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## **Intergenerational Transfers in European Families**

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## Abstract

This research examines the financial assistance given by parents to their adult children and the extent to which it is influenced by social policy. In recent years these intergenerational financial transfers have been the subject of much research and a great deal has been learnt about when and why parents make the decision to provide financial assistance (Cox, 1987; Kohli, 1999; Albertini & Kohli, 2012).

Furthermore, there has been considerable research on apparent differences in such financial assistance across countries and the extent to which this is attributable to differences in the social policies of these countries (Albertini, Kohli, & Vogel, 2007; Schenk, Dykstra, & Maas, 2010; Brandt & Deindl, 2013).

The aim of this research is to further this understanding by considering transfers from different perspectives, first by considering the receipt of transfers rather than the giving of transfers and then by exploring the transfer decision in the context of multi-child families. Through these approaches and by using new data sources and analytical methods, the research estimates the association between social policy and intergenerational financial transfers. Furthermore, it was the specific aim of this research to consider whether such an association would explain cross-national variation in transfer behaviour and the importance of social policies relative to other determinants of transfer behaviour.

To achieve these aims a variety of quantitative methods were used to model the giving and receiving of transfers using data from the Survey for Health, Ageing and Retirement in Europe (SHARE) and the European Union's Statistics on Income and Living Conditions (EU-SILC). The analysis of this latter dataset represents an important contribution in itself as it allows for the exploration of the receipt of transfers in a comparative perspective for the first time. To incorporate the complex and rich nature of these two datasets, multilevel models are used to model households over time and children within families.

The results of these analyses suggest that there is a small association between certain policies and parents providing financial assistance to their adult children. Those in receipt of larger public pensions are marginally more likely to provide financial assistance to their adult children than those with smaller public pensions. As for adult children themselves, those receiving financial assistance from the state in the form of child benefit, housing benefits, social exclusion benefits and educational benefits are fractionally more likely to receive from their parents as well. The estimated coefficients and maximum effect size of such social policies are very small compared to time invariant factors which include the parent's financial resources and the number of siblings the child has. In addition, the cross-national variation in transfer behaviour identified within the analyses is considerably smaller than in previous research. The research concludes that social policies are of less importance with regards to transfer behaviour than previous research has suggested. Whilst the research identifies a clear association

between social policies and transfer behaviour, it is relatively weak compared to other factors.

However the research stops short of concluding that social policies do not matter, instead suggesting that future research should critically assess the importance of intergenerational transfers in determining the adult child's outcomes.

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## **Glossary & Abbreviations**

**EU** – European Union

**EU-SILC** – European Union Statistics on Income and Living Conditions

**GDP** – Gross Domestic Product

**OECD** – Organisation for Economic Cooperation and Development

**PPP** – Purchasing Power Parity

**Probit** – Probability Unit Statistical model which estimates binary outcomes

**SHARE** – Survey of Health, Ageing and Retirement in Europe

## Data

This thesis is based on data from Eurostat, EU Statistics on Income and Living Conditions [2005-2011]. The responsibility for all conclusions drawn from the data lies entirely with the author.

This thesis also uses data from SHARE wave 4 release 1.1.1, as of March 28th 2013 and SHARE wave 1 and 2 release 2.5.0, as of May 24th 2011. The SHARE data collection has been primarily funded by the European Commission through the 5th Framework Programme (project QLK6-CT-2001-00360 in the thematic programme Quality of Life), through the 6th Framework Programme (projects SHARE-I3, RII-CT-2006-062193, COMPARE, CIT5-CT-2005-028857, and SHARELIFE, CIT4-CT-2006-028812) and through the 7th Framework Programme (SHARE-PREP, N° 211909, SHARE-LEAP, N° 227822 and SHARE M4, N° 261982). Additional funding from 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 and OGHA 04-064) and the German Ministry of Education and Research as well as from various national sources is gratefully acknowledged (see [www.share-project.org](http://www.share-project.org) for a full list of funding institutions).

## 1. Introduction

### 1.1. The Bank of Mum & Dad

This thesis aims to understand the relationship between social policy and the financial assistance offered by parents to their adult children. These financial transfers and their association with social policies were chosen as the subject of this study due to the belief that they are only somewhat understood despite the existence of a mature and extensive research community. This research community has so far established that financial assistance from parents can be decisive at various moments in time (Leopold & Schneider, 2010). It is also widely noted that such financial assistance is not only widespread but is a key driver of inequalities in opportunity and upward mobility (Albertini & Radl, 2012; Mulder & Smits, 2013).

Yet the findings of the research presented in this thesis, as well as empirical findings from the existing literature, challenge some of these views and suggest that there is little evidence of them being sizeable enough to have such a deterministic effect (Kohli, 1999). No study has identified a majority of individuals giving or receiving such transfers and they are rarely of a size that would significantly impact an individual's standard of living, relative to other means of finance. Yet when I have presented these findings at various conferences, to academic journals, or even to family or friends the findings have been consistently challenged on the basis that the percentage of people receiving or making transfers is not as high as anticipated. There is a certainty that people hold which says that family matters.

This belief is often supported by the theoretical literature on intergenerational relationships which assert that theories of the nuclear family and the individualisation of society were wrong. Social change in the latter half of the twentieth century led to the theorisation of diverse family forms and dynamic roles and relationships that changed over time (Puur, Sakkeus, Schenk, & Poldma, 2010). This shift in focus from conventional to unconventional family forms has brought about a keen interest in relationships beyond the household unit. For example, over the past 50 years there has been a large increase in the number of divorces (González-Val & Marcén, 2012). A single mother may well rely upon parents, not only for financial support but for support of all kinds in the absence of a partner (Attias-Donfut & Arber, 2000).

Furthermore, transitions in the labour market have become more complex with high staff turnovers and an increase in the average number of jobs an individual has in a life time and complex transitions to adulthood (Quintini & Manfredi, 2009). It has therefore been suggested that given such insecurity, unconventional means of support intervene (Lennartson, 2010). This occurs either by an individual staying at home for longer or by the parents providing financial top ups to non-cohabiting children.

Furthermore this discussion of the importance of the family during turbulent transitions has intensified since the financial crisis of 2008.

These theoretical interpretations of social change and their consequences for intergenerational relations, and particularly the demands placed upon the Bank of Mum and Dad, formalise people's intuition. Coupled with the wider theoretical discourse regarding societal ageing and the welfare state, there has been a growing assertion within social theory that intergenerational relations matter and, particularly at a time of economic crisis, the bank of Mum and Dad is a key social institution worth investigating.

Yet there is a disconnect between common knowledge and the empirical evidence presented in this thesis. This gap can be reconciled if it is found that either the data collection process was flawed or accepted that the commonly held belief that parents are a key source of financial support is wrong. Regardless of which of these is taken as true, the question of whether and when individuals give and receive such transfers remains an interesting one for the social sciences. Yet, the conclusions of this thesis suggest that accepted wisdom is wrong and that intergenerational transfers are not a considerable means of financial support.

## **1.2. Ageing Societies in Europe**

The importance of older generations as a means of financial assistance to younger generations is a debate that takes place in the context of rapid societal ageing. European Societies are getting older. Longer lives and low fertility mean that the balance between the generations within society is shifting and will continue to do so for the foreseeable future. By the middle of this century 1 in 4 Europeans will be over the age of 65 when in 1950 it was just 1 in 16 (Eurostat, 2013). The implications of this have been considered and discussed extensively in a wide variety of areas and disciplines. In the field of Social Policy this discussion touches upon some of the core principles of the welfare state.

For the past century the welfare state has bound generations together. Through a variety of instruments, European Welfare states have redistributed income across the life course. Combined, pensions and healthcare are considerably larger than any other aspect of the welfare state in terms of expenditure. An ageing society is therefore a challenge to the 20<sup>th</sup> century's conception of the welfare state and intergenerational debates are therefore a key concern in the field of social policy. The future of welfare state research will inevitably be heavily focused on issues relating to this ageing of society.

In Europe, a shared history has led not only to a shared welfare state tradition but also to something of a shared demography and this makes Europe an interesting arena for scientific research. Yet within these shared characteristics there are important variations. It is these variations, not only in policy, but

demography, history, culture and economics that the analysis seeks to exploit to understand the role of policy in influencing transfer behaviour.

But the rationale for a comparative approach is due to the potential of a shared future as well as divergence between countries. The economic crisis has shown how European societies are interdependent in a number of ways. Policy decisions that affect individual's lives are increasingly made in Brussels as much as in Rome, Berlin or Madrid. The monetary, political and social community that the European Union represents necessitates an understanding of societal ageing across Europe. To inform policy debates on and answer the key questions regarding societal ageing it is necessary to conduct comparative research of European Countries.

One of the key questions posed is the effect societal ageing will have on intergenerational solidarity. With a relative increase in the number of older people and fewer of working age, there are questions about the willingness and ability of younger generations to provide for the large cohorts of the so called baby boomer generations. This debate has evolved to take on emotive tones and divisive rhetoric. In this context there is an understandable desire to reassert the value of intergenerational solidarity and the role of older generations in supporting younger generations and society more generally.

Intergenerational rhetoric often neglects to mention that older generations encompass all classes, all ethnic groups and every decile of the income distribution. Older generations within society are varied. This variety is in no small part attributable to the diversity of older generations themselves. Even in terms of age, the characteristic on which they are defined, they can range from 50 to over 100. As well as diverse identities, the roles they play cover all aspects of society. They work, they volunteer, they provide childcare to their grandchildren, they look after those who are infirm who are often their own parents or spouses and they contribute to society in innumerable ways. This thesis deals with just one of these contributions in that it only looks at financial assistance provided by older generations but many of the questions posed here, and indeed many of the answers, are applicable across this broad spectrum of intergenerational relations. The intergenerational debate that will inevitably evolve alongside the changing demographic landscape, requires a better understanding of intergenerational interdependencies and relationships both on the macro and micro level. It is the aim of this thesis to contribute to this understanding via the analysis of intergenerational financial assistance.

By employing a comparative approach and advanced quantitative methods, this thesis draws a picture of intergenerational solidarity that does not fit with traditional views of intergenerational dependencies. What is revealed are dynamics that are largely driven by the circumstances of the parent and do not offer strong support for the notion of solidarity and altruism. That is not to say that older generations are selfish, simply that altruism does not appear to be the primary motivation of intergenerational support. The implications for the wider debate on intergenerational solidarity in a time of ageing are

therefore considerable in so much as they stress the importance of public intergenerational support relative to private forms.

### **1.3. Methodological Contributions**

In addition to the substantive and theoretical rationales for this research project, there are also a number of technical aspects that contribute a great deal to the need for the results of this research project. The research within this thesis is based on two large scale datasets that cover a number of European countries. Neither of these datasets existed 10 years ago and both have contributed significantly to the empirical knowledge base across the social and medical sciences. The collection of data on such a scale is of course due to the expanding use of digital technologies to capture, store, disseminate and analyse data. This makes quantitative analysis of data an interesting and challenging research method and over the duration of this project there have been a number of advances in methodological techniques, some of which have been incorporated within this project.

The analysis of such large scale datasets is a promising and fruitful area for researchers and this formed part of the justification for adopting them here. One of the innovations that this research project looked to take advantage of was Multilevel Modelling. Broadly speaking this statistical modelling technique allows the researcher to distinguish between individual and contextual level effects. In this research it is used to distinguish between two different types of contextual effects or characteristics. Firstly it is used to distinguish between whether a household receives a transfer because of their specific circumstances at a given time or whether it is due to a time invariant contextual factor. In this instance, the lower level consists of observations which are then nested within a household at the higher level. It is then used later to understand whether a child receives a transfer because of characteristics unique to them or whether it's due to the type of family they are from. Here the lower level consists of individuals who are part of families which represent the higher level.

These techniques are relatively new, not because the maths is particularly difficult, but because they are computationally demanding. The software that made this analysis possible did not exist at the beginning of this project. Given this new questions were addressed in the use of such techniques and many of these remain unresolved. Yet the reward from meeting such challenges is vast. The analysis in this thesis draws on data from every member state within the European Union. Given the social, economic and cultural diversity across the continent it is therefore possible to understand processes within different settings. It needs to be made clear to what extent variations in social behaviour are due to institutional and structural differences and the extent to which pan European policies and measures should reflect this. The methodological techniques used here contribute towards this debate. For example, it is standard practice within the literature to infer the impact of policy from differences



between countries. This practice is questioned given that these differences could be due to other factors such as cultural, economic, historic or even geographic reasons. This thesis proposes more direct measures of policy that might help both researchers and policy makers consider the role and impact of policy in a more appropriate way.

#### **1.4. Overview**

In order to fully explore the extent to which intergenerational transfers from parents to their adult children in Europe are affected by social policy, the thesis is laid out as follows. Chapter 2 outlines existing evidence and previous research findings regarding intergenerational transfers. From this, several areas in which existing research is underdeveloped are identified. These are then taken forward in chapter 3 where a theoretical framework is developed out of the existing literature so as to address the gaps in knowledge that exist. This is then followed by an elaboration of the research strategy used in the analysis. Chapter 4 then discusses and outlines the data and methods that are used to answer the questions that were identified in chapters 2 & 3.

Chapter 5 begins the analysis of intergenerational transfers by asking whether higher public pension benefits affect the propensity of parents to give financial transfers to their children. The analysis demonstrates that there is a positive association between high pensions and an increased propensity to transfer, suggesting that high pensions may explain a small proportion of the observed cross national variation. Chapter 6 then adopts a new approach to transfer analysis with a dataset that has previously not been used for this. This chapter looks at whether the poorest households are more likely to receive financial assistance than richer households. The findings suggest that they are but that the effect is far smaller than the undefined latent tendency to receive transfers, suggesting that parental context and other time invariant factors are far more important. The analysis is then extended in chapter 7 to assess whether households receive more or less support when they are also receiving public financial assistance in the form of a variety of social policies. The findings suggest that households who receive more financial assistance from the state are marginally more likely to receive financial assistance from elsewhere. However the overwhelming conclusion is that, as in chapter 6, the recipient household's circumstances are relatively unimportant in determining transfer behaviour when compared with time invariant factors.

Given this chapter 8 explores what, in addition to income and wealth could be, leading to differences in transfer behaviour between families. It is evident from the findings of this chapter that the number of siblings is an important factor in determining whether a child receives financial support from their parents. This effect is larger than income and explains a larger proportion of the variance. This finding is then elaborated upon in chapter 9, the conclusion, which suggests that policies affect transfers only in

the extent to which they support the parent's capacity to make transfers. This effect is also placed in a wider context and a fuller picture of the role of policy in transfer behaviour is given. Through this thesis therefore, it is possible to improve our understanding of how policy and intergenerational transfers interact.

## 2. Theories & Evidence of Transfer Behaviour

### 2.1. Introduction

This chapter gives an overview of the existing evidence and theories relating to intergenerational transfers. Before this, it is necessary to reflect on the subject of study. Summarising this literature is a difficult task for a number of reasons. Firstly, intergenerational transfers sit on the intersection between many established disciplines. The study of intergenerational transfers involves economic, financial, psychological, social and demographic concepts and as this overview demonstrates, knowledge with this literature requires the consideration of the conceptual and theoretical compatibilities of these fields.

Secondly, intergenerational transfers attract considerable interest from outside of the research community. The intergenerational transfer literature is related to many contemporary debates and research agendas such as social mobility and demographic change. As a consequence, parallel literatures occur which use and contribute to the same core literature. North American literature is primarily concerned with wealth accumulation and upward mobility given the historical context of those countries (Behrman & Taubman, 1976), European studies focus on demographic aspects given the challenges faced by rapidly ageing populations in post-industrial societies (Brandt, Haberkern, & Szydlik, 2009). Both draw from and contribute to related theoretical and empirical frameworks.

The result is a complex and interrelated body of literatures that contribute to a number of social debates. Whilst this is appealing in that the field has a practical contribution, it is important to be aware that this also means that the topic can be politically sensitive and emotionally charged. Regardless of empirical evidence, there can be an understandable tendency amongst those outside of academic research to enter the debate with a preconceived notion that intergenerational transfers matter and that they are a linchpin of society and a link between generations. This could be exacerbated as researchers in the field of intergenerational transfers might be understandably reticent to downplay the significance of their own work and as result the literature can risk being inflated because of this.

In conducting a review of the existing evidence and theories, the key principle is therefore as reflexivity. One theme that tends to run through the studies of intergenerational transfers is an assertion that intergenerational transfers are important in various respects (Zissimopoulos & Smith, 2010; Albertini & Kohli, 2012; Brandt & Deindl, 2013; Schenk, Dykstra, & Maas, 2010; Villanueva, 2005; Albertini & Radl, 2012; Mudrazija, 2013). As with many other fields of research, the limitations and null findings are less publicised and reported than significant and positive findings. There are very

few instances where intergenerational transfers were described as inconsequential or limited in scope (Cox & Rank, 1992). The conclusion of this overview is that the study of transfers comes with some limitations. Intergenerational transfers research is a very narrow perspective of intergenerational relations and its treatment of demographic effects and its consideration of policy effects could be developed further.

Intergenerational transfers are an area of study which has sparked interest and attract attention from across the social sciences. It contributes to a number of contemporary social debates and is a fertile area for future research. Yet, in this context it is necessary to consider the underlying motivations for the research and approach the literature with a very critical eye. The chapter is structured with this in mind. Firstly, the necessary task of outlining the exact nature of a transfer is addressed through the work of McDaniel (1997). Having established what a transfer is, an overview of existing research is given. This starts with the roots of the financial transfer literature in the economics departments of the United States, from where much of the early research was conducted. This is then contrasted with more contemporary research from European researchers who take a more sociological approach.

Section 2.3 then begins with a closer look at comparative social policy research which forms the focus of this thesis. The existing evidence of a policy effect is considered and a critical consideration of the analytical strategies is offered. Then intergenerational transfers are considered in the context of social policy. Firstly, the interaction between intergenerational transfer and family policy is considered and this is followed by a look at intergenerational transfers in the context of debates on intergenerational justice which forms the substantive motivation for this thesis.

The attention then turns to identifying the limitations of the field in section 2.4. Demographic issues are discussed and their relative absence in the existing literature is considered. Then, intergenerational transfers are located within the wider context of the family. Considerable research in this area enables clear limitations to intergenerational transfer research to be drawn. In adopting this critical approach of existing research, it is hoped that this thesis can advance the literature and justify the wider interest in the field.

## 2.2. A Guide to Intergenerational Transfers

### 2.2.1. What is an Intergenerational Transfer?

The term 'intergenerational transfer' is the technical shorthand of something familiar to many. In this thesis it is used to describe financial payments from parents to their adult children<sup>1</sup> or what is colloquially known in the United Kingdom as 'The Bank of Mum and Dad' (Osborne, 2012). Broadly it refers to financial assistance given by an asset and income rich generation to an asset and income poor generation. This is an emotive topic and how it is understood risks being driven by personal experience rather than the technical descriptions offered here. Given this, the review of existing research, the analysis and the thesis as a whole need to be preceded by a clear and unambiguous definition of what is actually under discussion. That is the task of this section.

Susan McDaniel suggests that there are three characteristics that need to be considered when discussing intergenerational transfers (McDaniel, 1997). First, the direction must be established. Does the payment go up or down the generations? Upward transfers (child to parent) operate on a different dynamic to those going downwards (parent to child). Upwards support is usually directed toward individuals on the margins of society who form a minority in their cohort in that they are worse off than their children (Lee, Lee, & Mason, 2006). Recipients are often the oldest old, physically frail and financially vulnerable. Donors are individuals within the family that are at or near the peak of the earning capacity. By contrast, downward transfers, as will be shown later, are far more common (Kohli, 1999). They reflect the extent to which the asset rich older generations provide financial assistance to the asset poor younger generations. This financial imbalance, associated with demographic changes, is where the substantive political and social interest lies (Willems, 2010)

This aspect can be expanded to ask how far it goes up or down. Transfers can be over multiple generations, skipping out a parental, middle generation. A considerable and growing literature exists on the concept of grand-parenting (Aassve, Arpino, & Goisis, 2012; Jappens & Van Bavel, 2012; Coall, Meier, Hertwig, Wanke, & Hopflinger, 2009), yet this is not the topic of this research.

Grandparenting research is primarily concerned with the changing nature of the role given the longer and healthier lives enjoyed by many. Despite such longer lives the primary care giver and provider is still the parent and support for grandchildren tends to flow through the parental, middle generation

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<sup>1</sup> The term adult child generally refers to an individual who is over 18 and has a living parent. In some of the literature this is restricted to only those who are no longer cohabiting with their parents but when this is the case within this thesis it is stated explicitly. The term can therefore refer to an 18 who is just finishing high school or a 75 year old whose 100 year old mother is in a nursing home. This diversity is important to consider in reference to parent-child relationships.

(Kohli & Kunemund, 2003). This research therefore limits itself to the study of downward transfers across one generation.

McDaniel's second dimension differentiates between public and private transfers. This distinguishes between those payments made through the tax and benefits systems and those done within the family under one's own discretion. This may seem an easy distinction but publically mandated transfers such as child support payments or financial obligations suggest that this distinction is not quite as clear as it would appear (Saraceno & Keck, 2009). Financial assistance can be mandated by a judge in a number of European countries and legal obligations to individuals vary across the continent. The distinction between public and private is of substantive interest in the context of the sustainability of the welfare state. The initial research on intergenerational transfers in the field of social policy stems from this interest (Kohli, 1999; Kunemund & Rein, 1999). Whilst this analysis considers the role of private intergenerational transfers in the context of public intergenerational financial transfers, the thesis primarily concerns itself with private transfers including those which are mandated.

The third element to be considered is what McDaniel calls the transfer's content. This refers to whether the payment is strictly monetary or whether it takes the form of a good (e.g. a car, a house, childcare) or a service (e.g. babysitting or care giving). Accounting for in-kind transfers can be difficult. Most measures of intergenerational transfers monetise in-kind payments when the parent is providing a good or service to an individual directly from the market but not otherwise (SHARE, 2011).

For example, if a parent pays the rent of a child's flat directly to the landlord then this is commonly considered an intergenerational transfer and the amount is recorded. If the parent provides a room in their house for the child, this is not counted. Likewise, if a parent buys their child a second hand car this is an intergenerational transfer but not if the parent was the previous owner. This is a crude and sometimes clumsy distinction especially when considering co-residence (Albertini & Radl, 2012). Yet, its use here and in the wider literature is because of the contrasting financial positions of the parent and child. In-kind payments can occur without reference to financial means of any sort and therefore cannot be said to explicitly reflect these contrasting financial positions.

A final dimension should be considered on top of McDaniel's suggestions. Gale and Scholz (1994) suggest that there is an essential difference in the way inter-vivos transfers and bequests are discussed. They argue that there are very different processes involved in bequests and transfers given that in a bequest the decision and the action are disjointed because a bequest can be made decades before the actual transfer and recording of it occurs.

This suggests that the two must be separated, at least in analytical terms, as they represent two very different types of decision. This is supported by a number of empirical studies examining the relationship between inter-vivos transfers and bequests (McGarry, 1997; Villanueva, 2005; Nordblom

& Ohlsson, 2011). This distinction is commonly taken into account within theoretical frameworks on these issues and this is to be the case here. Only transfers made whilst both the parent and child are still alive will be considered within this analysis.

This research project therefore focuses on downward (parent-child), private, financial, inter-vivos, intergenerational transfers. This may seem a narrow focus but, as this review will demonstrate, there exists a sizeable literature and compelling evidence of a considerable impact on the lives of individuals. Most importantly, the study of these financial payments is closely related to the broader debates within the intergenerational relations literature, societal ageing and the perceived inequality in wealth and income between generations in European countries. As demonstrated, it is this interest which has led to this focus within this research project.

### 2.2.2. An American Economic Heritage

The literature on intergenerational financial transfers can be organised in a number of ways; geographically, chronologically, thematically etc. Yet the resulting narratives are often the same given that there is a considerable overlap between these perspectives of the literature. The study of intergenerational financial transfers has its roots in the economic literature in the United States and focused on the motivations of such transfers. Over time European researchers became increasingly interested in the subject but from a demographic perspective given the challenges faced by that continent. In East Asia, a community of researchers in the area has developed but with a firm focus on family studies and values given the tradition of filial piety and low levels of economic and welfare state development. Yet despite the physical and philosophical distance between these literatures they remain interdependent and inform one another (Szydlik, 2008).

The study of financial transfers within the family has long been of substantive interest and yet restrained by the availability of data. The potential implications for social mobility, inequality, life-course studies and a general understanding of the family has long been anticipated but the measurement of such a personal and conceptually complex issue has been difficult. Section 2.2.1 of this chapter detailed the conceptual intricacies and common parlance that have taken decades to develop. Chapter 4 of this thesis will cover the complex sampling and methodological instruments necessary for studying relationships which hampered research beforehand.

Given these practical constraints, the first empirical literature on transfers did not emerge until the 1970s (Blinder, 1976; Cheal, 1983; Loury, 1981). These analyses were focused on the basic economic dynamics of transfer giving. These early roots in economics are due in part to the metric of the dependent variable which is financial. More importantly however, economic departments were better

placed than other fields of the social sciences with regards to investment in the survey methodology and computer apparatus necessary to undertake large scale quantitative analysis of financial data.

