506	2,616	Random sample covering all existing subsamples (total population)
I/9	"Incentive"	2009	1,531	2,509	Random sample covering all existing subsamples (total population); since 2011 part of SOEP Innovation Sample
J/10	Refreshment 2011	2011	3,136	5,161	Random sample covering all existing subsamples (total population)

Source: SOEP Samples Overview – 2011 / Wave 28

Coding details of some variables

1 Coding of dummy variable childbirth

To know whether they had a child, there is a question which asks '*Has your family situation changed after December 31, 200X?*' (200X belongs to *n-2*, i.e. if the questionnaire belongs to year 2008, the question will refer to December 31, 2006). One of the answers is 'Yes, had a child' and for each answer the respondent is asked whether this was in year *n* or *n-1* (i.e. in the questionnaire belonging to year 2008, the options are: 2007 and 2008). Given that the interviews happen in different months of the year for each respondent, it can be the case that they are asked this question before they have had a child (e.g. the respondent is interviewed in January 2007 and she has a child in December 2007). To avoid dropping women who have actually had a child, I rely on the answers from year *n-1.*

2 Coding of country of origin subject to migration background

For those observations which have 'direct migration background', I take the variable 'country of origin'. For the observations with 'indirect migration background' the process to trace back the country of origin is more complex. Firstly, I look at the variable 'mother and father country of origin'. If this one is existent, I attribute this information to the observation. If the mother or father country of origin is not available, I trace back the mother or father personal number and their 'country of origin'.

Appendix L – Average Marginal Effects only for the main vars.

Table 43 Average Marginal Effects

	AME	s.e.
Effects of the policy for:		
Low education		
Traditional family values	0.144*	(0.08)
Liberal family values	-0.06	(0.25)
Vocational education		
Traditional family values	0.316***	(0.04)
Liberal family values	-0.00	(0.08)
Higher education		
Traditional family values	0.01	(0.17)
Liberal family values	0.25***	(0.05)
Individual controls	Yes	
Partner's controls	Yes	
Regional fixed effects	Yes	
Observations	307	