This expansion occurred in the context of a renewed interest in family economics which itself was in part driven by the increasing availability of large scale household data. Becker's *'A Treatise on the Family'* (1991), represented a culmination of attempts to economically conceptualise the late 20<sup>th</sup> century family in a rational choice economic framework. Within it the family was described using rational choice, utility maximisation. According to Becker, the family exists as a mutually beneficial agreement. Intergenerational transfers therefore remained an anathema within this framework given that there appeared to be little or no motivation for giving except the cultural understanding that you 'pay it forward'.

Why would a parent give money to their adult children? Two theoretical solutions to this emerged within frameworks such as Becker's and these two approaches define the literature to this day: altruism and exchange. The theory of altruism for intergenerational transfers stated that parents gave money to their children because their 'happiness' or 'utility' was dependent on their child's 'happiness' or 'utility' (Cox, 1987). This lies in contrast to theories of exchange. These suggested that transfers were made in expectation that the child would provide in later life (Cigno, 1992). In most theories this is interpreted as care giving but could also be taken to mean that the child simply pays the money back.

These theoretical frameworks are simple but have led to a number of testable empirical hypotheses and the intergenerational literature has been primarily concerned with gathering evidence for and against these. It was immediately evident that a strong interpretation of altruism was not feasible. If parents were as concerned about their child's utility as they were their own, high levels of redistribution would have been observed (Altoni, Hayashi, & Kotlikoff, 1992; Chang, 2011). This was not the case and so tempered interpretations of altruism and the role of the extended family were adopted (Altonji, Hayashi, & Kotlikoff, 1997).

Yet evidence was still forthcoming which supported a loose interpretation of altruism. This argued that a parent cared about a child and so gave them financial support. However the effect of the child's utility on the parent was weighted so that ultimately the parent showed a greater concern for themselves rather than their child. Any negative correlation between receiving financial assistance and the child's material circumstances would support this and thus the evidence requirements were far less stringent than a strict interpretation of altruism. Such evidence has been consistently found in empirical data (Cox & Rank, 1992; McGarry & Schoeni, 1995; McGarry, 1997). Explanations for this 'tempered altruism' have most commonly been attributed to transaction costs and liquidity constraints (Feigenbaum & Li, 2012)



The economic literature in the United States continues to assert that such transfers have substantive implications. This assertion is based on the observation that transfers account for approximately 20% of wealth accumulation in the life course (Gale & Scholz, 1994), that transfers can be induced through tax systems and removing liquidity constraints (Poterba, 2001) and the observation of transfer peaks at times of maximum financial strain for the child (Cox & Way, 2011; Zissimopoulos & Smith, 2010). Even so, the evidence for a strictly altruistic understanding of transfers is limited and alternative narratives of transfers have been explored using data from the US. These include sibling and reconstituted family dynamics (Berry, 2008; Furstenberg, Hoffman, & Shrestha, 1995), under reporting and spousal cooperation (Laitner & Sonnega, 2010) and exchange based models (Norton & Van Houtven, 2006). Yet these alternative considerations have however been more fully explored elsewhere and it is to these we now turn.

### 2.2.3. Europe and a Sociological Perspective

Intergenerational transfers migrated onto the European research agenda in the late 1990s. As in the United States this was partly due to advances in analytical capacity and data availability. In the American Economic literature policies were reduced to a financial transfer. The immediate contrast within the European literature was the broader conceptualisation of policies to include aspects such as care (Kunemund & Rein, 1999) and the focus on issues of intergenerational justice (Kohli, 1999). This focus on public private interaction brought the transfer literature into the broader comparative debate on welfare regimes in the field of social policy and this is the subject of section 2.4.1. Before this the wider literature on intergenerational transfers in Europe will be considered.

The literature in Europe is also generally more concerned with social issues than the American literature which is driven by the theoretical model of altruism. This is partly due to the nature of the data that is available. For example, the Health and Retirement Study (HRS) has provided much of the data for the American literature in the past twenty years and focuses on financial variables. Its European counterpart, the Survey of Health, Ageing and Retirement in Europe (SHARE), was initiated by the National Institute for Ageing in the United States which runs the HRS. Nevertheless SHARE provides a vast number of social, health and demographic factors that are not in the HRS. SHARE even includes a life history analysis detailing dramatic events in the individual's life course as well as detailed longitudinal records of an individual's grip strength.

The sociological approach of European research is also reflected in attempts to draw up a more holistic framework for analysis than the simplistic and reductive models of economics. These ranged from frameworks that tried to place transfers in the context of a number of acts of intergenerational solidarity (Bengston, Giarrusso, Mabry, & Silverstein, 2002) to those that tried to reconcile the micro

and macro elements of the intergenerational debate (Szydlik, 2008). Other approaches used a more inductive approach by inferring a framework from a large number of qualitative and quantitative studies (Attias-Donfut, Ogg, & Wolff, 2005). These frameworks are not independent but largely interdependent, all sharing an aim of placing transfer behaviour within a wider context than that of economic modelling of household decision making. They are covered in more detail in section 4.2.

European data and their measurement of sociological concepts does tend to orientate research toward a more sociological and cultural approach than in the United States. This increased number of covariates has allowed for the development of a broader sociological understanding of transfers. In their study, Kohli and Kunemund (2003) assert that the conceptualisation of transfers as driven by a single motivation such as altruism is 'misguided'. Using data from the German Aging Survey, their key conclusion is that relationships and exchange differ between families, particularly along cultural, class and gender lines. For example they identify a very distinct gender difference in transfer behaviour.

This, they argue, is primarily due to women within families still being considered the primary care givers. Men on the other hand are considerably more likely to receive financial assistance. Albertini and Radl (2012) put forward a value based argument in their analysis that goes further in challenging the economic framework. They find that parents from higher socio-economic groups, measured using educational levels and employment classifications, make transfers more regularly than those in lower groups and that this effect is apparent independent of income. The conclusion is therefore who you are and not how much money you have is what matters.

Leopold and Schneider (2010) utilise the detailed data in the German Socio-Economic Panel (GSOEP) to suggest that financial transfers are given in response to certain events such as marriages but not in response to others, such as divorce. They argue that the distinction is due to a perception on the part of the parent that a marriage or child birth are events which are part of constructing a life where as a divorce is not. This also implies a value based perspective missing from the altruistic model of economics. The clear distinction between the European and American traditions is their sensitivity to these considerations. Altruism is an attempt to model and explain transfer behaviour but much of the European empirical evidence appears to refute its parsimony and sociological neutrality.

The European agenda's focus therefore tends to explore intergenerational transfers as part of wider social dynamics. Suggestions that those in receipt of transfers are more likely to go to university (Nordblom & Ohlsson, 2011; Zissimopoulos & Smith, 2010), live healthier lives and experience social advancements (Scodellaro, Khlal, & Jusot, 2012) and have generally better material circumstances (Semyonov & Lewin-Epstein, 2001) imply that cultural, class and gender differentials in transfers are translated into sociological outcomes for recipient generations. This is a substantively appealing conclusion and one that has motivated the increased interest in the topic of intergenerational transfers,

this thesis included. Generally, this thesis looks to explore the distinction between the two literatures and the extent to which they stand in contradiction. To do this altruistic and sociological theories of transfers are considered and tested. They are evaluated by the extent to which they explain transfer behaviour and less on their attachment to specific traditions.

## 2.3. The Policy Effect

In the introduction to this chapter it was suggested that the European transfer literature had a greater focus on the role of policy given a stronger welfare state tradition. This section explores the comparative social policy literature which adopted the exploration of intergenerational transfer behaviour and the theoretical framework for analysing intergenerational transfers. Section 2.3.1 considers empirical evidence of a policy effect and whether this evidence is solely based on cross national comparisons and fixed effects. An adequate analytical strategy can then be considered in chapter 3. The literature on family policy will then be considered in section 2.3.2 as it has offered the most comprehensive analytical framework for assessing how policy might explain variations in transfer behaviour across Europe. The implications of policy effects for debates on Intergenerational Justice will then be discussed in 2.3.3 as this debate has played a prominent role in framing the agenda on intergenerational transfers in recent years.

### 2.3.1. Social Policy and Intergenerational Transfers

In addition to the pragmatic agenda focused on social outcomes, research on intergenerational transfers has also heavily focused on the role of policy. In the past two decades two key questions on the social research agenda have driven the analysis of intergenerational transfer behaviour in Europe; “to what extent will society be affected by demographic change?” and “to what extent does welfare state difference account for differences in social outcomes?” (Kohli, 1999).

These two questions were of course a concern to American researchers but to a far lesser extent. In Europe the concern is with the rapidly ageing population and shift in generational balance given that societal ageing is more dramatic and extensive there (Kohli, 1999). This shifted the focus of research from one of wealth accumulation and social mobility to one of intergenerational justice and solidarity. Due to this, the research in Europe has been far more concerned with issues of generational equity (Szydlik, 2008). This is expanded on in section 2.3.3. The second question that is more prominent in European research is the role of social policy in affecting social outcomes. Social policy is not as prevalent in the United States’ intergenerational literature to the same extent as in Europe. This is partly due to the distinct welfare state traditions as well as policy considerations being subsumed into the economic tradition (Weir, Orloff, & Skocpol, 1988). Yet the links between policy and intergenerational transfers are evident in the literature of other regions (such as the US and East Asia), disciplines (such as economics and demography) and time frames (1960s-2010s) which are concerned with the interaction between public and private welfare provision. For example, McDaniel provided a detailed framework for analysing the interaction between financial transfers and policy in response to

the North American literature of the early 1990's (McDaniel, 1997). A number of authors have also clearly identified a very prominent effect of policy on family ties in East Asia (Frankenberg, Lillard, & Willis, 2002; Ogawa, Mason, Chawla, & Matsukura, 2010). Even in early European research focused on a micro, single country approach to assessing policy effects (Kohli, 1999; Kunemund & Rein, 1999; Kunemund, Motel-Klingebiel, & Kohli, 2005).

Yet the establishment of the European Union (EU) in 1992 brought welfare state comparisons to the forefront of the research agenda in Europe. The creation of a common currency, common market and unified political space begged questions about welfare state diversity in Europe and the EU continues to seek explanations for diversity in social outcomes (European Commission, 2010). This places emphasis on comparative social policy within the European intergenerational transfer literature.

### *Existing Evidence*

The intergenerational transfers debate in Europe over the last decade has been primarily focused on the extent to which observed cross national differences can be attributed to social policy variation across Europe. The basis for these comparisons was the launch of SHARE, a comparative dataset including countries representing all corners of Europe. The first comparative analysis of transfer behaviour using this data modelled the comparative element of the data using a country fixed effect (Attias-Donfut, Ogg, & Wolff, 2005). This approach looks at the differences in transfer behaviour between countries, after individual level characteristics have been taken into account.

The authors of this study noted that this limited their ability to disentangle complex institutional, cultural and economic effects. Nevertheless they inferred a North-South divide in transfer behaviour based on the notion that the welfare state in the South of Europe was insufficient and left many in poverty, necessitating larger financial transfers from the extended family to support them. This narrative would however have been captured by the individual level measures of income and poverty. This is the first analysis to assert that policy leads to differences in transfer behaviour across Europe and the findings are used to explicitly infer that the social policies in the south fail in providing sufficient means of employment and support to younger generations. What's more, this conclusion is reached despite the fact that none of the fixed effects were significantly different from 0 at a 95% confidence level.

This study was extended in later analysis by Albertini, Kohli and Vogel (2007) who looked to solidify these inferences into a regime typology similar to that in the wider social policy literature (Esping Andersen, 1990; Arts & Gelissen, 2002). Instead of including country fixed effects they used a regime effect which grouped country observations into three groups; Scandinavian (Sweden and Denmark), Central (Austria, Germany, France, Switzerland, Netherlands and Belgium) and Southern (Italy, Spain

and Greece). Their results suggested that pervasive but small amounts of financial support were observed in Scandinavia and less pervasive but larger financial transfers occurred in Southern Europe. Central Europe showed behaviour somewhere between the two.

Yet these results were not robust to sensitivity analysis. The percentage of households making a transfer in Italy and Greece for example was higher than in France, Switzerland and the Netherlands. The southern figures were almost entirely driven by the extremely low levels recorded in Spain. Similarly Germany showed levels similar to those of Denmark and Sweden but this significant outlier was counter balanced by the lower levels in the aforementioned 'Central' countries. Even given these empirical ambiguities it is the inferences that have driven the subsequent debate regarding transfer behaviour. This is because the study inferred that the observed differences in intergenerational transfers were attributable to policy differences.

This conclusion has been extended but not significantly altered by a number of other studies. These studies looked at the extent and intensity of network support in Mediterranean and Non-Mediterranean countries (Litwin, 2009), the extent to which transfers encouraged upward care giving across the SHARE sample (Leopold & Raab, 2011) and the extent to which more general patterns of exchange differed across countries in Europe (Brandt, Haberkern, & Szydlik, 2009). The conclusions of such studies however infer a policy effect from differences in aggregated transfer behaviour between countries.

In response to this Schenk, Dykstra and Maas (2010) deconstructed the fixed effects for intergenerational transfer behaviour. This involved estimating the difference in the transfer rate after individual characteristics had been taken into consideration. They then examined the extent to which these estimates correlated with macro level indicators such as GDP and levels of welfare state expenditure. Their results suggested that there was a clear and strong compositional effect on estimates as they were very different from the descriptive statistics on transfer behaviour across countries. That is to say that the observed differences in transfer behaviour between countries changed dramatically when individual level characteristics were considered. They also could find no relationship between the estimated fixed effects and welfare state indicators.

Brandt and Deindl (2013) conducted similar analysis and found a subsequent correlation between welfare state indicators and the intercepts and coefficients from an individual level model using a number of indicators of transfer behaviour including financial and time transfers. Even still, the limited number of countries at the country level prevented them from controlling for other country level processes such as culture, demography, economics and other macro level factors. This means that there is little empirical evidence to suggest that it is policy differences themselves that are driving these differences. It is very possible that it is cultural, economic and demographic covariates.

In part response to the criticisms of a fixed effects approach, Albertini and Kohli (2012) then extended the analysis to assess how the behavioural dynamics differed across ‘transfer regimes’. Statistically this simply meant running an individual level model for each regime. Albertini and Kohli argue that this allows them to explore how different factors affect transfer behaviour in each regime. For example, this enables them to identify that the effect of a child’s material circumstance on the probability of them receiving financial assistance is different in Northern and Southern Europe. In Southern Europe the child’s material circumstances only increase the likelihood that they will live with their parents. In Scandinavian countries in contrast, financial assistance is responsive to the material circumstances of the child. In and of itself this is a very interesting finding that does much to detail differences in intergenerational relations in Europe.

However, they argue that this is due to poor welfare state provisions for younger adults in Southern European countries. As with the fixed effect approach, such attribution of the effect is premature as the dynamics between countries may differ for a wide variety of reasons other than the nature of the welfare state and social policy arrangements. The tendency here is common place in intergenerational research and social policy more generally given the reasons outlined above. Observed comparative differences are attributed to policy variations with limited empirical grounding. The research conducted in these papers is of interest to the study of transfers more generally but its use in understanding how transfers are affected by policy is very limited (Hox, 2010).

Therefore, in spite of the commonly held belief that there is a close relationship between intergenerational transfers and social policy, little has been accurately specified or identified in the literature in the past decade of research. All of the researchers mentioned have referred to an interaction between private and public provision of financial assistance. This is perhaps driven by a deeper conviction within social policy that the family and the welfare state are interdependent actors with families’ behaviour determined by the behaviour of the welfare state (Lewis, 1992; Saraceno C. , 2000). Nevertheless, the existing research has not yet fully captured the extent to which policy affects transfer behaviour.

### 2.3.2. Intergenerational Transfers and Family Policy

Comparative analysis of social policies and their interaction with family arrangements is extensive and comprehensive (Brandt & Deindl, 2013; Mudrazija, 2013). Social policies implicitly and explicitly demarcate caring and welfare responsibilities between the state and the family and research tends to be focused on circumstances where conflicts or contradictions arise (Szydlik, 2008). Originally this concerned gendered aspects of the welfare state and the degree to which the state assumed the prominence of the man over his wife (Lewis, 1992; Orloff A. S., 1993). The attention soon expanded

to broader aspects of welfare provision and care services (Anttonen & Sipilä, 1996; Randall, 2000). Throughout these studies the concept of autonomy of individuals was prominent. This referred to the ability of individuals to act without dependence on the family or market. From this perspective policies were to be understood by the degree to which they enabled individuals to live independently.

Further distinctions elaborate on policy variation by distinguishing between familialisation and defamilialisation (Leitner, 2003). Familialisation refers to policies that actively support an individual in a care role. Defamilialisation refers to policies that seek to enable an individual to leave a care role. An example would be the provision of parental leave as a familial policy and childcare provision as a defamilial policy. In the former the individual is supported but they are still expected to provide care, in the latter they are given the means to leave the care role. This distinction was developed in response to the empirical observation of differing care arrangements across European Welfare states that were not captured by the extent of welfare provision but instead by its form (Esping-Andersen, 1999).

Saraceno and Keck (2009) attempted to explore this in an intergenerational context by combining the de-commodifying and de-familialisation literature on the welfare state to offer a typology in the comparative social policy tradition (Esping Andersen, 1990; Orloff A. , 2006; Hantrais, 2004). In keeping with this tradition they assume that various 'welfare regimes' operate under particular assumptions which are referred to in the literature as a policy mix. The report therefore summarises logics of policy intervention evident throughout the continent and contests that there are no explicit typologies to be found (Lewis, 1992; Saraceno C. , 2000; Anttonen, Baldock, & Sipilä, 2003; Daly & Rake, 2003)

The report by Saraceno and Keck (2009) concludes by suggesting that an understanding of transfers should be undertaken through the wider dialogue on 'crowding out' by discussing the extent to which these policy mixes crowd in and crowd out transfer behaviour (Blome & Keck W: Alber, 2008; Fukuyama, 1999; Kunemund & Rein, 1999). Whilst stopping short of analysis, this framework produces precise hypotheses to be tested. From the intergenerational literature, it would appear that extensive elderly support promotes the giving of transfers (Kohli, 1999). In the *crowding out* literature it has been argued that social spending can also deter family support (Fukuyama, 1999).

The issue encountered by Saraceno and Keck (2009) is similar to that encountered by anyone conducting comparative social policy analysis in that it is hard to measure an abstract notion such as the welfare state (Clasen & Siegel, 2007). Aspects of policies can be measured by case load or expenditure levels or differing structures of eligibility criteria. The complex and abstract terms of defamilialisation and de-commodification reflect this. But Saraceno and Keck and other intergenerational researchers have the problem exacerbated because their analysis refers to the mediation between generations. They have to consider the measurement of policy twice; once in the context of the parent and once in the



context of the child. Given that such clustering and abstraction is designed to clarify, it is unsurprising that the authors declined to put forward a feasible description of intergenerational regimes.

The tentative conclusion that was offered suggested that countries with high support for the elderly but little support for the young will have the highest level of transfers. From a micro perspective this is to suggest that transfers are shaped by a capacity to give and a demand to receive. Whilst this theory has only been tentatively suggested and the typologies remain relatively fluid what empirical research exists does show embryonic evidence of such a push and pull factor (Zissimopoulos & Smith, 2010; Kohli, 1999). Nevertheless, questions remain. For example, what is meant by a younger generation? In this thesis the oldest child is 87. They are younger, not young.

It is exceptionally difficult therefore to operate in terms of a typology of welfare states within intergenerational research. This has curbed the use of typological approaches to understanding the policy effect on transfer behaviour and makes the empirical estimates offered in the previous section, theoretically ambiguous and an area of potential development. Given this potential, alternative strategies of understanding the effect of policy on transfer behaviour would be exceptionally useful. Such an approach is offered in chapters 3 & 4.

### 2.3.3. Pension Overshooting and Intergenerational Justice

Parallel to a family policy approach to the analysis of transfers, a second policy debate has garnered a considerable amount of attention given its wider implications (Kohli, 1999). This debate centres on issues of intergenerational justice and the extent to which downward, private, intergenerational transfers mitigate large, upward, public transfers. This was cited as the primary interest of initial social policy studies in the area and continues to be an area of substantive interest to both researchers and non-researchers alike (Kohli, 1999; Kunemund & Rein, 1999).

The debate is grounded in the observation that individuals in later life have excess income (Demery & Duck, 2006). This is due to significant drops in consumption post retirement and results in what has been dubbed ‘pension overshooting’ (Börsch-Supan, 1992). In life course studies, this label of excess is due to the fact that these generations die without consuming their lifetime savings which violates a strict understanding of utility maximisation across the life course. This excess income is then considered as the primary driver of intergenerational transfers against the traditional life cycle model of transfers (Blinder, 1976). Some authors have labelled this process as ‘*crowding in*’. This is because the pension overshooting is attributed to public pensions which are larger than the requirements of the recipients and therefore stimulate increased private intergenerational exchange and support (Kunemund & Rein, 1999).

Intergenerational transfers are broadly perceived as part of the intergenerational justice debate. This is due to the potential role that wealth transfers play in helping younger generations buy homes, complete education and start a family (Osborne, 2012). The observation of downward financial transfers has been regarded by some as offsetting upward public transfers to some degree (Kohli, 1999). It is therefore of considerable interest as to whether such a 'pension overshooting' effect is evident. If welfare state policies are transferring money to older generations some of whom then pass it on to their extended family, it raises questions about the legitimacy of the existing welfare system and its efficiency if one adopts a strict understanding of life course consumption.

To an extent, this hypothesis describes older persons as an income rich generation which is subsidised by the working population (Sinn & Uebelmesser, 2002). In many ways this is a gross oversimplification. Firstly the over 65s in Europe are among the most economically vulnerable (Zaidi, Grech, & Fuchs, 2006). Within this large group there are considerable levels of inequality and poverty. Intergenerational transfers, national account techniques and even government descriptions of welfare state payments, treat age groups as a homogenous block despite obvious diversity. The use of normative language and references to justice therefore seem improper given that not all older persons can be accurately described as 'greedy geezers' (Street & Cossman, 2006).

It should also be noted that attitudes towards pension provision and their legitimacy remains high (Van Oorschot, 2006) and little evidence exists of intergenerational conflict with regards to social policies (Emery, 2012). If intergenerational justice is an issue with regards to the distribution of financial resources amongst the population, it is not a salient one amongst the general population as even the very young see the provision of upward public transfers as a cornerstone of the welfare state. This suggests that any discussion of intergenerational justice should not be framed in terms of conflict but in terms of a broader socio-economic debate about intergenerational relations and the role of the extended family as a financial resource for younger generations. Given this, to understand the relationship between public provisions and private transfers it is necessary to be sensitive to the heterogeneous population of parents.

The sensitivity to the heterogeneity of the population is particularly pertinent given that analyses that have examined '*crowding in*' have used cross-sectional data. In these analyses the inferences made only suggest that those in receipt of large pensions are more likely to provide financial assistance. They ignore the potentially spurious effect that would exist if pensioners, the retired or older people generally are more likely to make transfers. In addition, these coefficient estimates are largely descriptive in that they rarely use longitudinal data or causal analysis techniques. They instead tend to use comparative and descriptive techniques designed to report associations rather than identify a particular effect. Those in receipt of higher pensions have usually worked longer and generally earned

more. They may have different values, social networks or family ties that are not included in the analyses.

The existing debate can be reductive in considering the relationship between generations and the complex dynamics which exist. The analytical methods used in the existing literature are not able to provide conclusive and definitive verdict on complex social dynamics. This thesis aims to contribute to debates of intergenerational justice by considering alternative methods of modelling the relationship between social macro behaviour and its relation to micro level, private behaviour. The aim is therefore to provide a more appropriate empirical contribution to debates on intergenerational justice.

## **2.4. A Family Affair**

Section 2.2 detailed the intergenerational literature and how it has evolved over the last two decades. There is now an understanding as to the basic parameters and patterns of intergenerational transfers and research has progressed to focus more concisely on what drives transfer behaviour (Berry, 2008; Zissimopoulos & Smith, 2010; Leopold & Schneider, 2010; Leopold & Raab, 2011). This builds on the earlier economic and sociological literature. This progression stimulates new questions regarding the way in which transfers are discussed and requires a broader debate of the structural determinants of such transfers as well as these micro level stimulants (Szydlik, 2008).

The process of systematically evaluating structural determinants of intergenerational transfers has been started by a number of research communities as detailed in section 2.3, but what exists remains largely speculative, underdeveloped and untested (Saraceno & Keck, 2009; Puur, Sakkeus, Schenk, & Poldma, 2010; Albertini & Kohli, 2012; Brandt & Deindl, 2013). This section will look to explore this further and attempt to underline what other social theories have to say about intergenerational transfers and how they can be tested. This will be done by looking at how demographics and the family are theoretically tied to the literature on intergenerational transfers.

### **2.4.1. Demographics in Europe**

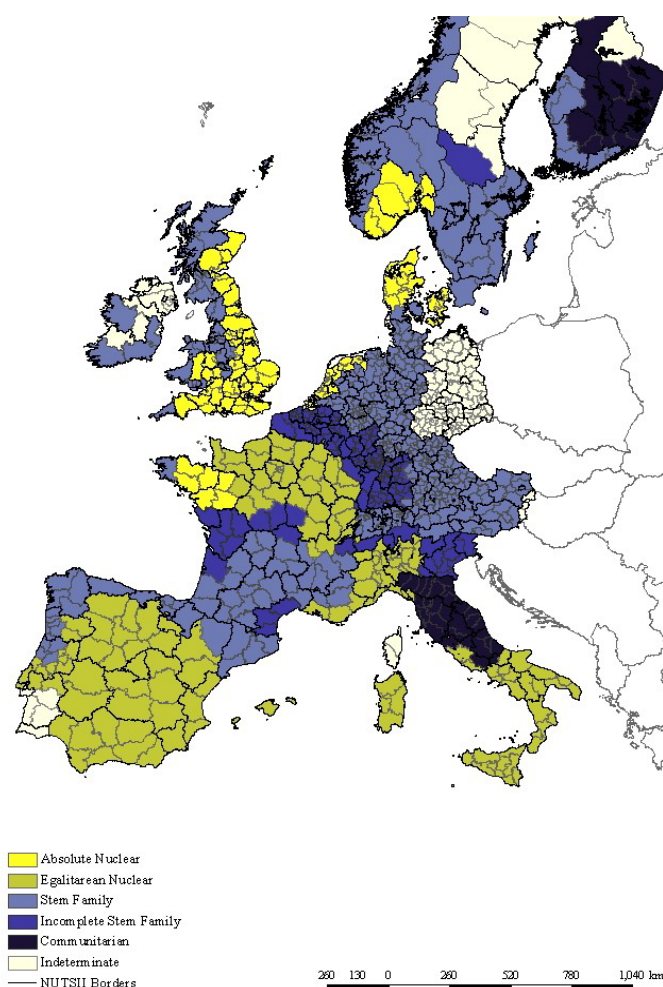
Despite the intergenerational nature of the transfer literature and the demographic motives for interest in it, there has been little reference to demographics in existing research (for a recent exception see Mudrazija, 2013). This section considers the potential benefits of using demographic concepts and theories in analysing intergenerational transfers and the potential implications this has for the field.

#### *Cultural variations*

In Europe, the traditional theories of family diversity suggest that Mediterranean countries have a more family centred society whereas the countries of the North have a more atomized, individualistic society. The cause of this has been attributed to a number of factors. David Reher argues that the underlying reason for the split is the divergent economic practices of Northern and Southern Europe in the middle ages (Reher, 1998). Others attribute the differences to the legacy of the Roman Empire (Goody, 1983), the reformation (Hajnal, 1965) and the extent of industrialisation (Hajnal, 1982). Regardless of the origins, a general consensus exists within the literature as to the manifestation of these differences (Hantrais, 2004).

Some demographers have attempted to quantify such diversity through distinctions made between the structure of cohabitation (e.g. when young adults leave home, the number of generations under one roof, implications of marriage etc.) and the various authority structures (e.g. methods of distributing wealth, who holds authority, who owns the property etc.) (Duranton, Rodríguez-Pose, & Sandall, 2007; Todd, 1990). This creates a two dimensional spectrum of family forms which has then be used to classify families into four groups; absolute nuclear, egalitarian nuclear, stem family, communitarian family.

In an '*Absolute Nuclear Family*' children leave the parental home early and generations are materially independent with a wealth distribution system that is concentrated in just one child. An '*Egalitarian Nuclear Family*' on the other hand spreads wealth evenly between the independent children's households. In a '*Stem Family*', the children leave home only upon marriage with the eldest son remaining within the household with his spouse in order to maintain the family household. In a '*Communitarian Family*' this practice is not limited to the eldest son and all children share in the inheritance (Duranton, Rodríguez-Pose, & Sandall, 2007). As can be seen from Figure 2.1, when the prevalence of such forms is mapped onto the continent, patterns start to emerge.



**Figure 2.1 – Different Family Forms in the European Union**

*Source: (Todd, 1990)*

This geographical and cultural divide gives a more complex backdrop to our discussion on intergenerational transfers. The differentiation made by Todd here is between families where bequests are made to a single individual (normally the eldest son) and whether this is made in kind or simply through bequest. Given that transfers are used to define family types, one could reasonably expect there to be a link between downward intergenerational transfer behaviour and family form. What emerges is a proto-theory of intergenerational transfers that competes against that of rational choice and economic theories.

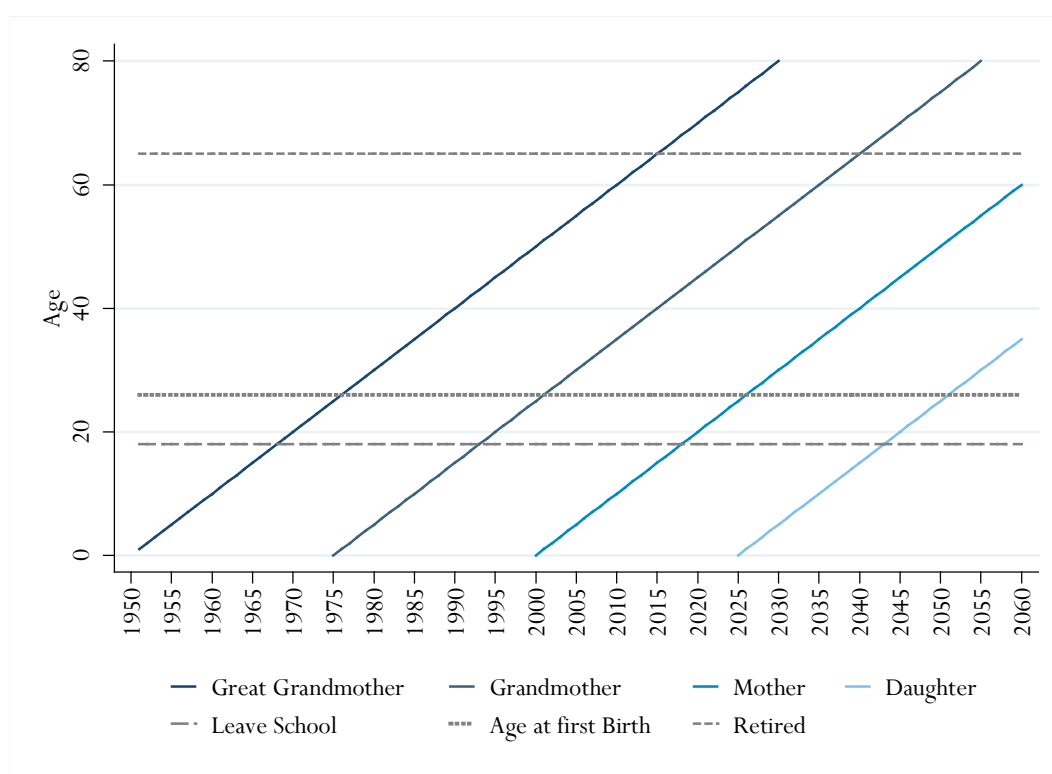
The complexity of this picture is exacerbated when we consider contemporary shifts such as the second demographic transition. A number of commentators have suggested that family forms have had a large impact on how the second demographic transition has developed (Hantrais, 2004; Esping-Andersen, 2009; Gierveld, Dykstra, & Schenk, 2009). These arguments have suggested that the fertility rate is directly related to the independence an individual has throughout their transition to adulthood. The

delayed independence found in 'Stem Family' regimes leads to delayed births and a decrease in the tempo and quantum of fertility rates (Bongaarts & Feeney, 1998; Kohler, Billari, & Ortega, 2002). This delayed fertility, coupled with increasing life expectancy, leads over time to dramatic shifts in the age composition of society in a process referred to as societal ageing. That is to say that when payments are made in kind through cohabitation, independence and subsequent fertility are delayed. In this regard, transfers reflect a distinct difference between nuclear households who make financial payments and stem families who use in-kind payments such as cohabitation (Albertini, Kohli, & Vogel, 2007).

Such shifts will inevitably determine individual level behaviour in that family structures are fundamentally altered (Magnus, 2008; Puur, Sakkeus, Schenk, & Poldma, 2010). This is certainly the case in intergenerational transfers where the shift reflects an increase in suppliers relative to the number of consumers. Despite much work being conducted on establishing whether transfers vary across countries, the amount of research on variance by family form in this context is far more limited which is surprising given the links. The Scandinavian countries identified as having higher rates of transfers are also those where children leave home the earliest and where the fertility rate is highest. The further south you go, the less this becomes the case. Given this, family form and structure could not only offer an alternative explanation for cross country variance in transfer behaviour but are also a necessary element of any economic or rationale choice perspective given that it would appear to interact with the decision to give.

### *The interaction of life courses*

A demographic perspective to intergenerational transfers reveals further variations which have not been explored in existing research on intergenerational transfers. Firstly, the time of coexistence between adult child and parent has increased and secondly there has been significant variation in the way in which intergenerational life courses interact (Puur, Sakkeus, Schenk, & Poldma, 2010). The period of coexistence between generations is largely determined by three factors; fertility, life expectancy and the age of the mother at birth. This interplay can be seen from Figure 2.2 which shows how generational spacing and longevity determine how many generations overlap (Golini, 2005).



**Figure 2.2 – Generations and the Life-Course: A diagram of overlapping generations**

Source: (Golini, 2005)

Some evidence has been established regarding the importance of life course events but little has been done to explore the wider impact of a family structure's on transfer behaviour (Shapiro & Corey Remle, 2010; Leopold & Schneider, 2010; Berry, 2008; Norton & Van Houtven, 2006). This is related to existing studies tending to adopt a single country approach to analysis and look to explain differing transfer patterns through various life course events and circumstances.

As an example, Leopold and Schneider find that transfers increase during key family transitions for the child such as marriage, divorce and birth of a child (Leopold & Schneider, 2010). Yet this analysis is restricted to Germany in a limited timeframe and therefore can offer limited insight into how this is related to social constructions of the family or differing experiences of societal ageing or the life course. The societal ageing and family literature suggest that patterns of transfers should be markedly different in countries that have distinct demographics and unique experiences of the societal ageing phenomenon. After all, the average age of a parent when their child finishes education varies considerably across and within countries (Gustafsson, 2001).

It has also been suggested that higher social mobility can be observed amongst those families who tend to have relatively fewer children (Van Bavel, 2005). This might be because those with fewer children invest the same amount of resources in their children but the investment is subsequently more

concentrated leading to greater chances of success. More recent studies have utilised more comprehensive and time variant data which allows for the effect of number of siblings (and timing of births) to be better isolated and monitored (Skirbekk, 2008; Coall, Meier, Hertwig, Wanke, & Hopflinger, 2009). This research has shown that family size in particular can affect familial behaviour.

### *The shape of the family tree*

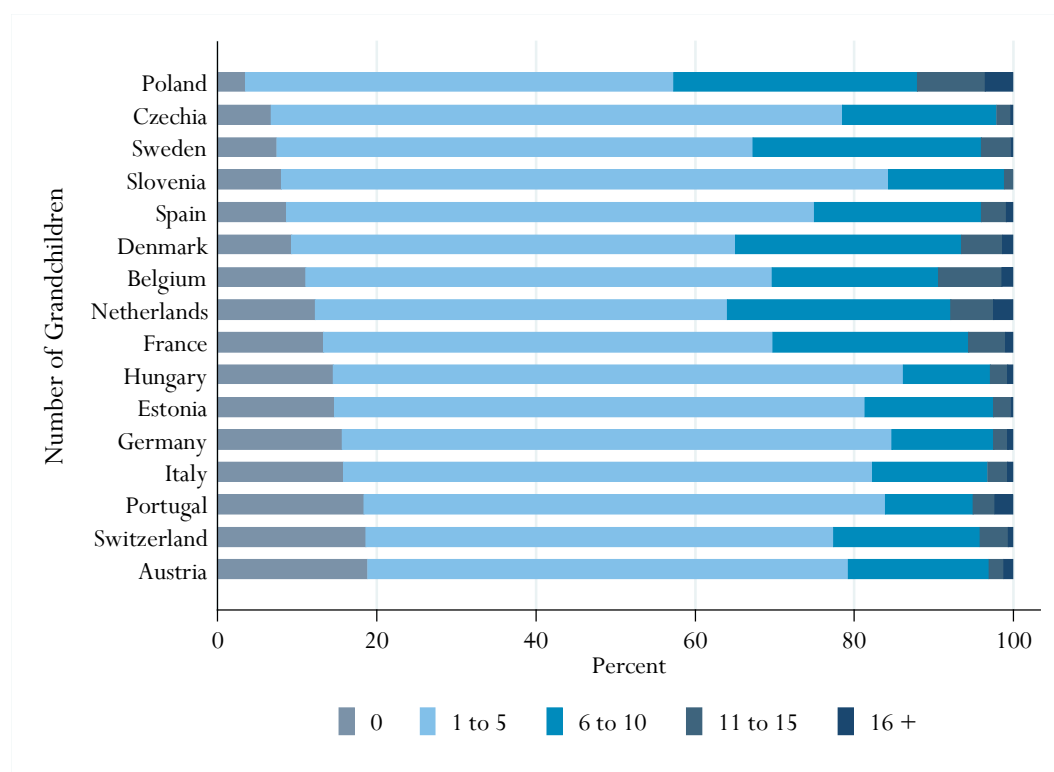
In addition to altering the period and nature of coexistence between generations, societal ageing also increases the average number of grandparents and parents that people have over the life course. For example, Golini (2005) estimates that for 100 fifteen year olds there are 293 grandparents out of a possible 400 using data from Italy in 1998, with the number falling to 182 by the age of twenty-five. As life expectancies increase, it should be expected that this number will tend towards 400. The effect of societal ageing on intergenerational transfers is intuitive in that both refer to the relationship between generations. As the population gets older more givers and fewer receivers of intergenerational transfers will be observed. This would therefore suggest that we should see a shift in the dynamic of intergenerational transfers. As well as the average number of grandparents increasing, there will be a simultaneous rise in the number of great grandparents and the greater frequency of four generational families (Pennec, 1997; Matthews & Sun, 2005). As life expectancies increase there will be an increase the number of coexisting generations and the average number of great grandparents for children should similarly be expected to tend towards its natural limit of 8 per child, though this is not achievable due to the existence of some mortality.

For previous generations, it was rare to have older persons for relatives and the young were more numerous within families. This relative scarcity of older people was intensified by the fact that as we move up generations we calculate arithmetically and as we move down them we calculate exponentially. This effectively meant that if you were lucky enough to have a grandparent, you had to share their time, support and resources with a large number of siblings and cousins (Ruggles, 2007). Now this process has been somewhat reversed and downward transfers are now intensified by two processes (Albertini & Kohli, 2009a). The same data from Italy suggests that the average number of grandchildren for the over 65s is around four. It must then be considered that given that the average child has 2.93 grandparents, an individual grandparent now only has 1.36 grandchildren per person (this is the theoretical per capita number of grandchildren a grandparent has). This ratio is set to move towards one and even below this as the balance between the generations continues to shift under societal ageing.

Part of the decrease in this average will be due to the increasing number of the elderly who do not have grandchildren. In Italy, this has been reportedly as high as 1/3 of those over 65 and slightly lower in



France and elsewhere where the figure is closer to 20% (Golini, 2005; Puur, Sakkeus, Schenk, & Poldma, 2010). For these individuals it is unclear where their resources will go and what kind of family support they will receive in later life stages (Albertini & Kohli, 2009; Albertini & Kohli, 2009a). Again, the effect of this shift in the balance between generations has yet to be explored given the lack of comparable data. As older generations are alive longer, inter-vivos transfers may represent a means to compensate younger generations for delayed inheritance whilst they are constructing their own families. Furthermore, between an individual and a spouse, the probability that at least one of their parents is still alive is now significantly higher and should increase the possibility of financial assistance.



**Figure 2.3 - Number of Grandchildren of those aged 70+**

*Source: Survey of Health, Ageing and Retirement, Wave 4 (authors own calculations)*

### *Further Complications*

So far these estimations have looked at broad population averages, however this is again an oversimplification that covers a more complex depiction of current dynamics. For example it can be shown that the number of grandchildren is not evenly distributed amongst grandparents but that fertility rates are also inherited, leading to a compound interest effect of grandchildren. More broadly, the average number of grandchildren for those who have 1 child is just 2. Yet the average for those who have 3 is around 7.5 (i.e. 2.13 per child) (Golini, 2005).

This suggests that the fertility rate of offspring is directly related to the fertility rate of the parent which in turn means that populations should not be considered homogenous when discussing intergenerational transfers (Skirbekk, 2008). The dynamics of these distinct family structures are of course likely to affect the dynamics of their intergenerational payments. Those in low fertility family structures will have very low 'grandchild per capita' levels whereas those in high fertility will have higher levels, though still not the level of early to mid-twentieth century grandparents.

What's more, the three determinants of cohort overlap and family structure have all been noted to vary due to class, educational and income levels as well as geographical locations. Through a more detailed and subtle demographic analysis we therefore aid the exploration of intergenerational relations and its ability to yield results and findings for other areas of social policy such as social mobility, educational provision, economic geography and health (Woods, Ratch, Riga, Stone, Shah, & Coleman, 2005; Skirbekk, 2008).

For all the diversity and complexity of family forms and structures in Europe, it remains to be seen how they affect transfer behaviour. Much of the empirical evidence in the literature suggests that it does have a significant and endogenous impact and that this needs to be explored in greater detail. What is striking from this brief tour is that the evidence to suggest that the institutional variation in family form impacts upon transfers already exists but the incorporation of this knowledge into theories of intergenerational transfers is significantly lacking. In addition, the lack of such demographic concepts could undermine arguments based on observed country differences given the established interdependencies between demographics and social policy. This is because patterns of cohabitation, family size and age structures could be causing spurious effects.

#### 2.4.2. Intergenerational Relations

Demographic change gives a broader picture of intergenerational transfers. When combined with suggestions that it impacts wealth accumulation and social mobility, it sparks the interest of policy makers and social commentators (Willems, 2010; Howker & Malik, 2010). Yet the intergenerational transfer literature has focused more on the socio-psychological context of intergenerational transfers and their place within a broader pattern of intergenerational exchange and support. This interest has been fruitful in understanding an economically conceptualised financial exchange within the psychological, sociological and culturally complex notion of the family.

These considerations challenge the modelling constructed by the economic literature. The economic modelling of the relationship between a parent and child is stated as a one dimensional scale that varies between pure altruism where they care as much about their child as they do themselves and complete ambivalence where the parent is entirely indifferent to the fate of their child (Cox, 1987). Sociological

interpretations of this relationship have suggested that this demarcation fails to capture empirical realities as identified in 2.2.3. In this literature the meaning of the word ambivalence is used to describe a situation in which conflict and solidarity between generations exist in concordance (Bengtson, Giarrusso, Mabry, & Silverstein, 2002).

Empirical studies on the relationships between generations tend to illustrate this point with a considerable degree of consistency. Some studies have shown a multiple dimensional relationship based on emotional, physical and effectual aspects of a relationship (Silverstein & Bengtson, 1997), others have demonstrated the coexistence of solidarity and conflict (Szydlik, 2008) and these ambiguities have themselves been shown to vary across a number of social structures such as class, race and gender (Swartz, 2009). All have made the fundamental point that intergenerational relations are multi-faceted and vary considerably between families.

Intergenerational transfers themselves are a functional representation of solidarity within a relationship yet existing studies have shown that the correlation between such functional forms and emotional closeness are not particularly strong in that those who have a close relationship are not necessarily going to be those who make financial transfers (Bengtson, Giarrusso, Mabry, & Silverstein, 2002; Attias-Donfut & Arber, 2000). The provision of effectual support in the form of time and money can strain emotional aspects of a relationship (Arber, Davidson, & Ginn, 2003). On the other hand, strong emotional relationships exist in the absence of a physical or financial representation of closeness (Luescher & Pilleme, 1998). The implication of this observation for intergenerational transfer in general is that the inferential power of observations of transfer behaviour should not form a litmus test for the health of intergenerational relationships as a whole.

Further to this there is evidence that this complex multi-dimensional relationship occurs within the wider context of prevalent social norms. The emotional and psychological impact of giving and receiving support is likely to be dependent upon a broader set of values with regards to intergenerational relations (Kohli & Kunemund, 2003). Transfers of time and money have been shown to be related to wider cultural norms and values (Jappens & Van Bavel, 2012). Conflicts between individual level behaviour and the cultural norms are therefore likely to echo into other aspects of the parent –child relationship. A stereotypical embodiment of this could be seen as the child who lives with their parents well into adulthood despite cultural norms suggesting they should have left long ago.

By classifying different forms of support as either effectual, physical or emotional a more complex set of interactions is revealed which limits the extent to which intergenerational transfers can be seen of as indicative of a wider relationship. Yet this classification is itself an over simplification of the interactions between differing forms of solidarity given that within the effectual classification of support varying combinations are observed within relationships (Brandt, Haberkern, & Szydlik, 2009; Attias-Donfut,

Ogg, & Wolff, 2005). In certain circumstances financial support is accompanied by time and in-kind transfers such as babysitting or other care giving. In other scenarios financial transfers are negatively correlated with these other forms of effectual support. What's more, there is consistent and clear evidence that the relationship varies across countries (Brandt & Deindl, 2013). Subsequent research into intergenerational transfers therefore must either take a holistic approach to the various dimensions of intergenerational relationships, or refrain from inferring about the general state of intergenerational relations.

## **2.5. Summary**

This chapter outlines the existing literatures that feed into and draw from discussions of intergenerational transfers. The chapter started with a warning against entering the literature with the presupposition that intergenerational transfers are important and considerable movements of resources. It is clear from this literature review however that intergenerational transfers are indeed pervasive in contemporary social science debates. As a subject, intergenerational transfers cross boundaries and this poses theoretical and technical challenges. How can sociological and economic theories of the family interact and be understood in substantive terms? How do we discuss intergenerational relations when Europe's demography is changing? How do we understand private, personal, individual behaviour in the context of rapid, macro, social change?

These difficult questions motivated this research project and the following chapters outline a way in which they may be answered. The particular focus on the interaction between policy and transfers was shown to be a particular area of interest and it ably demonstrates the motivation and core question of this thesis which considers how policy affects transfer behaviour. The literature regarding social policies and intergenerational transfers has struggled to keep up with methodological innovations and data availability that have created the potential for understanding the effects of certain social policies. Social policies are a macro phenomenon in that they are conceived at the macro level, whether that refers to a country, region or social organisation. Yet they are enacted at the micro level in that it is individuals that pay in and benefit from such policies. For an empiricist this is a technical challenge that requires specific data and methods which are outlined in chapter 4.

Furthermore, the cross level nature of this question is tricky in terms of our theories of human behaviour. It may now be possible to collect data on hundreds of thousands of households across Europe on an annual basis and then summarise that data in complex statistical models that can be run off a home computer but that does not mean we should as the complexity of an analysis doesn't directly translate into a better understanding of social behaviour. In order for this literature to progress beyond the problems that were identified in section 2.3, it is essential that the enquiry is theory driven and this

is the subject of the next chapter. Grounding any empirical discussion in a sound and clear theoretical framework maximises the leverage of this thesis and ensures that it adequately contributes to the numerous literatures detailed in this chapter.

### **3. The Analytical Framework & Strategy**

#### **3.1. Introduction**

In this chapter, a conceptual and analytical framework is set out which builds on the literature discussed in Chapter 2 and outlines an analytical strategy for the rest of the thesis. From this literature review, two prominent questions emerged. Firstly, it is important for theoretical and substantive reasons to more precisely understand the relationship between public transfers and private transfers. Are more generous pensions associated with financial support for younger generations? Do social benefits for the working age population negate the need for financial assistance from the family? How do the family and state interact as welfare providers? These questions are particularly pressing with regard to the intergenerational dynamic of both public and private transfers given the rapidly ageing populations of Europe.

Secondly, to what extent are differences in transfer behaviour across countries attributable to policy variation across Europe? Do Scandinavians transfer more because they have better pensions? Do people from Southern Europe transfer less because children are not eligible for public benefits and so cannot move out? Do Eastern Europeans transfer so little because of the particular nature of their welfare states? Or are these differences due to other factors such as prosperity, demographics or culture. These two sets of questions are interlinked in that the first aims to identify whether policy are intergenerational transfers are correlated with each other and the second set considers whether this association can help explain differences in transfer behaviour across countries. The framework in this chapter forms the basis of the analysis within this thesis which describes and explains transfer behaviour in Europe and its relationship with social policy in attempting to answer these two sets of questions.

To achieve this, it is necessary to outline the concepts that are used, the specific research questions that are addressed and the methods that are used to answer them. First, in section 3.2, the conceptual framework that is used is described. Altruistic theory and an intergenerational framework are combined to develop a holistic approach to the analysis. Alternative approaches are discussed and the reasons for discarding them are outlined. This is followed by a discussion of the limitations of this analytical framework and the potential problems that arise from its use.

Section 3.3 then outlines the specific research questions in the context of this framework and the analytical approach of the thesis. Here the complexity of the conceptual framework is addressed and dissected in order to outline a strategy of analysis. This is provided in a detailed account of the four pieces of analysis within this thesis and how they relate to each other. The limitations of this analytical framework from theoretical and substantive perspectives are considered whilst methodological and data considerations are treated in greater detail in Chapter 4. Section 3.4 summarises how this thesis

answers the two questions outlined above and provides a road map to the analysis in Chapters 5, 6, 7 and 8, therefore demonstrating how policy effects on transfer behaviour in European families can be understood better.

## 3.2. The Theoretical and Conceptual Framework

### 3.2.1. A Model of Transfers

This research will look to build on the literature discussed in Chapter 2 by testing ways in which policy influences transfers. In order to achieve these aims it is necessary to outline a theoretical framework around which answers will be developed. As stated in Chapter 2, the origins of the field are in economics and most of the modelling in the existing literature is derived from here. The predominant debate within the economic literature revolves around the distinction between altruistic and exchange based motivations for transfers with mixed evidence from a vast array of sources (Cox, 1987; Altonji, Hayashi, & Kotlikoff, 1997). These two models offer two very different depictions of transfer behaviour: in one, the process is driven by feelings of altruism toward the younger generation and in the other it is driven by an expectation that the elderly will receive something in return.

For the purpose of this study the altruistic model will be used for a number of reasons. Firstly, the existing literature on transfers suggests that whilst there is some evidence of reward for caring practices, caring practices are in themselves rare, limiting their wider relevance (Attias-Donfut, Ogg, & Wolff, 2005). Secondly, the altruistic model is more parsimonious and open to simpler interpretation. That is to say that exchange based theories are generally applicable to those with a care need rather than to the wider population of parents with long time delays between giving and receiving (Leopold & Raab, 2011). What's more, research has generally reached a consensus that the majority of transfers are given for what economists would call altruistic reasons (Berry, 2008; Albertini & Radl, 2012; Altonji, Hayashi, & Kotlikoff, 1997; Lennartson, 2010; McGarry, 1997; Attias-Donfut, Ogg, & Wolff, 2005; Zissimopoulos & Smith, 2010). A further reason is pragmatic in that using an exchange model puts extra demands on the data and restricts the number of sources available (Bianchi, Evans, Hotz, Seltzer, & McGarry, 2007).

With these considerations in mind a formal model can be adopted that can help in formulating an understanding of how policy affects intergenerational transfers. Limitations to this approach are discussed later in this section. The following model of transfer size and frequency will be adopted where the parent's utility ( $U_p$ ) is described as:

$$1) \quad U_p = u(C_p, V(C_k))$$

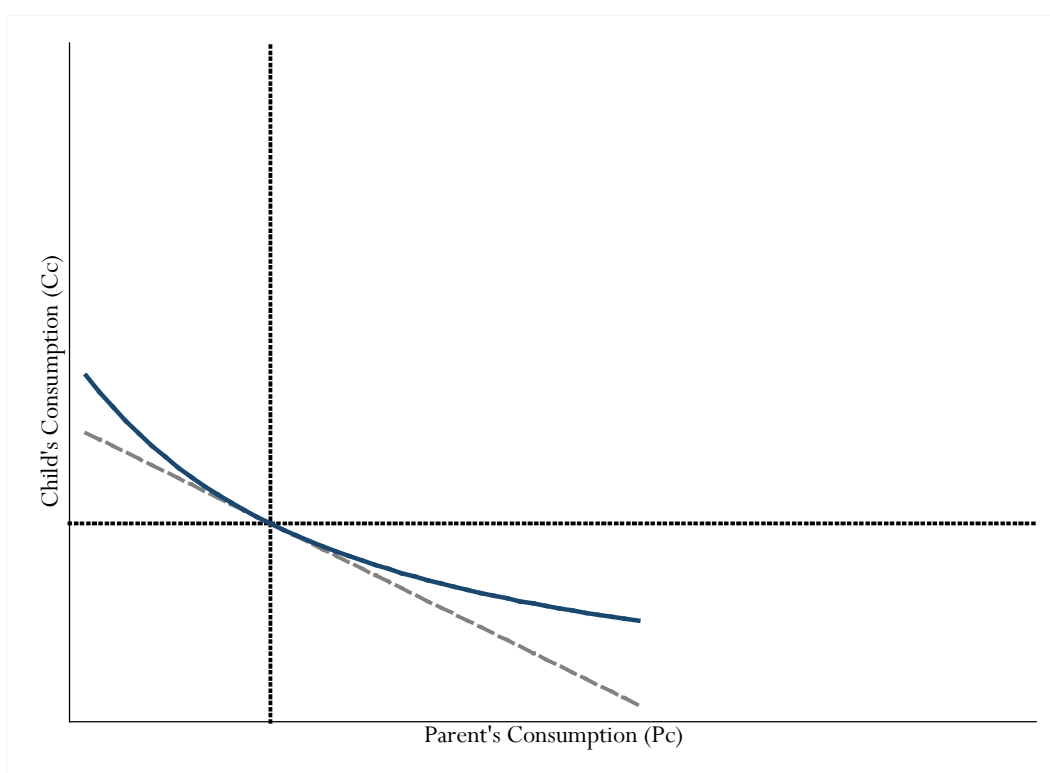
And where the function is constrained by:

$$2) \quad C_p = I_p - T$$

$$3) \quad C_k = I_k + T$$

In this model  $C_p$  is the consumption of the parent,  $V$  is the utility of the child and  $C_k$  is the consumption of the child (Cox, 1987). The first equation shows that the parent's utility is determined by their own level of consumption and the utility of the child. The child's utility is in turn determined by their own consumption levels. The term utility refers broadly to a relative sense of happiness/well-being in that if one situation is preferred to another it is said to be of higher utility. This is an abstract term and will not be directly measured within this analysis. Consumption refers to any consumable good or thing purchased using income.

The second and third equations are basic rules that constrain what the parent can choose to do. Here  $I_p$  is the Income of the parent and  $I_k$  is the Income of the child.  $T$  is the level of transfer from parent to the child. Equation 2 merely states that the total amount consumed by the parent will be their income less the amount they transfer to the child. This effectively means that their decision is constrained by how much money they have coming in. This can be displayed graphically as:



**Figure 3.1 – Parents Utility Curve**

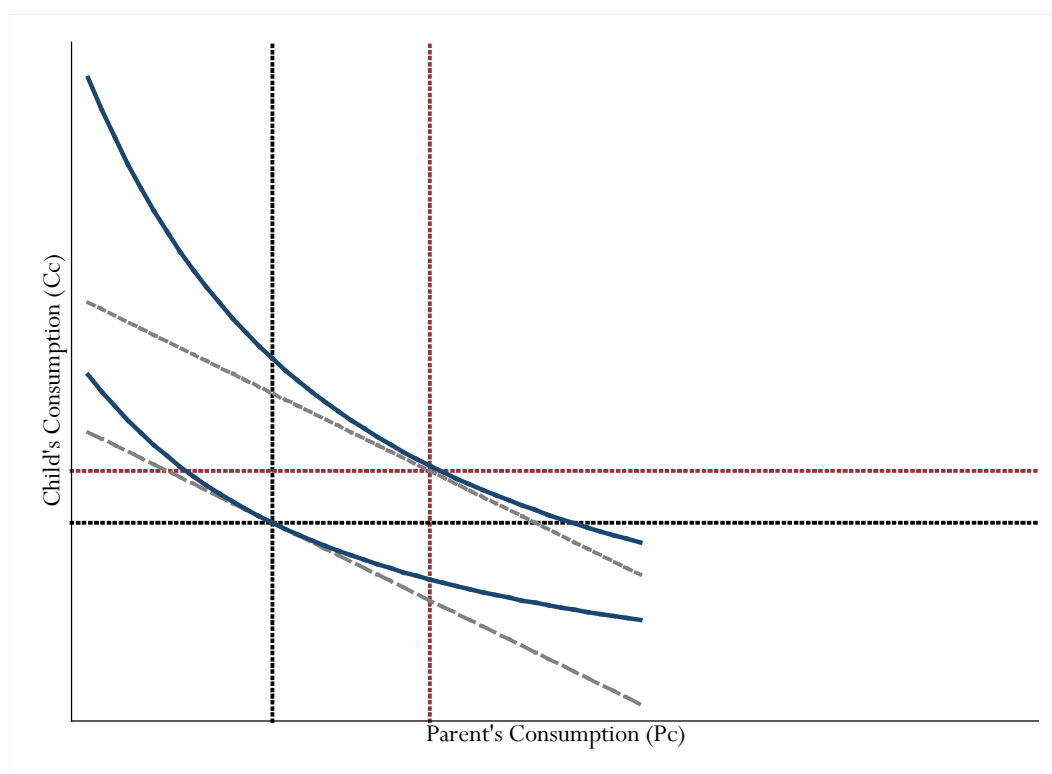


This describes a situation in which the transfer is determined by the relationship between the Child's and the Parent's Utility ( $\frac{\partial U_p}{\partial C_k}$ ) and it is assumed that the parent takes satisfaction in their child's happiness rather than revelling in their downfall and therefore  $\frac{\partial U_p}{\partial C_k} > 0$ . In other words, if you increase the child's consumption whilst keeping everything else the same, the parent will be happier. The curve shape represents a set level of the parent's utility and is a combination of positions at which the parent is equally happy. If we look at the middle of the curve in 3.1 we can see that the Parent consumes  $C_{p1}$  and the child consumes  $C_{k1}$ . This scenario makes the parent have  $U_1$  level of utility.

If the level of the child's consumption increases the parent gets happier (because we move to the right of the curve). If it decreases then they become unhappier (because we move to the left of the curve). If the child's consumption increases by  $X$  and the parent's consumption decreases by  $X * (\frac{\partial U_p}{\partial C_k})$ , then the parent's utility will stay on  $U_1$  (Browning, Ciappori, & Weiss, 2010). When  $C_k$  and  $C_p$  are utility maximising, equations 2 and 3 can be solved in order to establish  $T$ .

This model then allows us to consider the effect of social policies on transfer behaviour. In order to ease interpretation and understanding of this we can consider  $I_j$  to be net-income, allowing us to consider the effect of public transfers. For the sake of clarity, a '*pro-older person*' policy can be taken to be public financial transfers made to parents and a '*pro-younger person*' policy to be public financial transfers made to the child. Here we use these terms in the broadest possible sense to reflect what would be a public transfer to the child or parent. Whilst the terms younger person and older person may invoke education spending and pensions or social care, in reality this could reflect any form of social policy that directly or indirectly affects individuals of one generation more acutely than another.

For example, property taxes are applicable to the whole population but can be generationally regressive or progressive (Saraceno & Keck, 2010). An increase in '*pro-older person*' or '*pro-younger person*' policies shifts the constraint line up or to the right respectively and therefore the Parent is able to raise both their consumption and the child's with the distribution determined by  $\frac{\partial U_p}{\partial U_k}$ . The question then become whether there is a distinct effect of 'younger person policies' compared to 'older person policies'.



**Figure 3.2 - Parents Utility Curve after a Rise in Income**

The effect of a €1 increase in the income of the parent would be projected into a €  $(\frac{\partial U_p}{\partial C_k})$  increase in transfers to the child. That is to say that with every Euro spent on the parent, the parent will decide to transfer an amount to the child that reflects the extent to which that child's consumption affects the parent's utility (Browning, Ciappori, & Weiss, 2010). This is in contrast to an increase of €1 in public transfers to the child. Given such an increase the parent would see fit to decrease the amount transferred to the child. This is because the parent will be able to reach a higher level of utility by decreasing the size of the transfer. The size of the decrease would be equivalent to €  $(\frac{\partial U_p}{\partial C_k})^{-1}$ . This suggests that policy has different effects depending on the recipient. For parents, it crowds in transfers. This means that an increase in public transfers leads to an increase in private transfers. For children it crowds out private transfers. This suggests that an increase in public transfers to the young leads to fewer private transfers.

Furthermore, the increase in the amount transferred brought about by a €1 increase in public transfers to the parent should be larger than the decrease brought about by a €1 increase in public transfers to the child. This assertion can be supported through the model. Firstly, altruistic theory asserts that the amount transferred between parent and child is determined by the relationship between the income of the parent and the income of the child ( $I_p/I_k$ ). If the ratio is high then the transfers will also be high, as the parent tries to redistribute income to their child. If the ratio is low then transfers will be low given

that the child's income will be closer to the parents and the motivation for making a transfer would be low. In terms of the effect of policy, the different effects of a €1 increase in spending can then be put as  $((I_p - 1)/I_k) > (I_p/(I_k + 1))$ . This merely says that a €1 benefit reduction on the parent or a €1 tax rebate for the child will decrease transfers more and it holds as long as  $I_p > I_k$ . This leads to three primary hypotheses of altruistic theory which will be considered in this thesis:

*H<sub>1</sub>: Public Transfers to Parents will increase Transfers*

*H<sub>2</sub>: Public Transfers to Children will decrease Transfers*

*H<sub>3</sub>: The crowding in effect of public transfers to parents will be stronger than the crowding out effect of public transfers to children*

### *Potential problems and limitations of this model*

Before the altruistic model is placed in an intergenerational context it is worth first considering the limitations of modelling transfers in the way just described. There are a number of criticisms that exist within the literature both from scholars of transfer behaviour and those active within other research areas.

A limitation of this model is its rigidity over time and the restrictions it places on modelling dynamics. For example, applying this model to a parent child relationship in which the child gets married and has a child is not easy because this event might change optimal consumption levels for the child in the eyes of the parent. A further example would be the shift from young adulthood to full adulthood which is often marked by the entry to the labour market from education. The material circumstances of the individual may not change but the parents understanding of how the child's material circumstances affect their own utility might.

These fluctuations are not reflected because the effect of the child's consumption on the parent's utility is not thought to vary overtime. This assumption runs counter to the findings of the literature, especially the most recent findings (Berry, 2008; Zissimopoulos & Smith, 2010; Albertini & Radl, 2012; Lennartson, 2010). This model can therefore be said to put far greater emphasis on the role of income rather than the characteristics of the relationship between the child and the parent. This rigidity buys parsimony but the empirical models within this analysis persistently consider event based theories such as a child birth or house purchase as potential alternative explanations for the empirical findings, even whilst at the theoretical level they are notable for their absence and subsumed by the emphasis on material circumstances.

The second criticism that is often levelled at this modelling of transfer behaviour is that it doesn't distinguish between transfers and potential substitutes (Kohli, 1999; Zissimopoulos & Smith, 2010;

McGarry, 1997). This refers to the role of transfers as a source of cheap capital. This suggests that the child could smooth their own consumption and make investments in a home or child by simply going to the market and accepting prevailing credit prices. Transfers offer an alternative to this and therefore one would expect that transfer behaviour will react to credit markets.

There is little evidence of this taking place except in references to individual instances such as Belgium in 2006 which has high levels of capital requirements for first time homeowner purchase which has been suggested as the cause of high levels of transfers there (Zissimopoulos & Smith, 2010). Despite this limited evidence, it is a compelling criticism. It highlights the possibility that the child can finance needs elsewhere thus raising the question of whether the child's income is measured before or after they have been to credit markets. This raises questions about the transaction dynamic and whether it is based around demand or supply agreements.

The final criticism that should be discussed in relation to this model is that it vastly oversimplifies a complex parent child relationship, and it does (Luescher & Pilleme, 1998). Parent child relationships are immensely complex and shift over time in response not only to external events but as part of an endogenous evolution as highlighted in Chapter 2. Psychological approaches have explored this complexity in detail and it is common for economic models to be too rigid and unable to reflect any change in such a relationship (Luescher & Pilleme, 1998; Attias-Donfut & Arber, 2000; Bengtson, Giarrusso, Mabry, & Silverstein, 2002; Daatland & Lowenstein, 2005). Yet in this analysis the relationship is constant over time and furthermore the assumptions of any empirical model will assume that  $V$  is uncorrelated with the independent variables. This assumption cannot be tested within this theoretical framework and it is merely assumed that there is a set relationship dynamic within which the effects of changes in income and circumstances are played out. The accuracy of this assumption is hard to test, especially within the framework of this model given that neither  $U_p$  nor  $V$  are measured. It should therefore be noted that if findings do not support the parental altruism model, this maybe a reason why. To test this, a number of alternative measures such as indicators of care giving are included within the analyses to assess their robustness.

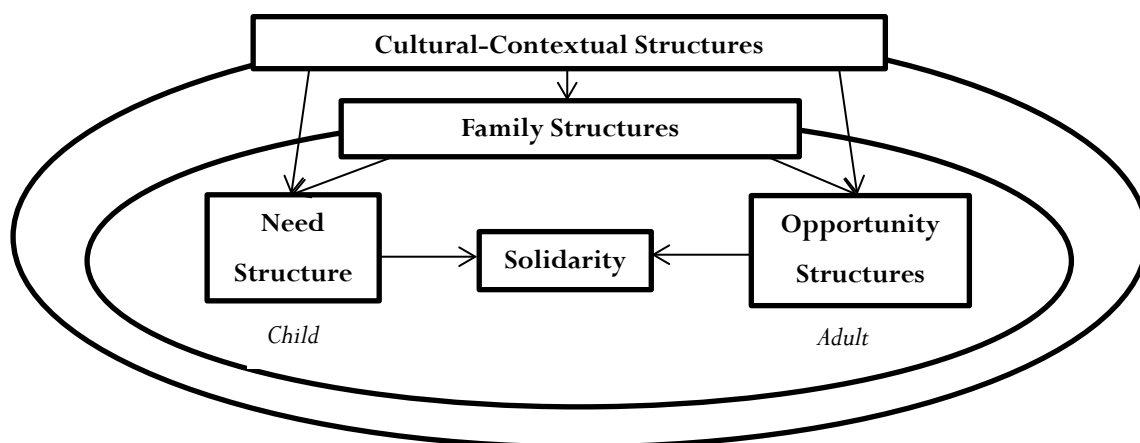
### 3.2.2. Altruism in an Intergenerational context

The parsimony of the altruistic model is one of its main advantages. This is derived from the assumed rationality of all individuals and the closed system through which all exogenous factors must affect transfer behaviour (Browning, Ciappori, & Weiss, 2010). This is a common feature of rational choice models and a primary benefit of their use. Yet the altruistic model is not explicitly referenced within contemporary theories of transfer behaviour. This is partly due to the ability to which it is able to explain and incorporate empirical observations and substantive dynamics as discussed in the previous

chapter. There are two such areas which the theory does not confront which are related to the intergenerational nature of the topic.

Intergenerational research has developed considerably in the past 20 years and offers a number of conceptual frameworks through which to analyse intergenerational behaviour (Bengston, Giarrusso, Mabry, & Silverstein, 2002; Szydlik, 2008; Attias-Donfut, Ogg, & Wolff, 2005). The need for specific conceptual approaches arises from the complex nature of the dynamics under study. For example, altruistic theory has not been the focus of empirical testing relative to the comparative assessments of transfer behaviour. Much of the research over the previous two decades has determined that there are large differences in transfer behaviour across countries as outlined in chapter 2 (Villanueva, 2005; Schenk, Dykstra, & Maas, 2010; Albertini & Kohli, 2012; Brandt & Deindl, 2013). The amount of evidence in this regard has led to the field primarily focusing on their explanation and altruistic theory being largely forgotten.

In addition, the altruistic model is parsimonious given that it only has a single decision making actor (the parent) yet individuals live within a large network even if only the family is considered. This complicates the modelling in section 3.2. Consider a family with more than one child; does an increase in the oldest child's income affect the transfer receipts of their siblings? Does the parent still transfer money if their own parents may be a better source of financial support to their child? The theory presented above does not answer this, yet there are very few empirical explorations of these aspects. To address these concerns, altruistic theory itself can be placed in a broader intergenerational context. To do this, Marc Szydlik's (2008) conceptual framework of intergenerational research which was discussed in chapter 2 is used:



**Figure 3.3 - A Theoretical Model of Intergenerational Solidarity**

Source: (Szydlik, 2008)

Altruistic theory incorporates the need structure of the child and the opportunity structure of the adult which encompass the personal circumstances of these two individuals. But the theory fails to consider the role of the cultural-contextual structure and family structures around them which include the aforementioned complications. These are not necessarily incompatible with altruistic theory but are often neglected given the tendency to focus on the point closest to the variable of interest (solidarity/transfers). Altruistic theories scientific value should therefore depend upon the extent to which it is able to incorporate family and cultural contextual structures. This thesis aims attempts to incorporate these factors into the altruistic model and the extent to which the model accurately predicts the role of these factors.

The framework is valid to the extent to which family and cultural-contextual structures can be subsumed to the material circumstances of individuals. Figure 3.3 illustrates this in that there are no direct effects of cultural-contextual factors or family structures on solidarity within the model. In existing analysis, authors have identified family and cultural-contextual effects using fixed effect models which were mentioned in 2.3.1 and will be discussed in chapter 4. From a theoretical perspective, these analyses imply that family and cultural-contextual issues have a direct effect on solidarity. The argument is generally grounded in a regime or typological approach which intimates that processes differ across countries. This contradicts rational choice's universality principle and the basic conceptual framework of altruistic theory which places an individualist narrative at the centre of intergenerational dynamics.

### *Country Differences*

The conceptual framework in figure 3.3 refers to 'cultural-contextual' factors which are often collapsed into a comparative, cross national narratives. These were discussed in 2.3.1. Whilst such factors do vary meaningfully between countries, it is somewhat crude to simply reduce all such factors to a between country comparison (for an exception see: Jappens & Van Bavel, 2012). Nevertheless, the primary strategy within the analysis of such effects has been noting differences in transfer behaviour between geographical regions or countries.

Some elements of cultural-contextual effects can be incorporated within an altruistic model such as policy effects which are explored within the thesis. Nevertheless there is a growing theoretical movement toward cultural or value based narratives of the decision to transfer (Jappens & Van Bavel, 2012; Albertini & Radl, 2012; Attias-Donfut, Ogg, & Wolff, 2005; Chen, 2012). Such theories were discussed in Chapter 2 and cover themes such as cultural, religious, linguistic or class based approaches to transfer behaviour. They are the antithesis of altruistic theory in that they do not assume a latent

universal rationality in the decision process. Instead, observed cross-national differences are attributed to differences that are linked to the material circumstances of the parent or child.

As the literature in Chapter 2 has asserted, altruistic theory is undermined by variations in transfer behaviour across countries. The empirical observation of such differentials undermines altruistic narratives given that they dilute or outright contradict the theory laid out in section 3.2.1. Altruistic theory suggests that the individual's decision is driven by the particular circumstances and is a process by which the parent redistributes financial means to their children. Value or culture based explanations for this undermine it. If the cultural-contextual effect which circumvents the parent and child's circumstances is large, altruism is inflexible to its incorporation.

Within the intergenerational literature there is an on-going debate regarding cross national narratives. Several studies have asserted cross national differences that undermine purely individualistic interpretations (Brandt & Deindl, 2013; Albertini & Kohli, 2012). These studies also tend to attribute these differences more specifically to social policy differences based on the observation of differences in aggregated transfer behaviour. This neglects the possibility that cultural, demographic or social variation may also be driving the differences or the extent to which the policy is consistently applied throughout the population. Nevertheless, counterpoints to these arguments have been raised but a clear and distinctive order to the debate has yet to emerge (Schenk, Dykstra, & Maas, 2010). This thesis will contribute to this by examining the extent to which cross-national differences are pervasive after individual level narratives have been considered.

### *Complex Family forms*

As figure 3.3 suggests and Chapter 2 detailed, family structures vary considerably across Europe and are in part determined by cultural-contextual factors. Furthermore, these family structures are thought to affect the context of the individual dynamics implicit in the altruistic model. By family structures, the conceptual framework is referring to a broad number of dimensions including the number of children, the extent of an extended family network, cohabitation arrangements and the balance of generations (Szydlik, 2008). The validity of altruistic theory is therefore dependent on the extent to which it can incorporate these issues which are not necessarily contrary to altruism but do complicate the model outlined in 3.2.2.

The basic principle here is that altruistic theory views the decision to transfer within a dyadic relationship rather than a network. Models of family financial networks are more complicated in reality and exceptionally difficult to survey. Therefore, as of yet, no suitable replacements for an altruistic model exist (Szydlik, 2008). Regardless, there is nothing contradictory between the understanding of a family as a network and the altruistic perception of the relationship as purely dyadic given that altruistic

theory and the conceptual framework above suggest that all factors can be reduced down to effects via the need and opportunity structures of the parent and child respectively.

This is to say that the circumstances regarding family structure can be incorporated within a model of transfer behaviour via their effect on the circumstances of the parent and child. For example, it may be that the parent will not make a transfer to their child given that there is a more prosperous third party, such as a grandparent or the child's spouse's parents. This complicates altruistic theory given that the parent's decision is now dependent on a third party. Altruistic theory is therefore required to incorporate such complexities or show that they are of little importance.

Such exogenous factors can be captured by longitudinal methods which will be explored in Chapter 4. From a theoretical perspective, a far more troublesome aspect of family structures is the number of children and whether parents give money to Child A depends on whether they give money to Child B and vice versa. Again this is not contradictory to the altruistic model but does necessitate a theoretical extension.

In order to adjust the altruistic model to include more than one child it is possible to simply include a further child within the utility function previously described:

$$4) \quad U_p = u \left( C_p, (V_1(C_{k2}), V_2(C_{k2})) \right)$$

Where the function is constrained by:

$$5) \quad C_p = I_p - T_1 + T_2$$

$$6) \quad C_{k1} = I_{k1} + T_{k1}$$

$$7) \quad C_{k2} = I_{k2} + T_{k2}$$

Here the suffixes k1 and k2 represents the first and second child respectively. V represents the utility function in relation to each individual child from the perspective of the parent but is assumed to be the same for all children.

The main drawback here is that the introduction of additional children erodes the parsimony for which the altruistic model is valued and this is worsened further if we relax the assumption that all children are the same (Becker G. , 1991). This messiness may explain the absence of family size in the majority of the existing literature. One aim of this thesis will be to establish whether such additional complexity is necessary to explain empirical findings. Such complexity will only be considered necessary if the consideration of family structure can be seen to affect transfer behaviour. If it is a key determinant of transfer behaviour, it suggests that the existing theoretical framework has obstructed a view of a key



determinant of transfer behaviour. This can be determined by comparing the effect size with other variables and the extent to which it improves predictions of transfer behaviour.

The main problem with making theoretical comparisons across different sized families without aggregation is that the effect of an additional child is dependent upon what characteristics that child has. It is difficult to say that a family with one child will transfer more than if they had two children because it is dependent on the characteristics of that additional child. One way to circumvent these issues is to assume that the additional child has the same consumption and utility curve as the existing child. If this is assumed, then it is clear that transfers should increase and that the total amount transferred by the family is more with each additional child given that parent carries inherent altruistic feelings for each child and a subsequent desire to give.

Despite this, it should not be expected that transfer behaviour will double when an only child is joined by a sibling as though there were a fixed sized payment made to children. Instead the rate of increase is inversely proportional to the marginal returns to additional consumption for the utility of the parent. As the total needs of their children increase with each new child, a parent is increasingly impinged upon and they are increasingly resistant to increasing funds proportionately to their children. Therefore the total amount transferred will increase at a decreasing rate with each additional child. The extent to which it does this will reflect the elasticity of the parents own utility curve. This does not imply that a parent's affection for their children is diluted with each additional child but merely that to proportionally increase the total amount transferred would represent an increasingly drastic reduction in their own quality of life. Therefore with each child, *ceteris paribus*, there is a decreasing marginal increase in the family's transfer budget.

For the original child, who now must share transfers with their sibling, their situation will be worse. This can be shown by the fact that the parent's marginal returns on consumption will be positive and the burden of an additional child will not be met with an increase in transfers to the point where each child's utility is the same as it would be if they were an only child. Therefore the altruistic model suggests that if the number of children in a family increases then the amount received by a child will be lower than in a family with fewer children, assuming all children are treated equally.

This theoretical extension demonstrates that the incorporation of family structure within altruistic theory is feasible. The question regarding family structure is therefore whether such an extension detracts from the existing power of altruistic theory. This may occur either by excessively complicating the theoretical model or by failing to improve its descriptive and predictive power. This thesis seeks to explore whether such an extension is effective and the extent to which the answer to this question affects the findings with regards to the three main hypotheses in section 3.2.1.

### 3.2.3. Research questions

The primary research question of this thesis is:

*To what extent is policy associated with intergenerational transfer behaviour in families across Europe?*

Using the theoretical distinction between the impact of public transfers to younger and older persons which is supported by the conceptual framework presented, this question can be broken into two parts?

1. *To what extent is policy directed at parents associated with transfer behaviour in European families?*
2. *To what extent is policy directed at children associated with transfer behaviour in European families?*

Section 3.2.2 introduced a broader conceptual framework which aims to incorporate additional aspects that are often neglected by altruistic understandings. This leads to two secondary questions which are evident within this thesis:

3. *To what extent does the altruistic model explain differences in transfer behaviour across Europe?*
4. *To what extent does the presence of siblings affect transfer behaviour in European families?*

In addressing this question this thesis aims to demonstrate the merits of altruistic theory and its validity as a model for understanding policy effects on intergenerational behaviour. It is important to stress the hierarchical nature of the questions. Altruistic theory is used within this thesis to understand the effect of policy on intergenerational transfer behaviour. Questions three and four are secondary in that they do not directly address the primary topic of this thesis. They are necessary however in that they are fundamental to understanding the broader validity of the theory that is applied here and therefore the inferences made from the analysis presented here. They provide contextualisation which is lacking in existing research.

In answering these four questions, the analysis contributes to the existing literature. In exploring all four questions in one thesis, the effects of policy can be held within the context of alternative explanations such as the individual circumstances of the parent or child or the size of the family itself. The analysis enables a judgement to be made as to whether the size of the family matters more than the parent's income or wealth. The analysis reveals whether, when estimating if an individual receives a transfer, is it of more use to know which country they are from or how many siblings they have? The analysis presented here therefore not only answers the prominent questions within the literature but also places them in their relative context and subsequently offers a clear direction for future research.

### 3.3. Research Strategy

The questions in 3.2.3 represent the primary research questions of this thesis and look to answer the more general question of how policy affects transfer behaviour as well as the extent to which we can incorporate cross national considerations and varying family forms. Here the questions that are to be the subject of the chapters are presented and a brief insight into how they are to be answered will be given:

#### 3.3.1. Transfers from the Parental Perspective

Altruistic theory argues that policy differences will be reflected in transfer behaviour. According to this theory, policies that improve the well-being of the parent will increase their propensity to provide financial assistance (Cox, 1987). In instances where pensions and other social payments are made to older individuals, they give some of this on to family members with greater needs. Künemund and Rein (1999) labelled this process '*pension overshooting*'. Older Persons receive pensions that are in excess of their material needs or even desires and so they redistribute the income within their extended family. In this scenario, the financial well-being afforded to older generations induces downward financial transfers to generations with less access to finance.

Social provisions for older persons vary considerably within and between countries in Europe (Ebbinghaus, 2012). In Chapter 5 this variation will be exploited in order to establish whether those who get more, give more. Do those who receive generous social benefits transfer more than those who do not? The implications of this are that those seen as in need of financial assistance differ between familial and public forms of welfare. The state provides pensions in order to ensure the welfare of older citizens, yet the family identifies younger family members as those in need of assistance (Kohli, 1999).

Altruistic theory is only an adequate framework for understanding transfers if it can explain cross country differences in behaviour. The power of altruistic theory in explaining transfer behaviour is in part determined by the extent to which country level variance dissipates. That is to say, once individual circumstances have been considered, do differences in transfer behaviour across countries remain? If they are still evident then this suggests that transfer behaviour is only partially explained by altruistic theories. In chapter 5, differences in parental circumstances are considered. As noted above, these vary widely across Europe. This could mean that observed differences in transfer behaviour are due to compositional effects (Hox, 2010). An example of this would be the anticipation that a richer population would transfer more than a poor one.

Chapter 5 addresses 1 & 3 of the research questions posed. Firstly, it aims to assess the extent to which policy affects transfer behaviour via the parent's individual circumstances. That is to say the extent to

which policy changes a parent's circumstances and thus their propensity to provide financial assistance to their adult children. It has been established that households with higher levels of income are more likely to give financial assistance to others (Zissimopoulos & Smith, 2009; Kohli, 1999; Kohli & Kunemund, 2003; McGarry & Schoeni, 1995). It has also been established that higher social benefit receipts induce transfers in a process labelled '*crowding in*' (Künemund & Rein, 1999; Daatland & Lowenstein, 2005). Chapter 5 examines whether these findings can be supported.

Secondly, it explores the extent to which such differences in parental circumstances are accountable for observed differences in countries' aggregated transfer behaviours and thus addresses question 3 of this thesis. Chapter 5 therefore considers whether policy affects transfer behaviour via the parent and whether this explains such variation across countries. This analysis will then provide the basis for similar analysis in chapters 6 & 8 which will consider the same questions in relation to family structure and the transfer recipient's needs.

### 3.3.2. How do changes in a child's income affect transfer behaviour?

Whilst chapter 5 is concerned with who makes transfers, chapter 6 asks who receives them. It considers if the poorest households are more likely to *receive* financial transfers than richer households. If poor households are more likely to receive transfers it could demonstrate that financial transfers are used to meet a basic minimum standard of living rather than as a way to invest in a household or as an alternative source of finance. This recipient's perspective of financial transfers therefore tests if investment, enablement and social advancement narratives are supported by empirical evidence. Or alternatively, are households with severe financial constraints the primary recipients of financial assistance?

In order for this thesis to address question 2, it is necessary to understand this child's eye view. This question asks; to what extent does policy directed at adult children affect transfer behaviour in European families? This is a formidable challenge as almost all studies of Intergenerational Transfers have been from a parent's perspective in terms of sampling and data collection (Bianchi, Evans, Hotz, Seltzer, & McGarry, 2007). This limitation is addressed in chapter 6 by using a broader definition of financial transfers. Altruistic theory suggests that the child's circumstances are important but empirical evidence has been exceptionally thin (Cox, 1987; Browning, Ciappori, & Weiss, 2010). By using a household survey which is representative of the entire population, the analysis in chapter 6 identifies who receives financial transfers and when.

Research suggests that richer parents are more likely to transfer money to their children than poorer parents. This was the conclusion of all of the existing literature on this issue (Cox, 1987; Kohli, 1999; Schenk, Dykstra, & Maas, 2010). But if rich parents make the transfers, are rich children receiving

them? It is well established that rich parents are more likely to have rich children, but to what extent does this alter the profiles of recipients of financial assistance (Van Bavel, 2005). This chapter asks who is receiving these financial transfers and whether financial assistance is in fact received by richer or poorer households.

Chapter 6 also allows for more detailed analysis in Chapter 7. There, the effect of public financial transfer receipts on private financial transfer receipts is explored and the crowding out argument is addressed. Whilst this is the primary aim of this thesis, it is necessary to first understand financial transfers from a child's perspective given that this is an understudied area in the transfer literature. For example, altruistic theory discusses the circumstances of the child as a primary driver of financial transfer behaviour but does not elaborate on how this works in practice. Therefore to test the validity of this theory, it is necessary to understand financial transfers from a recipient perspective and test potential extensions to the theoretical model.

### 3.3.3. Do Public Transfers Crowd Out Private Transfers?

Chapter 7 asks if public financial transfer receipts encourage private financial transfer receipts. Whilst Chapter 5 examines whether financial transfers to the parents increase the likelihood that they would make private financial transfers to their children, a process labelled '*crowding in*', Chapter 7 examines whether receiving public financial transfers decreased the likelihood of receiving a private financial transfer, a process known as '*crowding out*' by building on the analysis of chapter 6. The looks for evidence of '*crowding out*' or whether public transfers encourage parents to supplement public financial assistance. This will then provide an answer to the second question posed in this thesis. The analysis is embedded in a contemporary debate about the way in which the family and state interact.

The current economic crisis has led to reductions in public transfers in a number of countries in Europe (Avram, et al., 2013). This process links with an established debate that asks whether the expansion of the state means a reduction of family and social ties (Van Oorschot & Arts, 2005). Given this debate, to what extent can we expect family networks to be re-established and increase welfare provision when public transfers are reduced? This chapter examines whether there is an identifiable relationship between public and private provision of financial support and therefore whether such a crowding out effect can be identified in contemporary Europe.

There has been considerable research investigating the '*crowding out*' principle with mixed evidence suggesting that it is highly context dependent (Argimon, Gonzalez-Paramo, & Roldan, 1997; Andreoni & Payne, 2011; Reil-Held, 2006). It is also evident that due to a number of factors, the effect is particularly hard to isolate and identify from an empirical perspective. Using comparative and

longitudinal methods in a multilevel design, this chapter looks at the relationship between receipts from public and private transfers across 24 European countries between 2005 & 2010.

Given the significant retrenchment in many welfare states following the financial crisis, understanding the capacity and willingness of the state to respond is a pertinent and substantively interesting question. In addition to this, chapter 7 considers the extent to which public financial assistance is a confounding factor in the effects observed in chapter 6. For example, there appears to be a large difference between social classes in their private transfer behaviour (Albertini & Radl, 2012). This observed effect could be spurious if public transfer receipts are higher amongst some social classes and are also 'crowding out' private transfers.

### 3.3.4. Do Birth Order and Family Size affect Transfers?

Chapter 8 asks if the size of someone's family and their position within it is a key determinant of intergenerational transfer behaviour. The intergenerational transfer literature is well developed and sits at an important junction between family studies, economics and demographics. Existing research is rich, fruitful and proved insightful over the past 20 years to the extent that we now know a great deal about the support role played by the extended family throughout the life course (Berry, 2008; Cox, 1987; Hurd, Smith, & Zissimopoulos, 2007; Attias-Donfut, Ogg, & Wolff, 2005; Altonji, Hayashi, & Kotlikoff, 1997; Albertini, Kohli, & Vogel, 2006; Hurd, Smith, & Zissimopoulos, 2007; Albertini & Radl, 2012)

Yet intergenerational transfers are about families and in existing analysis the family size, birth order and variance clustering are largely absent from the empirical and theoretical framework. As noted by Szydlak (2008), it is highly likely that such 'family structures' determine many of the parameters identified as directly affecting transfer behaviour. The aim of chapter 8 is to explore the validity of this assertion and it concludes by suggesting that such issues are of equal if not greater importance than the parental resource variables that have thus far garnered the majority of the attention. In doing so it answers question 4 and places the analysis of parental and child circumstances in a wider context.

Chapter 8 begins by exploring the routes of this neglect and argues that it is to be found in the econometric routes of the analysis. It goes on to argue that this has led to biased estimates and an incomplete theoretical comprehension of transfer behaviour. Furthermore, using multilevel techniques to analyse data from the Survey for Health, Ageing and Retirement in Europe (SHARE), the chapter considers whether more accurately specified modelling reveals family size and birth order to be key determinants of intergenerational transfers and subsequent welfare outcomes.

Family size and birth order have played a crucial role in other areas of family studies such as investment in children and the provision of care for the elderly (Black, Devereux, & Salvanes, 2005; Voorpostel & Blieszner, 2008). Research on intergenerational transfers has however tended to ignore family size and birth order due to a lack of multilevel methods and a focus on economic variables such as parental income such as is the case in chapter 5 (Cox, 1987; Altonji, Hayashi, & Kotlikoff, 1997; McGarry, 1997; Zissimopoulos & Smith, 2009). Chapter 8 asks whether this tendency is distorting inferences regarding social mobility and the interaction between the family and the welfare state which underpin intergenerational transfers' substantive contributions and the primary questions underlying this thesis.

In order for this thesis to understand the relationship between social policy and intergenerational transfer behaviour it is therefore necessary to consider the mediating effect of family size and structure. The evidence presented here offers greater context. Chapter 8 therefore asks whether the number of siblings and an individual's birth order are more powerful predictors of transfer receipt than the material circumstance of the parent or the child.

### **3.4. Summary**

#### **3.4.1. Limitations of the Research Project**

The model outlined attempts to offer a comprehensive understanding of intergenerational transfers and behaviour in Europe. The elements of the research project are designed to assess to what extent a theory of parental altruism can describe transfer behaviour and, where possible, describe the parameters of such a theory. It also examines the extent to which altruistic theory can address the structural issues identified by the conceptual framework in section 3.2.1 of this chapter. In doing this there are a number of limitations based on practical considerations.

The main limitation is the inability to monitor both parent and child income simultaneously. This is due to limits with regards to data as no cross national survey carries such simultaneous measurement (Bianchi, Evans, Hotz, Seltzer, & McGarry, 2007). One potential alternative data source that could have been used is the Generations and Gender Survey, established by the United Nations in Europe (Vikat, et al., 2007). This survey was not used because the data does not provide child specific links with regards to financial transfers and therefore limits the analytical power regarding this research question. This is also true of more recent waves of SHARE and prohibited a longitudinal analysis of the parental perspective in chapters 5 & 8.

The inability to simultaneously measure both parent and child income means that the theory of parental altruism cannot be fully elaborated upon as we cannot be sure whether rises are due to an increase in parental or child income. This is a serious issue with the research design and a limitation to the testing

of the theory. The use of longitudinal and family clustering analysis do control for fixed effects within families, however caution still needs to be maintained given that increases in child income maybe related to increases in the income of the parent. Therefore any findings must be qualified by the acknowledgement of this limitation. Even still, the analysis outlined does contrast the effects of increases in parental income and child income on transfer behaviour and this method represents the best available alternative to a simultaneous analysis of parent and child income.

The second limitation is the narrow understanding of policy. It is the contention of this research that the existing literature on transfers and social policy is poor given that it primarily uses a fixed effects approach to examine potential policy effects (Albertini & Kohli, 2012; Brandt & Deindl, 2013). This logic effectively attributes any differences between countries after individual characteristics have been considered as evidence of a policy effect (Schenk, Dykstra, & Maas, 2010). This analysis possibly goes too far in the opposite direction by narrowing the operationalisation of policy to an individual's social receipts.

In chapter 5 & 7 policy is measured simply as the amount of money that is received under a specific definition. Yet, existing social policy narratives of transfers tend to focus on in kind policies such as care and rights (Saraceno & Keck, 2010; Lennartson, 2010; Attias-Donfut & Arber, 2000). This limitation is not a practical one either. SHARE measures non-financial indicators of policy such as care and rights within its extensive survey. There are also imputation techniques for identifying policy eligibility within the EU-SILC and other surveys. The limitation is instead one of scope. A narrow understanding of policy was adopted to mirror the financial metric in which transfers operate. To include further measures would have been theoretically tenuous in the context of altruism and it is the author's contention that it would have increased the complexity of the analysis without sufficient theoretical backing. This is most certainly an area in which future research can and should focus however. What must be stressed is that such individualistic measures of policy are superior to clustering and fixed effects approaches to policy analysis. The tradition here is to attribute any cross border differences in behaviour to the cloudy concept of welfare regimes which are inseparable from broader cultural, demographic and economic patterns.

The final limitation that will be discussed here is the very narrow view of intergenerational transfers that is taken. This does not include in kind payments, co-residence or other forms of support and is therefore not indicative of wider intergenerational solidarity and relationship intensity (Bengston, Giarrusso, Mabry, & Silverstein, 2002). This restriction was again made for reasons of parsimony but does allow for several key theoretical hypotheses to be tested, such as testing whether money from Mum & Dad is the same as money from the state. Therefore this research seeks to explore differences



between state and family welfare and the broader meaning behind them rather than undermining it by reducing the relationship to pounds and pence or euros and cents.

Furthermore, the intergenerational transfer debate is a key area of intergenerational relationships more generally given that it mirrors public debates on intergenerational justice (Ter Meulen, Topinkova, & Callahan, 1994; Tepe & Vanhuyse, 2009; Golini, 2005; Street & Cossman, 2006). Whilst the discussions of care giving and receiving are important in an ageing society, the primary concern for most policy makers is the intergenerational contract that underpins social security systems (Magnus, 2008). Social policy researchers became interested in the issue via the work of Kohli (1999) for precisely this reason.

The findings of the research would be severely limited if the research question sought to assess the state of relations between generations within the family. Fortunately, the research question here seeks to establish what this narrow area of intergenerational relationships means to individuals and the broader implications of this for society. Furthermore, whilst unable to conclusively comment on other intergenerational dynamics, the analysis within this thesis does contain methodological and theoretical challenges and solutions that are common in the study of such complex interactions at a time of change. Given this, this does not represent a holistic treatment of intergenerational relations but it is extremely relevant to such discussions nonetheless.

### 3.4.2. Conclusion

This chapter started by presenting a model of transfer behaviour in the context of the literature on transfer behaviour that was presented in Chapter 2. This model was explored and developed so as to provide the key research question that this thesis aims to address, namely what is the effect of public policy on private intergenerational transfer behaviour. The discussion then turned to how we might expect this effect to differ between a donor and recipient perspective. This allowed for the assertion of the core analytic hypotheses of this thesis which suggest that public transfers to parents crowd in downward intergenerational transfers and that public transfers to the child crowd them out.

This model was then assessed and extended to consider the theoretical and empirical challenges that have confronted the model in recent years. This was done through the contextualisation of the altruistic model within the conceptual framework of intergenerational research more broadly. In doing so family and cultural-contextual factors were considered and research questions established through which the altruistic model could be more fully evaluated. The model was extended to incorporate complex family structures such as multiple children and the challenge of comparative assessments of transfer behaviour were considered.

This led to four broad research questions that this thesis will address. Section 3.3 then discussed the analytic strategy adopted in this thesis. The chapter structure was laid out and the specific questions which each chapter addresses were identified. These four pieces of analysis are then drawn together in chapter 8 to offer an assessment of altruistic behaviour and the extent to which it can describe transfer behaviour. This thesis is therefore able to offer a comprehensive assessment of how public transfers affect private transfer behaviour within European Households.

## 4. Data & Methods

This chapter details the data and methods that are used throughout this thesis. Many substantive and theoretical issues are encountered and addressed within this chapter that are not fully developed or considered in previous research. In this sense it is not possible to detach the practical tasks of analysis from theoretical considerations. This chapter therefore outlines the ground work for the largest theoretical contributions of this thesis whilst outlining the practical issues regarding the choice of data and analytical methods.

Whilst section 4.1 outlines the data and details its structure and limitations, sections 4.2, 4.3, 4.4 deal with the complex measurement and operationalization of intergenerational transfers. Section 4.2 examines ways of sampling the dyads which make up intergenerational transfers and the strategy adopted here. Section 4.3 compares intergenerational transfers with a broader definition of inter-household transfers and discusses its implications for an analysis based on multiple surveys. Section 4.4 then details the analytical strategy and methods that are used.

### 4.1. The Data

#### 4.1.1. The Survey of Health, Ageing & Retirement in Europe

The Survey of Health, Ageing & Retirement in Europe (SHARE) is a longitudinal dataset of the over 50's in 19 European Countries<sup>2</sup>. Respondents have been interviewed every two years since 2004 and the interview includes a complex and exhaustive list of question items ranging from the respondent's retirement savings to their grip strength. The dataset is funded by the European Commission having initially been supported by grants from U.S. National Institute of Aging which runs the Health and Retirement Study in the United States. It is also funded by grants from the German Federal Ministry of Education and Research. The study is designed to provide a comprehensive overview of the ageing process from a comparative perspective. As of the time of writing 4 waves of SHARE<sup>3</sup> have been conducted, of which only wave 2 is used here. Initially, multiple waves were to be used and this would have enhanced the analysis by allowing for analysis of specific dyads over time. However due to changes within the dataset this was no longer possible.

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<sup>2</sup> Austria, Belgium, Switzerland, Germany, Denmark, Spain, France, Greece, Italy, Czech Republic, Poland, Slovenia, Portugal, Hungary, Estonia, Ireland, Israel, Sweden, Netherlands

<sup>3</sup> Four waves of SHARE have been completed with a fifth being fielded in 2014

Firstly, wave 3 did not include many of the variables used in this analysis as the wave focused only on life histories in what is called SHARE Life. Wave 4 could not be used in the analysis because it does not identify the specific recipient of a financial transfer, merely indicating whether it is a child of the respondent. This was a decision made by SHARE so as to provide greater detail as to the support networks used by older people in their everyday lives. This prevented longitudinal techniques from being used and therefore wave 4 was not considered for analysis. This limited the analysis to wave 1 and 2. Wave 1 is not used here because without a third wave there is little gain from having multiple waves within the analysis. Wave 2 is used as it is the most recent wave for which analysis is possible and is representative of the population over 50 at the time of the sample.

SHARE Wave 2

### *Data Structure*

SHARE Wave 2 (Release 2.5.0, 2011) consists of 34,415 respondents from 23,561 households across 14 countries<sup>4</sup>. The dataset was then collapsed down into a household dataset and 20,055 households were selected where respondents indicated that they had living children.



**Figure 4.1 – Participant Countries in Wave 2 of the Survey of Health, Ageing and Retirement in Europe**

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<sup>4</sup> Austria, Belgium, Switzerland, Germany, Denmark, Spain, France, Greece, Italy, Czech Republic, Poland, Ireland, Sweden, Netherlands

This produced a representative sample of households with household members over 50 within the sampled countries. However in intergenerational research the interest is on the dyad and not the donor or recipient households. In order to do this it is necessary to re-orientate the dataset into dyads rather than households. In each household there exist a number of variables regarding specific children and these allowed for the reorientation of the dataset from wide to long. To reflect this Table 4.1 & Table 4.2 demonstrate the physical change observed in the dataset.

This process produces a dataset of 50,403 adult children. The sampling frame for this dataset is however slightly contrived given that it represents the children of households with an individual over 50. The substantive use of such a sample is therefore questionable and the extent to which it reflects the population more generally is explored in section 4.2. Nevertheless, this process re-orientates the dataset to one where individuals are now clustered within extended families and shifts the unit of analysis from the parental household to the intergenerational dyad. In terms of these dyads, this does not reflect a representative sample of parent child dyads where the parent is over 50. This is because children with parents who are not cohabiting are over sampled compared to the population of dyads where the parents remain living together.

**Table 4.1 – Example of original Household Dataset and Child Variables**

Household	Household Income	Num of Children	Child 1 Age	Child 2 Age	Child 3 Age	Child 4 Age
1	10,000	2	22	19	.	.
2	25,000	3	33	33	30	.
3	15,000	2	40	31	.	.
4	35,000	4	19	16	13	11
5	10,000	1	27	.	.	.
6	25,000	1	36	.	.	.
7	45,000	2	45	40	.	.
8	9,000	0	.	.	.	.
9	25,000	2	50	48	.	.
10	22,000	1	60	.	.	.

**Table 4.2 – Example of Dyadic Dataset after Wide to Long transformation**

<b>Household</b>	<b>Household Income</b>	<b>Num. of Children</b>	<b>Child age</b>
1	10,000	2	22
1	10,000	2	19
2	25,000	3	33
2	25,000	3	33
2	25,000	3	30
3	15,000	2	40
3	15,000	2	31
4	35,000	4	19
4	35,000	4	16
4	35,000	4	13
4	35,000	4	11

### *Weighting and Multiple Imputation*

Within any dataset there are issues relating to the representativeness of the sample and missing data. To address issues of representativeness in this instance, weights were used to ensure that the sample of households accurately reflected the sampled population. Within SHARE wave 2 this variable is w2mdh (Survey of Health, Ageing & Retirement in Europe, 2011). This weight is calibrated to match the size of the population of each participant country for individuals born in 1956 or earlier. The primary variables across which the population is weighted are gender and sex. That is to say that the weight does not correct for the under or over sampling of other groups that have been identified by existing research on survey methods. These weights are primarily for ensuring that the sample is sound with regards to the parental node on basic demographic grounds. This is in itself a difficult task in the sampling of a population that falls outside of traditional framing methods (i.e. those who are in the later stages of life who often live in institutional settings).

In order to address issues of non-response, the multiple imputation datasets provided by SHARE were used in the analysis. These datasets provide all the original responses and four duplications (Carpenter & Kenward, 2012). For these duplications an estimate of any missing values is made based on all known values across the other variables. This process is then repeated four times so as to reflect a degree of uncertainty in the estimate. The analysis can then be run four separate times and the results aggregated. This process addresses values that are not missing at random within the dataset. If data is missing not at

random then it will affect the results. To check against such effects, the sample is checked against indicators from a number of sources in section 4.2.

Within each of the analyses using SHARE wave 2, multiple imputation was used but only as a validation technique to ensure that the estimates did not change significantly. In all instances the original dataset performed well in comparison to the analysis provided by the imputed data. The results from the original dataset are given however because diagnostic tests and summary statistics are more easily represented without the need for complex aggregation processes. In addition, many of the models within the analysis were exceptionally complex and took considerable time to be computed. To conduct such analysis systematically across four datasets would have taken four times as long. For example, to compute the marginal effects for an estimate within the analysis would have taken four times as long as those from the original dataset and given questionable added value. For all the multiple imputation analysis in this thesis, the inbuilt mi commands for STATA 12 were used.

#### **4.1.2. European Union Statistics on Income & Living Conditions**

The second data set used in this thesis is the European Union's Statistics on Income and Living Conditions (EU-SILC). This is a longitudinal, rotational household panel survey which covers 29 European Countries (EU27 + Norway & Iceland). The survey is harmonised, coordinated and collated by the European Statistical Office in Luxembourg (Eurostat) but is constructed from a number of existing longitudinal household surveys throughout European countries. In the majority of these countries the survey is conducted by the government statistical offices and the statistics derived from the dataset are commonly used as the official statistics on issues such as poverty and inequality at a national and supra-national level.

The survey is collected each year, with households retained within the survey for four years (Luxembourg does not operate a rotational panel instead using a traditional panel design). This rotational element allows the survey to ensure that the sample reflects the existing population and reduces bias related to attrition commonly found in other longitudinal surveys. Data collection started in 2003, however the vast majority of countries started collecting data in 2005. In this thesis data is taken for the years 2005 to 2010. Some countries have not provided data in every year however, with Germany in particular only providing data in only two years of the survey and they were therefore not used for the analysis.



**Figure 4.2 – EU-SILC participating countries 2005-10**

The data provided in the EU-SILC focuses on income, work and living conditions. The main aim of the survey has been to assess the material circumstances of households and so no variables are collected regarding some very basic social indicators. For example religion, ethnicity, language, values, opinions and other activities are not included in the survey. This restricts the extent to which analysis can incorporate sociological theories of transfer behaviour put forward within the literature. What are given are detailed work histories for individuals and a comprehensive financial overview of the household.

### *Data Structure*

The pooled dataset for 2005-10 across the 29 countries has 875,702 household observations within it from 430,369 European households. In this analysis the household is the unit of analysis and therefore the data is conducted with datasets H and D within the survey<sup>5</sup>. However where appropriate data is aggregated by household from data in R and P. These datasets contain detailed individual level responses from individuals with the household who are over 16 and partial data on those under 16.

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<sup>5</sup> *Datasets H & D within the EU-SILC contain information about the household such as the overall income of the household or the condition of the residence. The datasets R and P contain individual level information such as whether an individual is employed, how old they are, their education level etc. A variable in datasets R and P allows individuals to be linked to the households within which they live.*



Despite the unit of analysis being noted as the household, the observations within the dataset are household-year observations in that they reflect the responses from a household in a given year. This allows for the longitudinal, multilevel analysis that is conducted within chapter 6 & 7. The sample for the survey is for households generally, unlike SHARE, and so reflects a sample of the all households in the country at the time of the interview. In this survey, no details are given regarding other households and therefore it cannot be said to reflect a dyad in any sense.

The use of the EU-SILC within this project is aimed at contextualising and validating the findings of other analysis and the literature. A considerable amount has been written on the wider impact of intergenerational transfers, yet this can only be gauged by a full and comprehensive survey of the population generally. The EU-SILC provides this. It also provides a large number of countries with a diverse range of policy packages. This increases the variance within the primary variable of interest and enables a more comprehensive overview of social policy diversity within Europe than that offered by SHARE alone.

### *Weighting and Multiple Imputation*

The EU-SILC contains weights that attempt to adjust the sample so as to more accurately reflect the population. In this thesis the EU-SILC is sometimes used in a cross-sectional context for descriptive purposes. Where this is the case DB090 is used to weight results. This weight ensures that the sample matches a given population. In the longitudinal analysis, weights were specified based on the number of years which the household had been in the survey. The weighting for the first year was the same as that for a cross-sectional sample. The weighting in year 2 then corrected for attrition and similar weights were applied to years three and four to do the same there. This is a complex procedure that will not be detailed here, however details are provided in the 'Description of Target Variables Document' for the EU-SILC (Eurostat, 2010, p. 38).

Imputation in the EU-SILC is also more complex than in SHARE, covers various forms of income and expenditures and occurs in three stages: deductive, deterministic and stochastic. Deductive refers to the use of general known principles to infer what a missing value might be. For example, if there is a child in the household but the value for child benefits is missing, the value can be imputed from the households' eligibility. Similarly, if the gross level of income is reported and not the net, the tax liability can be calculated and used to determine the net value. Deterministic approaches calculate values based on known values that logically lead to a given value. For example if all constituent parts of household income are reported but the value itself is missing, it can be imputed simply by adding the values together.

In addition to these, stochastic multiple imputation is used in a similar manner as to that described in SHARE. This is conducted by the author using the procedures outlined in ‘Multilevel Analysis: An Introduction to Basic and Advanced Multilevel Modelling’ (Snijders & Bosker, 2011, p. 130). This was conducted using the `mi impute` command in STATA 12 and produced 10 iterations. As with SHARE this was merely a validation process given the computational issues involved with multilevel analysis. Given the low levels on non-response already existent within the EU-SILC, the estimates did not differ substantively from the results presented here. This low level of non-response is attributable to the two earlier stages in the imputation process and the official nature of the data collection via statistical agencies rather than research institutes.

#### 4.1.3. Alternative Datasets

There were a number of alternative datasets that were considered for the analysis before the EU-SILC and SHARE were chosen. The first consideration was the Generations and Gender Survey (GGS) (Vikat, et al., 2007). Like SHARE, this survey is a longitudinal, cross-national survey aimed at analysing the effects of demographic change. It differs from SHARE in that the whole population is sampled and is an individual not household sample. The GGS is limited in a number of ways for the analysis of intergenerational transfers as specific amounts are not systematically recorded and there is limited data on the other individual. That is to say that if adult children are analysed then there is little information on the parents and if parents are analysed then there is little information on the adult child. Another reason for not using the GGS was initially the longitudinal element of SHARE which would have allowed for a more robust analysis of time variant factors. The limited number of waves of the GGS would have restricted the analysis to a purely cross-sectional perspective. However, once the project was undertaken and further waves of SHARE were published, it became clear that longitudinal analysis was impossible given that SHARE wave 3 included a very limited number of variables that were observed in waves 1 & 2 and that SHARE wave 4 had scrapped the data linking processes that made the identification of individual children possible. In hindsight therefore, the GGS may have provided a more practical dataset for analysis.

An alternative strategy of analysis may have been to conduct the study on a collection of household panels, many of which include variables regarding intergenerational transfers. The British Household Panel and the German Socio-Economic Panel are two such datasets and carry a vast number of waves allowing for extensive longitudinal analysis. These surveys are greatly underutilised in transfer analysis, specifically in the analysis of events and life course approaches to transfers (for an exception see: Leopold & Schneider, 2010). In such panels, it is possible to follow individuals over very long periods of time which allows for the greater isolation of fixed, family level effects. Yet they do not allow for

comparative analysis that is necessary within the context of the research questions and therefore these surveys were not used here because of this.

Altruistic theory focuses primarily on the economic circumstances of a household and less on life course events. The variation is therefore more acute over short periods of time than life stages. The analysis is primarily concerned with policy which varies far more across countries than across time and therefore places a greater stress on comparability rather than the length of study. Furthermore, given the EU-SILC is itself a longitudinal study, the benefits of using such panel studies was limited. No other datasets that measured intergenerational transfers could be identified which covered European Union Member States, the primary area of interest (Bianchi, Evans, Hotz, Seltzer, & McGarry, 2007).

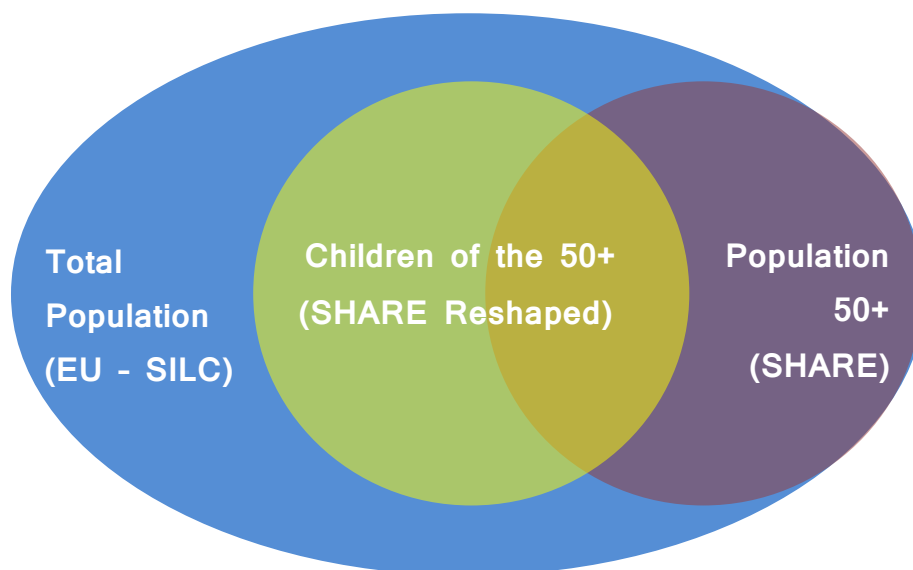
## 4.2. Sampling & the Relationship between Datasets

Given that two surveys are used in these analyses, it is necessary to consider how they relate to each other. The multiple source approach is one of the key contributions of this thesis in that it allows outstanding questions in the research literature to be addressed through two measures of transfers. Given that the understanding of what a transfer is can differ across data sources, analysis using two sources should enable the impact of these differences to be observed. Intergenerational studies such as this require complex data structures, collection procedures and statistical methods given that they do not operate in the single unit perspective of traditional economic or sociological theory. One of the challenges of intergenerational studies in an ageing society is the need to answer questions that look beyond the nuclear family or the household as an economic unit to explore interdependency between generations. Analytical techniques need to be adapted to this new understanding of the social world (McDaniel, 1997). This section explores how the EU-SILC sample is related to the SHARE sample in countries where both surveys operate<sup>6</sup>. This is done through a comparison of the surveys sampling procedures and the relationship between the two is described.

The key difference between the two datasets within this analysis is their sampling frame. Figure 4.3 illustrates this. The EU-SILC is a sample of the entire population and is weighted to reflect this. SHARE only samples those over 50 years of age. This distinction is relatively clear in that the population that is eligible for SHARE is also eligible for the EU-SILC but those in the EU-SILC are not necessarily eligible for SHARE. The challenge within this analysis stems from the fact that the unit of analysis is not the respondent within SHARE but the recipient of the intergenerational transfer or what is sometimes referred to as the parent child dyad. This involves the transformation detailed in section 4.1 of this chapter.

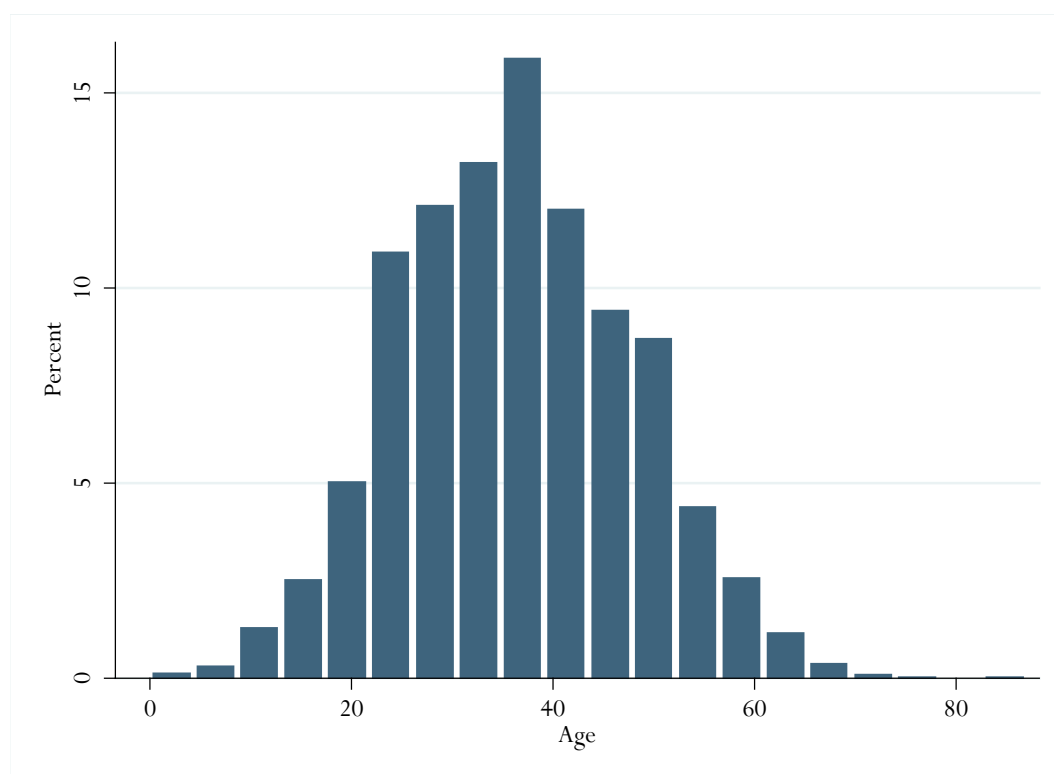
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<sup>6</sup> Austria, Belgium, Denmark, Spain, France, Greece, Italy, Czech Republic, Poland, Ireland, Sweden, Netherlands



**Figure 4.3 – Sampling Frame for EU-SILC and SHARE**

In this context the relationship between the EU-SILC and SHARE is the relationship between the children of the 50 + and the wider population. This is important for comparing the results of the analyses in the subsequent chapters. As can be seen from figure 4.3 the children of the 50+ are also partially eligible for the survey themselves. It is entirely feasible that an individual sampled for SHARE is also included as a Child within SHARE given that the children of the over 50s also include individuals who are over 50 themselves. In such a scenario they would be in SHARE twice, once as a respondent and once as a child. This does not affect the inferences made regarding this population but it is important to note. Figure 4.4 illustrates the age structure of this group. The oldest child within this sample is an 87 year old man living in Ireland. In this analysis the use of the word child therefore refers only to an individual with a parent rather than being a word with age specific connotations.

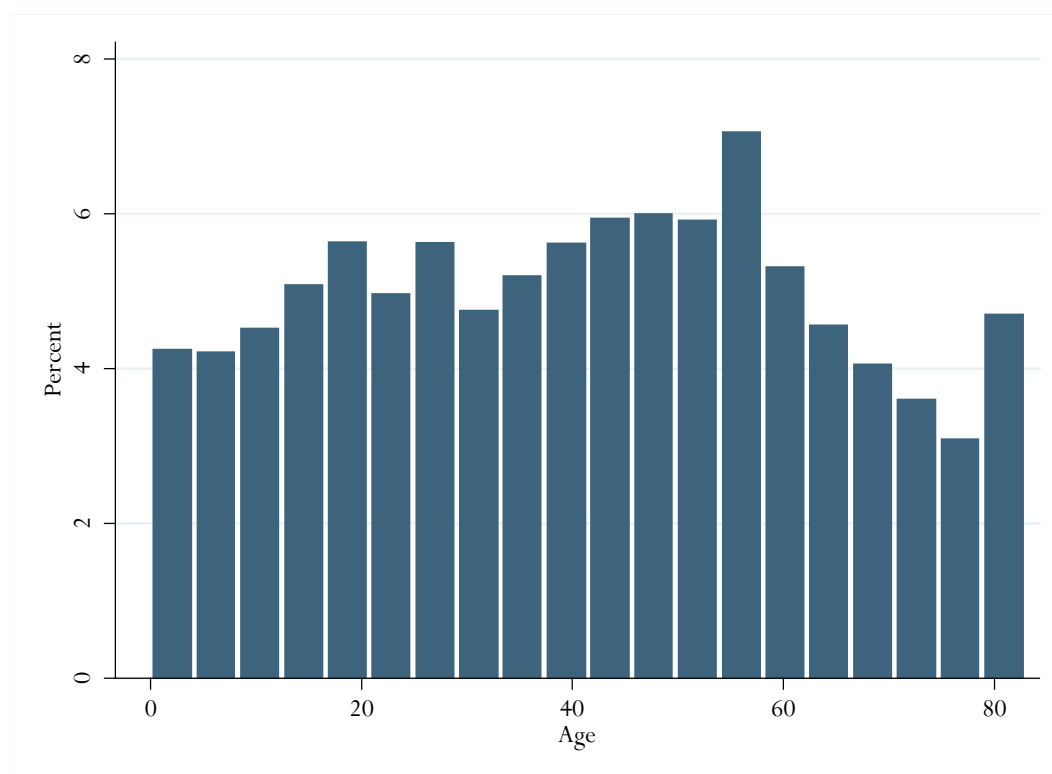


**Figure 4.4 - Age of Sampled Children of the Over 50's**

*Source: Survey of Health, Ageing and Retirement in Europe, Wave 2*

In addition to there being an overlap with the SHARE sample, there is also a lack of fit with the EU-SILC sample. Figure 4.4 illustrates that the age distribution of the children of the Over 50's is almost normally distributed which is not the case with the age distribution in the wider population. Most of the over 50's gave birth when they were in their twenties and so their children are heavily concentrated around the 30-40 age group. Young children are severely underrepresented for this to be considered a sample of the population generally. For example, the age category 20-25 represents 5.39% of the population in the SHARE children's sample. In the EU-SILC this age group represents around 8.25% of the population.

The issue here is that this sample of SHARE children has been used consistently within the intergenerational transfer literature to make inferences about the likelihood of receiving a transfer. Studies have suggested that the proportion of children within their samples that receive financial assistance from parents is indicative of the wider population. The discrepancy in the samples suggests that this is clearly not the case and a consistent finding of this thesis is that this has often led to an upward bias in estimates of transfer receipt amongst the general population. Figure 4.5 reflects the age distribution evidenced by EU-SILC which more closely resembles age distributions familiar to demographers.



**Figure 4.5 - Respondents Age in the EU-SILC**

*Source: European Union Statistics on Income and Living Conditions, 2005-2010. Note: Those over the age of 80 in the EU-SILC are coded as 80 and this is reflected in the disproportionate number of those giving their age as 80.*

Age is not the only factor which introduces bias into these estimates of transfer receipt. Individuals in the SHARE children sample are more likely to have wealthier parents than those in the population generally given that richer parents are more likely to have survived and been included within the SHARE sample. What is more, poorer households tend to experience child births earlier and so these parents are not yet eligible for the SHARE sample (Berent, 1952; Skirbekk, 2008; Matthews & Sun, 2005).

As an example here, results for the education variable from SHARE, which are based upon the International Standard Classification of Education (ISCED), appear to be out of line with the population estimates. A low level of education refers to an individual who has only reached level 2 or lower on the ISCED scale. In our sample this refers to 17.54% of the population, whilst Eurostat estimates that the value for 25-64 year olds is around 30% in 2006 for the EU-15. This discrepancy could exist for a number of reasons, most of which relate to the sampling method.

Whilst the sample of children includes all children over 18, the vast majority are concentrated around the mean and are aged between 20 and 40. If one assumes that education access improves over time, one would expect younger individuals to reach higher education levels than previous cohorts. This

could explain the levels observed given that the sample contains proportionally more people aged 20-40 than in the population generally. One way to verify this is to look at the value for those individuals in a very narrow age range. This way, fluctuations in achievement across that range will be minimal and therefore the age group distribution should be eliminated. Eurostat provides data on educational attainment that, unlike the sample of children in SHARE, is representative. This data suggests that 24% of the age group 25-34 have very low educational levels. When the population of children in the sample is narrowed in a similar way then the percentage with low levels of education also declines, to around 14.43%. This therefore suggests that our population of children is substantially different from the general population.

A further reason is that it is possible that this particular variable is biased upward because it is the parents who are asked and not the children, leading to substantial inflation in the child's achievements. This is plausible as the bottom two categories of ISCED imply the child was under educated and did not finish compulsory schooling. A parent is probably less likely to respond if their child's education is low or to over report the education level of the child. These caveats do raise concerns about what this sample of children can tell us and illustrate the complexities of inferring from an indirect sample to a wider population.

Another potential reason for this could be if children of younger parents are generally less likely to succeed in education because younger parents can invest less in their children or if they are more likely to come from disadvantaged backgrounds themselves. These individuals will not be included within our sample as they may not yet be the children of an individual over 50. For example, a line of very young mothers could imply that only the great grandmother and above are eligible for the SHARE sample. This may be causing a proportion of the bias.

What's more, reconstituted families are a further means by which the indirect sampling method warps the sample used within this analysis. Here, because of random sampling, each unit should be equally likely of selection. When everybody has one mother and one father that are equally likely of being sampled by SHARE, then this process should not affect the outcome to a noticeable, systematic extent. However once a home is reconstituted or split into two, an individual's chances of being drawn in the sample of the population are effectively doubled. The sample above should therefore over sample those individuals from reconstituted families. However this is difficult to test given the lack of accurate, comparable statistics on family reconstitution. All these factors indicate that the existing research is potentially biased in its estimates of intergenerational transfer receipt and underlines the need to contextualise the findings from SHARE with the EU-SILC data.

### 4.3. Comparability of Transfers

#### 4.3.1. Intergenerational Transfers in SHARE

The complex process by which responses are matched to specific children has considerable consequences for this analysis. Within SHARE, financial transfers are measured in a series of questions. The first of these asks individuals:

*“Now please think of the time since the last interview. Not counting any shared housing or shared food, have you or your partner given any financial or material gift or support to any person inside or outside this household amounting to €250 or more?”*

*Note: FT001 - By financial gift we mean giving money, or covering specific types of costs such as those for medical care or insurance, schooling, down payment for a home. Do not include loans or donations to charities. (Survey of Health, Ageing & Retirement in Europe, 2011)*

If the respondent answers yes then it starts a loop sequence which looks at each payment in turn. The first of these questions identifies the person receiving the transfer:

*“To whom did you or your partner provide such financial assistance or gift?”*

The responses are then recorded with children identified by a ranking system specified by the parent in the section on children within the survey. This ranking system is arbitrary and is not necessarily determined by age. This ranking system is used in the transformation of the dataset from long to wide that was detailed in section 4.1. The respondent is then asked to specify an amount:

*“About how much did you or your partner give to this person altogether in the time since the last interview?”*

*Note: Add single values to arrive at a total amount in Euros. (Survey of Health, Ageing & Retirement in Europe, 2011)*

These values can then be attributed to specific children within the dataset. If a respondent failed to identify a transfer made to a given child, it is assumed that no transfer took place. The loop will only be executed three times. This means that if a respondent made more than 3 transfers, the smallest transfers will not be included in the dataset. Only 4.23% of respondents made at least three transfers (to anybody, not just children). This is compared to 12.69% who made at least two transfers and 28.64% who made at least one. Therefore, some censoring of transfer behaviour does exist but it would be anticipated that this would be very small and priority is given to larger transfers.

The attribution process is therefore relatively complex. However once the financial transfer data has been matched to the child’s records, the dataset is ready for analysis. As outlined above, the methodological approach needs to be careful in trying to merge the findings of this thesis with the existing literature. This is because the dataset of parent-child dyads that was presented in section 4.1



has been treated in various ways in the existing literature. The dataset consists of observations (parent-child dyads) which are not independent of each other. The likelihood of one observation registering a transfer is not independent of the likelihood that another observation in the sample will receive a transfer. This is because our dataset includes brothers and sisters who share a parent who plays a key role in determining whether a transfer is received or not. This is problematic because it is a core assumption of most statistical analysis that each observation is independent of each other.

Existing research has addressed this problem in a number of ways. The first of these is simultaneously the most problematic and the most common: simply ignore the interdependence of observations and then take the dataset as a sample of the population. This second issue is particularly problematic as authors then tend to infer about the wider population from a sample of children of those over 50. For example, Kohli & Albertini and Schenk, Dykstra & Maas are two prominent and oft cited papers which conduct such analysis and imply that their results are representative of children (Albertini & Kohli, 2012; Schenk, Dykstra, & Maas, 2010). Therefore such studies tend to underestimate standard errors in their regression analysis and then infer this to the wider population rather than the children of those over 50 which it is a sample of.

An alternative approach to this is to consider the data in parental household rather than dyad form. This aggregates parental behaviour rather than behaviour specifically related to one child (Albertini, Kohli, & Vogel, 2007; Zissimopoulos & Smith, 2009; McGarry, 1997). This is feasible and a common approach within the literature and negates the need for the complex data management outline above. Yet there are issues regarding the spurious nature of family size and structure. This is elaborated upon in Chapter 8 where family structures are considered more thoroughly. To summarise however, considerable detail is lost in such a summation and it becomes difficult to fully identify the effect of parental resources on relationships and describe transfers from a recipient perspective. This relates back to the unit of analysis within this study which was identified in chapter 3 as the parent-child relationship, rather than any specific node.

The third approach to this data management challenge is to consider the data as a multilevel dataset. This is the approach that is taken within Chapter 8. This incorporates the clustered nature of the data within the analysis and, depending on the research question, can be used to ensure greater analytical power. This is particularly true in questions that involve attributes of both nodes within a dyadic relationship or where the higher level (parental level) can be used to make comparisons between similar individuals (siblings). Such estimations can be complex however and, as with measuring transfer size, can entail unnecessarily complex estimation methods with restrictive assumptions. If the research question at hand is not looking to take advantage of within family comparisons, option four should be used.

This approach quite simply picks one of the children at random. This ensures that each observation is independent of all other observations and therefore traditional estimation methods such as Ordinary Least Squares are correct. As with the first method discussed, it is still necessary to emphasise that the population that this is drawn from is not ‘children’ or the population generally but reflects a random sample of children from a representative sample of the over 50’s. This is important to stress as this severely limits the inferences that can be made from such analysis. The existing research has not stressed this enough. In spite of the awkward nature of the sampling population, this option is used in chapter 5 because it is a representative sample of the parental node within the analysis. Given the focus of the question within chapter 5, this is the most logical approach. This survey of approaches should however underline the often neglected incomparability of various pieces of analysis and the suitability of various approaches for addressing specific questions.

#### 4.3.2. Transfer Receipts in the EU-SILC

The measurement of the dependent variable in the EU-SILC is more straightforward than in SHARE. Within the survey, individual households are asked how much they have received from other households or persons in the income reference period. This is measured at the household level and not the individual level as in SHARE. Inferences across surveys are however limited given the different sampling frames that were described in section 4.2. Nevertheless, as chapters 6 & 7 detail, this means that the analysis must be conducted on a household level and reflect the extent to which households and not individuals are in receipt of financial assistance.

The measurement also differs distinctly from SHARE in that the transfers are not necessarily from the parents or residents within the household. The financial assistance could have been provided by anyone who is not living in the household and this could be parents, grandparents, other relatives or even friends. If we consider the analysis in SHARE wave 2 referred to earlier, exactly 70% of transfers were made to the respondents’ children. This suggests that the primary source of informal means of financial support is likely to be parents. This does not mean that the two measures are directly comparable but they are conceptually linked. In the hypothetical scenario in which an individual’s parents were asked to participate in SHARE and they were asked to participate in the EU-SILC, any financial transfer between the two should be simultaneously recorded in both surveys. That is to say that the definition used in the EU-SILC is inclusive of the definition of SHARE but not vice versa.

What’s more, the data from the EU-SILC provides no information as to the provider of financial assistance. No data is collected as to the nature of the support beyond the annual amount received. This limits the extent to which the analysis can be said to fully and accurately model the dyadic nature of the relationship described in chapter 3. To counter this, a number of statistical techniques are used which

use the longitudinal element of the EU-SILC to control for the time invariant factors of the donor such as their socio-economic status, education level or norms and values. This approach is second best to a survey where detailed information is collected on both nodes of the dyad, however at the time of writing, no such data exists.

A final difference between the EU-SILC measurement of transfers and those of SHARE is the time scale used by the survey. The EU-SILC is an annual survey and the question explicitly refers to the income reference period which lasts 12 months. In SHARE, the time period is given as the time since the last interview took place which is approximately two years. This has the effect of producing slightly inflated figures for the SHARE analysis compared to the EU-SILC data. These factors suggest that the figures produced by the EU-SILC and SHARE are not strictly comparable. What connects the two measures is the conceptual link of financial assistance between households. The strength of this link is investigated in the remainder of this section.

#### 4.3.3. The Comparability of Measures

The findings in Table 4.3 represent data on the parent child dyad in SHARE. There is significant variation in the prevalence of transfers as indicated by the percentage of respondents who indicated that they had received a transfer. This ranges from Spain where only 3.4% of the children of the over 50's said they had received a transfer, up to Sweden where the figure were almost 21%. Such variation is less evident in the transfer size where, save for the Eastern European countries of Czech Republic and Poland, there is only a small variation in the total amount transferred by a parent in any given year.

The last two columns attempt to place the financial transfers evidenced by SHARE within a wider economic context. By using the weights provided by the SHARE survey and by totalling all intergenerational transfers for each household, it is possible to produce an estimate of the total amount transferred by those over 50 to their offspring over a two year period. Obviously these values are largely dependent on the size of the country and its economy so these have then be represented as a percentage of gross domestic product as a point of reference. These figures appear to show that the downward flows in financial support are not substantial relative to the public transfers as suggested by a number of authors (Kohli, 1999).

The data from SHARE can be viewed as limited given that there are few covariates provided that will allow for the contextualisation of statistics. For example, given the data available in SHARE, it is not possible to frame the transfers in terms of the recipient's income position or the wider distribution of resources within society. Given the comprehensive nature of the EU-SILC and its role as the primary source of social statistics for the European Union, it is possible to view transfer behaviour in a broader macro-economic context. In table 4.3 we have the aggregated statistics on transfer behaviour for the

EU-SILC. It is immediately clear from this data that one advantage of using the EU-SILC is the increase in countries and the breadth of the study.

**Table 4.3 – Descriptives of Transfer Behaviour on the Parent-Child dyad in SHARE**

	<b>Received a Transfer (%)</b>	<b>Average Size of Transfer</b>	<b>Total Transfers</b>	<b>Transfers (% GDP)</b>
Austria	16.12%	€2,427	€1,500,000,000	0.542%
Belgium	12.30%	€3,498	€1,450,000,000	0.424%
Czechia	14.74%	€717	€513,000,000	0.362%
Denmark	19.82%	€3,039	€1,630,000,000	0.729%
France	11.30%	€3,155	€8,030,000,000	0.426%
Germany	18.37%	€2,812	€17,200,000,000	0.724%
Greece	14.47%	€2,706	€1,480,000,000	0.639%
Italy	12.68%	€2,248	€6,160,000,000	0.405%
Netherlands	13.76%	€2,991	€3,170,000,000	0.554%
Poland	9.13%	€580	€791,000,000	0.255%
Spain	3.74%	€3,590	€2,570,000,000	0.245%
Sweden	21.04%	€2,028	€1,840,000,000	0.628%
Switzerland	12.10%	€4,156	€1,300,000,000	0.354%

*Source: Survey of Health Ageing and Retirement in Europe, Wave 2*

**Table 4.4 - Descriptives of Transfer Receipts in the EU-SILC (aged 18-35)**

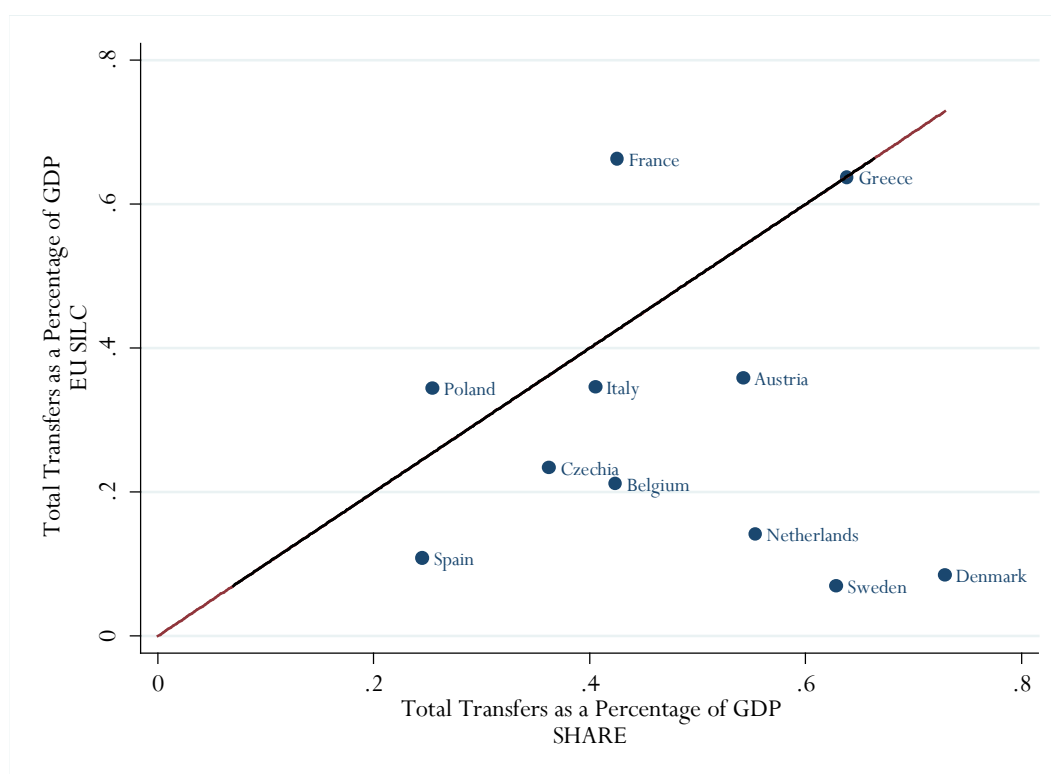
Country	% Receiving	Average		Transfers
	Transfers	Transfer Size	Total Transfers	(% GDP)
Austria	12.32%	€3,032	€990,000,000	0.359%
Belgium	12.29%	€2,178	€722,000,000	0.212%
Bulgaria	12.96%	€829	€308,000,000	0.881%
Cyprus	11.98%	€4,938	€152,000,000	0.905%
Czech Republic	14.60%	€608	€331,000,000	0.234%
Denmark	9.30%	€3,892	€190,000,000	0.085%
Estonia	4.66%	€948	€14,400,000	0.105%
Finland	22.52%	€700	€200,000,000	0.116%
France	7.26%	€2,809	€12,500,000,000	0.663%
Greece	12.02%	€3,305	€1,480,000,000	0.638%
Hungary	19.37%	€547	€227,000,000	0.249%
Italy	8.96%	€3,833	€5,260,000,000	0.346%
Latvia	10.65%	€1,155	€44,700,000	0.241%
Lithuania	5.41%	€1,056	€27,100,000	0.102%
Luxembourg	4.67%	€6,785	€10,500,000	0.028%
Malta	2.52%	€2,255	€5,266,648	0.090%
Netherlands	13.89%	€2,421	€814,000,000	0.142%
Norway	6.37%	€3,979	€637,000,000	0.236%
Poland	8.08%	€1,155	€1,070,000,000	0.345%
Portugal	4.29%	€3,883	€526,000,000	0.312%
Slovakia	8.42%	€221	€22,000,000	0.035%
Slovenia	5.20%	€648	€26,900,000	0.076%
Spain	3.63%	€2,875	€1,140,000,000	0.109%
Sweden	6.31%	€1,473	€205,000,000	0.070%
UK	4.03%	€4,758	€3,250,000,000	0.206%

Source: European Union Statistics on Income and Living Conditions, 2005-2010

Despite the conceptual distinction evident within the phrasing of the questions, there appears to be a degree of agreement between the two surveys with regards to aggregated transfer behaviour. The estimates for both the percentage of individuals receiving a transfer and the estimates for the average

size of a transfer are similar if not identical between the datasets. There is a large discrepancy between the estimates of transfer size when we aggregate the transfer receipts for all individuals but it is anticipated that this is due to the fact that the EU SILC will sample individuals who are not included in SHARE's sampling methods and that the EU-SILC includes transfers from other individuals except parents. For example, to be included within the SHARE target sample you have to have a parent who is over 50 whilst in EU SILC you are sampled directly via your household.

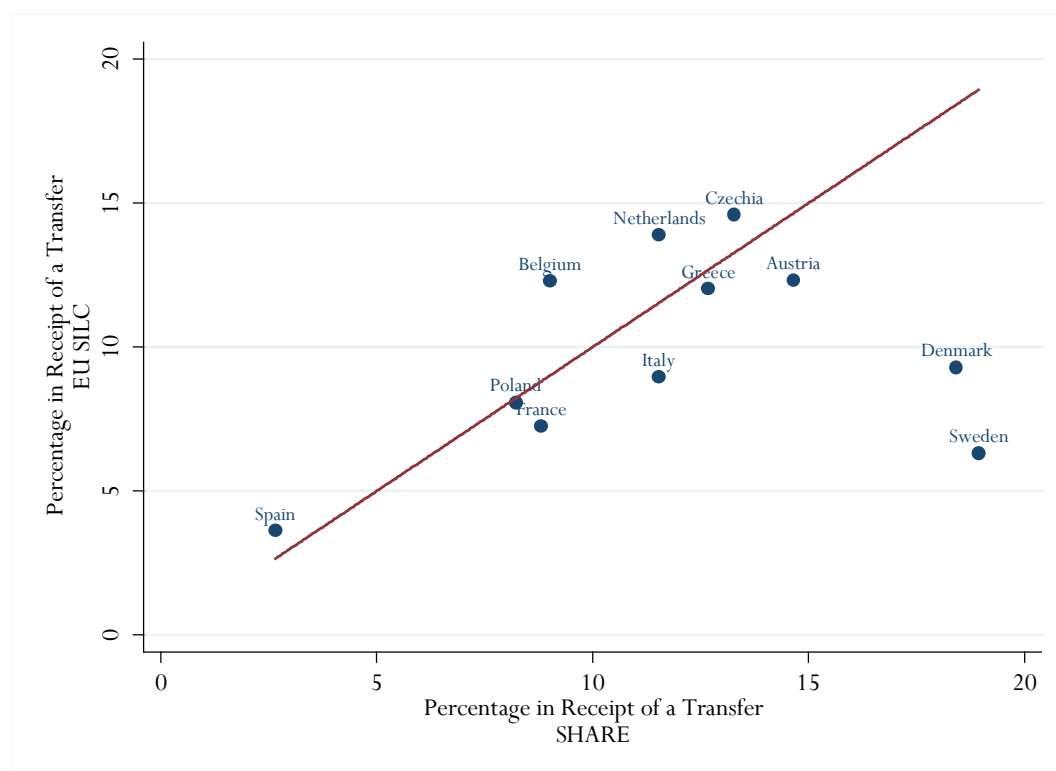
When examining the total sum of transfers from EU SILC it can be seen that the total values are substantially lower than the estimates from SHARE but that as a percentage of GDP the range is not too dissimilar. As with the SHARE data there is a suggestion that these numbers indicate that the importance of intergenerational support, or in the context of EU SILC informal financial inter-household support, has been widely exaggerated and over-emphasised in recent sociological and economic debates, particularly when placed in the context of public transfers. Having said this, the EU SILC data does suggest that some £30 billion is transferred annually between households in the European Union.



**Figure 4.6 - Total Transfer Receipts as a Percentage of GDP in SHARE & the EU-SILC**

*Source: European Union Statistics on Income and Living Conditions, 2005-2010 & the Survey of Health, Ageing and Retirement in Europe, 2005-10*

Differences between the data from EU SILC and SHARE might be more expected than when agreement is identified given the differences in sampling methods and conceptual underpinnings of the dependent variable. As detailed in section 4.1 & 4.2, the EU SILC is a general household survey whereas SHARE's inferences to the general population are made through the sampling of children of those over 50. We would therefore expect that the percentage identified as receiving a transfer would be higher in SHARE than in the EU SILC. Figure 4.7 plots the two estimates for each country with the red line identifying the point of agreement.



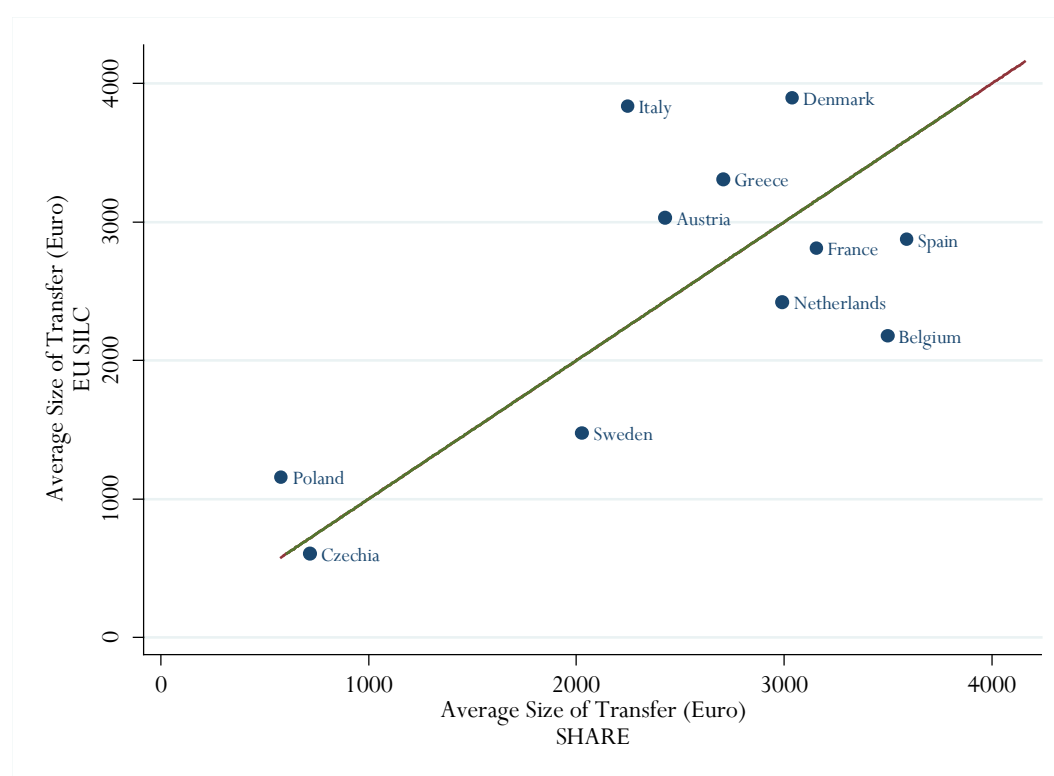
**Figure 4.7 – The percentage in receipt of a Transfer in SHARE & the EU-SILC**

*Source: European Union Statistics on Income and Living Conditions, 2005-2010 & the Survey of Health, Ageing and Retirement in Europe, 2005-10*

Interestingly, the anticipated over estimation is only seen in Denmark and Sweden. In all other countries the estimates do not appear to be systematically different, although the estimates can hardly be said to be in full accord. Whilst there is an evident relationship between the two numbers, the correlation coefficient is low at just 0.31. It jumps dramatically to 0.835 if we exclude the two Scandinavian countries. Given what is known about sampling methods, it should be expected that all countries would lie below the red line and not scattered randomly around it. It would appear that there is in fact little to no evidence of a systematic difference between the estimates. Conceptual differences between the two surveys should produce a systematic effect. This is because the EU SILC is far broader

in its definition of a transfer than the treatment of SHARE data used here as EU-SILC includes transfers from people other than parents.

The analysis here only uses intergenerational transfers from SHARE whilst the EU SILC data refers to receipts of all forms. There are therefore two explanations as to why there may be a degree of agreement between the two estimates. Firstly it could be due to the fact that the sampling system used by SHARE over-estimates the percentage who receives a transfer but that this is then counteracted by the systematic bias in the opposite direction due to a more inclusive definition of transfers used by the EU SILC. At a substantive level this would be similar to asserting that there is a perfect substitution effect between transfers from the family and other forms of informal support (i.e. friends and other organisations). If you have no one who is capable of offering financial support (i.e. a parent) then people other than parents will generally replace this support. The second possible explanation is simpler and it suggests that intergenerational transfers and informal inter-household transfers are synonymous and that the vast majority of financial support comes from parents regardless of their age. This would mean that the two biases are not sizeable and hence the relative agreement between estimates. To further explore this it is possible to look at the estimates for the average size of a transfer.



**Figure 4.8 – Average Size of Transfer in the EU-SILC & SHARE**

Source: European Union Statistics on Income and Living Conditions, 2005-2010 & the Survey of Health, Ageing and Retirement in Europe, 2005-10



Here there is little evidence of a systematic bias in the difference between EU-SILC and SHARE estimates given the even distribution of observations around the equivalence line. The correlation coefficient for these figures is 0.67 which whilst not at a level where we can talk about an exact substitute, does suggest that there is no systematic difference in the way the values are estimated. In assessing the average size of a transfer this is even more surprising. If as discussed the bias in the percentage of individuals receiving a transfer was due to a two way systematic bias that cancelled each other out then it might be expected that the amounts observed in the EU SILC would be lower. This is because the logic of such a two way bias would be that there is a substitution such that individuals not in receipt of a transfer from parents were in part compensated by other sources of income. One would expect that such sources would be less generous than one's own parents and therefore we might anticipate that the values from the EU SILC would be lower regarding average transfer size. The evidence demonstrates that this is not the case.

This leads to a tentative conclusion that whilst the measures are not perfect substitutes, to a degree they can be considered as related and systematically affected by conceptual or sampling differences. The tentative restraint should not be underestimated however as the coefficients and values associated with these relationships all indicate that there is a degree of discord evident, only that it is not systematic across countries or method. This tentativeness should be heightened by Figure 4.6 which showed the corresponding estimates for the % of GDP that the transfers represent. As we saw, there is a significant difference with SHARE data estimating higher levels than the EU SILC. Given the relative proximity of other values, this could be due to the sampling frame of each study and the weighting techniques, highlighting the need for inferential caution.

This section has sought to establish the extent to which the EU-SILC and SHARE are comparable. This is difficult to verify but the discussion implies that whilst they are not entirely synonymous, there are clear links between the measurements. The proceeding sections will utilise both SHARE and the EU-SILC to examine the extent to which such transfers can be seen to affect and be affected by macro, socio-economic processes.

#### **4.4. Methods**

It is with one eye on the existing literature and another on the analytical framework of this thesis that the analysis of the dependent variable of this study must be considered. The first part of this section examines the methods used to analyse the dependent variable and details the probit and tobit models used here. Section 4.4.2 then discusses how multilevel methods are used to explore the complex data structures identified in the first section of this chapter. Finally, the comparative element of this analysis is outlined.

#### 4.4.1. Logits, Probits & Tobits

In some studies the dependent variable has been simply noted as a dichotomous variable that merely indicates whether a transfer has taken place or not (McGarry & Schoeni, 1995; Sikora & Peters, 2011; Zissimopoulos & Smith, 2009). The alternative or sometimes dual strategy is to consider the size of a transfer made (Albertini & Radl, 2012). The primary weight of analysis is on a dichotomous measure given the excessive methodological complexities that come with measuring a zero inflated variable such as transfer size. Such variables are distributed in ways that are difficult to model and require specific assumptions. The assumptions of such models restrain inferences and the external validity of any analysis given that it entails a two-step process of inference, one where the parent decides to make the transfer and then a second when they decide how much to give.

The analysis will be conducted using a probability unit (probit) model with fixed country effects (Gelman & Hill, 2007). This model was selected because it is operationally simple and does not place stringent assumptions on the analysis. If we can assume that all observations are independent of each other, the analytical model, the interpretation and the inference are accessible and straight forward. The link function in a probit model itself can be defined as:

$$\Pr(Y = 1 | X) = \Phi(\alpha + X\beta + \varepsilon)$$

This states that the probability of a transfer occurring ( $Y$ ) is estimated using the normal distribution ( $\Phi$ ) (Gelman & Hill, 2007). This serves to transform the estimates of the probability of  $Y$  occurring into a non-linear function so as to eliminate impossible estimates (i.e.  $\Pr(Y=1) > 1$ ,  $\Pr(Y=1) < 0$ ). Using this, the observed values of  $X$  are then used to estimate the  $Z$  scores for  $\Pr(Y=1)$ . The coefficients of  $X$  ( $\beta$ ) for this estimation process are then determined by maximum likelihood estimation. This returns the values of  $\beta$  which were most likely to return the observed values of  $Y$ .

Probit models are well established in the social sciences, as are logit models. A probit model is preferred here given that the results are grounded in estimated probabilities rather than in odds ratios. The two methods produce largely identical estimations except when the observed event is rare (Liao, 1994). The choice between the two is therefore largely a matter of interpreting estimates and coefficients which is an issue of both preference and the question which the analysis seeks to answer. I contend that the probit's grounding in an estimated probability of  $Y$  occurring ensures that estimates reflect the absolute effect size more acutely.

The logit by contrast is traditionally expressed in odds ratios rather than log odds in results tables. This tends to encourage statements of relativity rather than absolute terms of probability. For example, a traditional interpretation of a logit model would state that  $Y$  is twice as likely to occur if  $X=1$  than if  $X=0$ . Given that probit coefficients cannot be converted into substantive, meaningful figures in the

same way as logits, a probit estimate emphasises the fact that the effect of X on Y is not constant (given the link function) and refocuses attention on estimated probabilities of Y occurring. A traditional interpretation of probit estimates therefore expresses the marginal effect of X on Y at the means, a statement that is made in terms of the absolute probability of Y occurring. This results in an interpretation that states that if  $X=1$  then  $p(Y = 1) = P$  and if  $X = 0$  the  $p(Y = 1) = P$ .

In chapter 8 tobits are used in conjunction with probit models. These models allow for the amount transferred to be estimated with results weighted by the initial decision to make a transfer. The decision to use them in chapter 8 was intended to increase the validity of the conclusions made there. However, the results in chapter 8 illustrate that the tobit models rarely provide additional insight into transfer giving and thus the results of further tobits were not included. The additional explanatory power provided by the tobit in no way appears to justify the additional complexity of the analysis, estimates and inferences that they entail.

This is partly due to tobit estimates being OLS estimates that are weighted by the probability that the transfer is above a given amount. Therefore the estimate of the probability that a transfer is registered, which is the dependent variable in the probit models, is also built in to the estimates of the tobit. In substantive terms, it is difficult to identify an effect that increases the likelihood of a transfer but reduces the size of the subsequent transfer but even if one did exist it would be poorly estimated by any tobit analysis. On a conceptual level, including tobit estimates within the analysis adds little given that the conceptual and theoretical framework does not include the size of the transfer explicitly within its theory in a manner that is distinct from the dichotomous indicator.

#### 4.4.2. Multilevel Modelling

The datasets detailed in section 4.1 involve complex structures. This implies that the observations are not independent of each other and therefore traditional analytical methods such as probit and ordinary least squares are insufficient. In order to address this multilevel methods are used. These methods allow the error term within analyses to be split in to components and estimated separately and thus reflect the interdependence of observations (Hox, 2010). Subsequently, the analysis produces estimates that are unbiased and more accurately identify effects at different levels. In this thesis, two types of multilevel models are used but they are very similar and the distinction lies in what the two levels represent.

The SHARE dataset consists of parent child dyads. Amongst these some dyads belong to the same parent because that parent has more than one child. In a number of analyses these observations have been assumed to be independent of each other which is a very unrealistic assumption. The probability of an individual receiving financial assistance is highly correlated with whether their siblings also receive

financial assistance. To account for this we can ‘nest’ individual parent child dyads within a parental household. This helps more accurately identify why a transfer has taken place. If a transfer takes place because the parents are rich then we would expect to see high correlation between siblings. If transfers take place because a child is poor, then lower correlation levels would be expected. These methods therefore drastically improve the internal validity of the analytical design (Gelman & Hill, 2007).

In the EU SILC by contrast, the observations are not independent because they represent the same household at different points in time. The assumption here is that the probability of receiving financial assistance in one year is associated with receiving financial assistance in any other year. That is to say that some people have an underlying tendency to receive financial transfers and others don’t. Therefore in order to ensure unbiased estimates of the coefficients, it is necessary to ‘nest’ household-year observations within households.

To achieve this the probit model is extended:

$$\Pr(Y = 1 | X) = \Phi(\alpha + X_1\beta_{1ij} + X_2\beta_{2j} + \varepsilon_{ij} + \vartheta_j)$$

This model is almost identical to the one presented in 4.1 except for a few additional terms. Firstly there is a distinction between effects at level 1 ( $\beta_{1ij}$ ) and level 2 ( $\beta_{2j}$ ). The distinction here is between effects that vary between observations and ones that do not. For example, in the SHARE analysis the characteristics of children such as their education level or employment status will vary between siblings. Parental characteristics on the other hand will not as they have the same parents. In the EU-SILC the distinction is between characteristics that change and those that do not. This very much depends on conceptual understanding of what constitutes a household and the various operationalisation of concepts. Nevertheless an example of a time invariant variable in this analysis might be the educational level or cohort and a time variant factor might be employment status.

The other distinction with section 4.1 is the inclusion of  $\vartheta_j$ . This is the level 2 specific error term and is distinct from the observation specific error term. It is this term that relaxes the assumption of independence between observations and leads the between and within effects to be estimated separately. The estimate for this error term can be used to control for the unobserved level 2 characteristics that are uncorrelated with the coefficients estimated at level 1. That is to say if a household has an underlying unobserved tendency to receive transfers in the EU-SILC data, this error term can be used to capture it as long as the tendency is uncorrelated with level 1 estimates.

An example of this might be a household that has certain cultural characteristics such as belonging to a particular religion. As an arbitrary choice let us say that they are Catholics and due to cultural traditions they are therefore more likely to receive financial assistance. As long as Catholics are just as likely to be employed as the rest of the population, just as likely to have a degree, just as likely to have children and

every other characteristic at the individual level, then the estimates for  $\vartheta$  can be used to describe time invariant factors such as being a Catholic. If the populations do differ and the primary interest is in estimating such time invariant factors then the individual level factors can be mean centred for the household in order to generate a population that is referential to their own characteristics rather than each other's (Rabe-Hesketh & Skrondal, 2012; Hox, 2010). However mean-centring does not prevent omitted variable bias with regards to the time invariant factors. Results must therefore consider the possibility that omitted variables at level 1 cause bias estimates of the random intercept which is designed to capture the time-invariant factor.

With specific regard to the analysis using the EU-SILC in chapters 6 & 7, a final issue that needs to be considered is autocorrelation. The analyses in these two chapters clusters observations within individuals and this clustering is designed to reflect that observations of the same person are likely to be more similar to each other than the observations of other individuals. However, even for a specific individual, the observations of transfer behaviour over a four year period cannot be said to be independent of each other. That is to say, whether you receive a financial transfer this year has a lot to do with whether you received one last year.

This interdependency is not taken into account in the model given that it is unclear in which direction the autocorrelation would work. For example it could be argued that receiving a transfer last year increases the likelihood of receiving a transfer this year given that the transfer could be due to circumstances that continue between the two time periods such as an increase in the income of the parents. In contrast, it could be argued that receiving a transfer last year makes receiving a transfer this year less likely. This could be due to parents financial resources being exhausted by the transfer made last year. The issue of autocorrelation should not be overstated however. Autocorrelation does not bias estimates of the coefficients but it does cause underestimates of the standard errors (Rabe-Hesketh & Skrondal, 2012). This makes Type I errors more likely and so robust standard errors are used where appropriate.

#### 4.4.3. Comparative Analysis of Transfers

In addition to the complexities involved with observations that are interdependent within households and families, there is also a suggestion that observations are not independent within countries (Albertini & Kohli, 2012). As detailed in chapter 3, this is one of the core assumptions that this analysis is looking to address. Such narratives assert that transfer behaviour is best described by nesting households and families within their countries given that countries exhibit dynamics and mechanisms that make observations interdependent. This has often been depicted in the form of regimes and typologies that assert fundamental differences in the theoretical models across borders (Esping Andersen, 1990). If

such an approach is argued for then the model used to test it should be a random coefficient model (Gelman & Hill, 2007). This would enable the identification of country or regime specific dynamics and illustrate that variance in transfer behaviour is only interpretable at the country level.

These models are not considered here. The assertion of this theoretical model is that such narratives are inaccurate and that country level differences in behaviour can be attributed to differences in the composition of population. This is to say that such narratives are secondary to the altruistic theory put forward in chapter 3. To test the hypothesis that such country effects do not exist is easier analytically than to assert that they do. In order to demonstrate that the inclusion of a third, country level is unnecessary, fixed country effects can be included. This approach allows for the estimation of whether the probability of receiving a transfer is different in one country from another after individual level characteristics have been accounted for. If they do not show significant differences in the transfer behaviour between countries then it would strongly suggest that country level narratives are unnecessarily complex. If they show significant differences then it would indicate that the country of residence of the respondent contributes to our understanding of transfer behaviour.

The comparative strategy of this thesis is therefore to include such fixed effects and observe them within each chapter and note the extent to which they can be used to predict transfer behaviour. If they are poor predictors then it would suggest that country or regime specific narratives of transfer behaviour are unnecessary. Having stated this, a caveat must be added. To observe insignificant results at the statistical country level is not to infer the irrelevance of macro structures in theories of intergenerational transfers. For example, if the country level effects are shown to be insignificant, it is not to be assumed that policy, cultural or macro-economic factors play no part in transfer behaviour. Policies greatly affect the material conditions of millions of individuals and their impact varies greatly across Europe. In the analytical strategy here it is essential therefore to remember that macro processes are predominantly understood through a micro interpretation. This is how this thesis aims to examine the effect of policy on transfer behaviour.

## 5. Intergenerational Transfers & the Parental Perspective

### 5.1. Introduction

Having established an analytical framework with which to answer the questions posed by this thesis, we now turn to the main analysis. This chapter addresses two of the research questions posed in Chapter 3:

*To what extent does policy directed at parents affect transfer behaviour in European families?*

*To what extent does the altruistic model explain differences in transfer behaviour across Europe?*

Firstly it aims to assess the extent to which policy affects transfer behaviour via the parent's opportunity structure. That is to say the extent to which policy determines a parent's circumstances and thus their propensity to provide financial assistance to their adult children. It has been established that households with higher levels of income are more likely to give financial assistance to others (Zissimopoulos & Smith, 2009; Kohli, 1999; Kohli & Kunemund, 2003; McGarry & Schoeni, 1995). It has also been established that higher social benefit receipts induce transfers in a process labelled 'crowding in' (Kunemund & Rein, 1999; Daatland & Lowenstein, 2005). This chapter supports these findings.

Secondly, it will also identify the extent to which such differences in parental circumstances are accountable for observed differences in countries' aggregated transfer behaviours as identified in chapters 2 & 3. The chapter therefore concludes by evaluating the extent to which policy affects transfer behaviour via the parent and the extent to which policy explains variations in transfer behaviour. This analysis will then provide the basis for similar analysis in chapters 7 & 8 which will consider the same questions in relation to family structure and the transfer recipient's needs.

*How does policy affect transfer behaviour?*

Altruistic theory argues that policy differences will be reflected in transfer behaviour. According to this theory, policies that improve the well-being of the parent will increase their propensity to provide financial assistance (Cox, 1987). In instances where pensions and other social payments are made to older individuals, they give some of this on to family members with greater needs. Kunemund labelled this process 'pension overshooting' (Kunemund & Rein, 1999). Older persons receive pensions that are in excess of their material needs or even desires and so they redistribute the income within their extended family. In this scenario, the financial well-being afforded to older generations induces downward financial transfers to generations that have less access to finance. It should be noted that the term overshooting does however carry implicit assumptions about the function of the welfare state in providing pensions.

Social provisions for older persons vary considerably within and between countries in Europe (Ebbinghaus, 2012). In this chapter this variation will be exploited in order to establish whether those who get more, give more. Do those who receive generous social benefits transfer more than those who do not? The implications of this are that those seen as in need of financial assistance differ between familial and public forms of welfare. That is to say that the state provides pensions in order to ensure the welfare of older citizens, yet the family identifies younger family members as those in need of assistance.

### *Is transfer behaviour different across Europe?*

The analytical framework discussed in Chapter 3 also argued that altruistic theory is only an adequate framework for understanding transfers if it can explain cross country differences in behaviour. In this chapter, differences in parental circumstances are considered. As noted above, these vary widely both within and across the countries of Europe. This could mean that observed differences in transfer behaviour are due to compositional effects (Hox, 2010). An example of this would be the anticipation that a richer population would transfer more than a poor one. These differences are consistent with altruistic theory in that such cross national differences are understandable through individual characteristics alone. Once such individual differences are incorporated within estimates of transfer behaviour, remaining differences in transfer behaviour at the country level can be ascertained. The analysis demonstrates that the differences are greatly reduced with only a few outliers.

The chapter proceeds by first outlining the specific hypotheses, how they will be tested and the data that will be used to do so. Particular attention is paid to the operationalization of key concepts and unique features of SHARE. The analysis is then presented and discussed in section 5.3. This analysis will focus on answering the two specific hypotheses: do higher social benefits, in the form of public pension receipts increase the propensity to transfer and does this explain cross-country differences in transfer behaviour. Section 5.4 concludes the chapter by discussing limitations of the model and its contribution to the broader thesis.

## **5.2. Methods and Models**

This section outlines the research questions of this chapter and how they will be answered. 5.2.1 details the two questions that this chapter addresses: whether households with higher public pension receipts are more likely to transfer money to their child and whether, once individual characteristics are considered, country level differences in behaviour disappear. Section 5.2.2 then details how transfers are operationalized and gives an overview of cross-national variations in transfer behaviour. Section 5.3.1 then illustrates how the main independent variable of public pension receipts is measured before



section 5.3.2 does the same for the remaining variables in the model. 5.3.3 then concludes the section by outlining the analytical strategy of this chapter.

### 5.2.1. The Research Question

Altruistic theory suggests that any policy that increases the material circumstances of the parent will increase that parent's propensity to provide financial assistance. In order to maximise utility, the parent will give part of any increase in income on to their children given that their own utility is in part dependent on that of the child. This chapter examines this theory by exploring whether parents with higher public pensions are more likely to give money to their children than those with lower public pensions.

This is the first piece of analysis in this thesis because it is the area that has received the largest amount of attention from the literature thus far and therefore represents a good point of departure before areas that are less prominent in the existing literature are covered in chapters 6, 7 & 8. There are a large number of studies that have considered the effect of parental circumstances on the propensity to transfer (Kohli, 1999; Villanueva, 2005; Albertini, Kohli, & Vogel, 2007; Zissimopoulos & Smith, 2009; Albertini & Radl, 2012). There are also studies which considered the specific effects of receiving social transfer receipts and demonstrated a positive correlation with transfer giving (Künemund & Rein, 1999; Daatland & Lowenstein, 2005). This attention has been due to the rhetorical mirroring it allows regarding the strain an older population places on public finances. Large upward public transfers have been sometimes regarded as unjust (Magnus, 2008). Even so, if private, downward, financial transfers are stimulated by public, upward, financial transfers it could be argued that it is a cyclical effect.

It is within this literature that country level variation has also been identified and discussed (Albertini & Kohli, 2012; Villanueva, 2005; Zissimopoulos & Smith, 2009). The assertion within such studies is that differences in transfer behaviour between countries are still evident once the parental circumstances have been considered. The common inference is therefore that such remaining differences are due to the varying social policy arrangements between countries. An example of this can be found in the work of Albertini, Kohli and Vogel (2007, p. 332) where they argue that a policy effect is the country dummy after controlling for individual level characteristics.

Yet such inferences do not acknowledge that the relevant characteristics of the parent are part of the effect of policy on transfers. That is to say those parental circumstances are in part due to the welfare regime in which they find themselves. For example, in their statistical analysis they include household income as part of the characteristics of the parent, yet this is in part determined by the welfare state that the parent finds themselves in. In latter work, the same authors assert that part of the 'welfare

regime effect' is due to the indirect effect on the parental circumstances such that the fixed effects for Scandinavian countries may represent the higher pensions received in those countries (2012, p. 10).

The observed country level differences cannot be attributable to this indirect effect of 'old-age security' on transfer behaviour given that it is accounted for within their statistical model. Such an effect may indeed be attributable to the good provisions for younger adults but cannot be considered as indicative of *crowding in* through the sizeable pensions identified by Künemund & Rein (1999). This is because, statistically any correlation would be captured through the indirect effect that pension receipts have on the household income of the parental household. Here part of the macro concept of the welfare state has been subsumed by the micro-analysis in use. This is a common feature and benefit of multilevel modelling (Gelman & Hill, 2007).

The country level fixed effects in the models of Albertini, Kohli & Vogel (2007) therefore only represent the amount of variance between countries that is not attributable to individual level characteristics. In order to assert the differential effects of pensions on transfer behaviour, it would be necessary to construct a random coefficient model<sup>7</sup>. Nevertheless, what remains in country level variation in their model does reflect the extent to which observed differences in transfer behaviour across countries can be attributed to variation in the circumstances of parents at the individual level. If country level variation decreases after controlling for individual level variation, then altruistic theory can be said to describe transfer behaviour in Europe. If it does not decrease then it is likely that country level theories such as welfare regime typologies will more accurately describe behaviour. Sections 5.2.2, 5.3.1 & 5.3.2 now consider how to measure these concepts before section 5.3.3 provides an analytical framework.

## 5.2.2. Transfer Behaviour from the Parental Perspective

Within this analysis, the dependent variable is simple but the sample it represents is complex. The dependent variable is dichotomous and reflects whether a financial transfer of €250 or more was made from the parental household to an adult child in the last two years. In chapter 4 the various sampling methods were discussed in detail with regards to dyadic relationships. Given that the analysis here aims to explore the behaviour from a parental perspective, the parental household will remain as the core sampling unit from which inferences are to be derived. Within each household there can be a number of dyads (parent-child relationships) and from these one is selected at random. That is to say, in cases

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<sup>7</sup> A random coefficient model is one in which the effect of an independent variable upon a dependent variable is allowed to vary across given units. So for example, it could be said that the effect of extra time a student spends studying on their grades differs depending on which school they go to. A random coefficient model allows analysts to capture such variation.

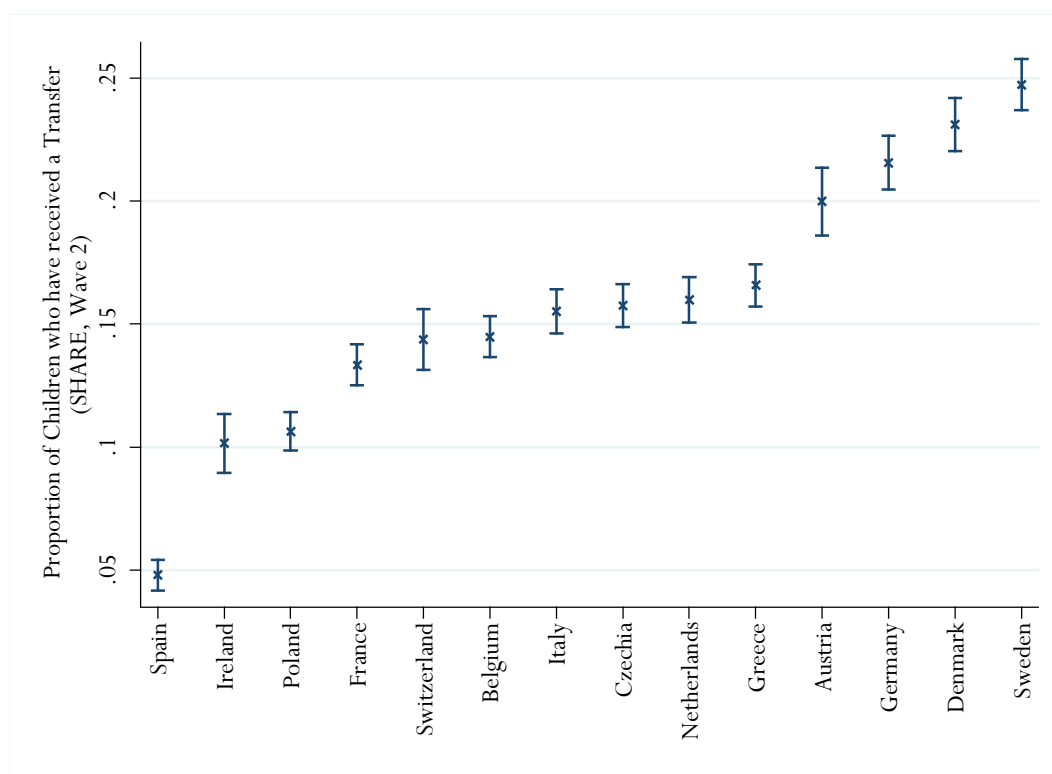
where the parental household has more than one child, one child is selected at random and included in the sample.

The dependent variable therefore reflects the behaviour of a random sample of parental households towards a randomly selected child. As chapter 4 stressed, this has inferential implications which are reiterated in chapter 8 where methods are used to include all children. What is of central importance is that this does not represent a generalizable sample of children or parent child relationships. As an example, only children are over sampled and so inferences are biased. In contrast households with only one child are not over sampled. This is a subtle but necessary distinction between a sample of individuals and a sample of households. The dependent variable itself is therefore a dichotomous indicator of whether a financial transfer of more than €250 was made to the randomly selected child in the last two years.

### **5.3. Transfer Behaviour on the Parent-Child Dyad**

The tables and figures on the proceeding pages illustrate descriptive statistics of transfer behaviour across the sample. The results suggest that, amongst parents over 50 in the countries sampled, 16.16% made a transfer to a specific child each year. There is considerable variation in this figure across Europe as illustrated by Figure 5.1. In Sweden the figure is as high as 25% and it is as low as 5% in Spain. Most countries have a transfer rate of between 10-20%. The statistics are largely in line with that of the literature with some divergence attributable to the more appropriate sampling used here (Schenk, Dykstra, & Maas, 2010; Albertini & Kohli, 2012).

One of the aims of this chapter is to establish the extent to which altruistic theory explains country level variation in transfer behaviour. To this end, these figures represent a starting point to which we will eventually refer back. In section 5.5 it is noted whether the country of residence itself is a good predictor of transfer behaviour. If it is no longer seen to be so then it will be concluded that the differences evident here are attributable to individual level characteristics of the parent. Therefore, the altruistic model would be considered successful in explaining country level variation in transfer behaviour. If differences across countries remain, macro level narratives such as typological, regime-based theories may be of some value in understanding transfer behaviour across Europe.



**Figure 5.1 - Parental Transfer Behaviour for a given child**

Source: Survey of Health, Ageing & Retirement in Europe, Wave 2. Note: Estimates of the proportion and 95% confidence intervals. The sample population is one from all parents over the age of 50 in the sample country. Details of the sampling method can be found in Chapter 4.

### 5.3.1. Public Pensions & Intergenerational Transfers

This section considers why this analysis focuses on Public Pension Receipts rather than other forms of policy. Public pension liabilities are considerable and are by far the largest policy relating to the material circumstances of older persons, followed by care services (Eurostat, 2013). Given the tendency of the latter to be distant from the cash nexus in which transfer behaviour operates, public pension receipts are used as the primary explanatory variable in identifying policy effects on material circumstances. It's unlikely that in kind services will directly affect the tendency of individuals to provide financial support given that they do not directly affect the financial circumstances of the household. An increase in care services may however affect the time a child cares for their parent (Brandt, Haberkern, & Szydlik, 2009; Costa-Font, 2010).

In addition to these substantive reasons, existing research has attempted to establish the proportion of public pensions that is subsequently transferred back to the working age population (Kohli, 1999). This 'pension overshooting' hypothesis therefore echoes altruistic theory in identifying a relationship

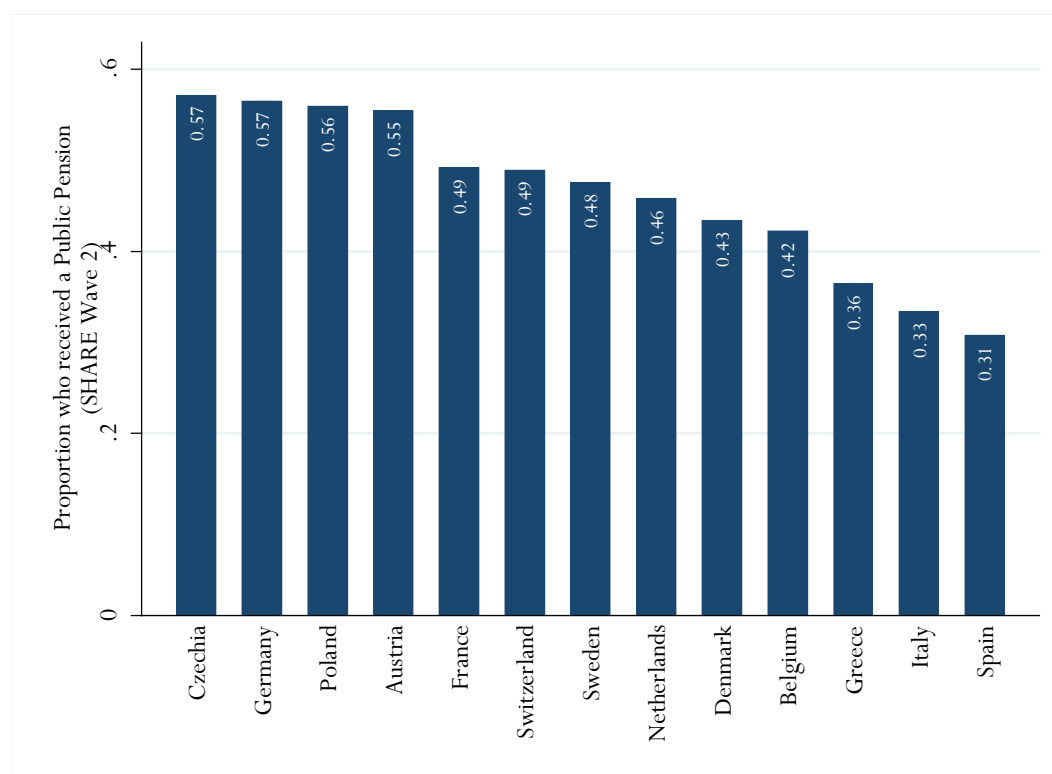
between public, upward, financial transfers as a determinant of downward, private, financial transfers. In the context of intergenerational justice, this relationship between public and private financial transactions therefore appears to be wholly pertinent.

This approach is problematic. Firstly, only a single policy area is considered. To consider public pension receipts as capturing the full impact and diversity of European Welfare States would be misleading. This chapter will only assess the impact of this single policy, all be it the most significant and relevant regarding the issue of societal ageing given the amount of expenditure relative to other policy areas. This means that the analysis forgoes the ability to make inferences regarding welfare states in their broadest sense by focusing on a specific, all be it, prominent policy area.

Furthermore, the definition of what constitutes a public pension in itself is problematic. For example, there are pensions which are mandated by the state yet reflect a personal risk and personal pension accounts that are supplemented by state subsidies. Given the use of secondary data in this study it is largely a decision that is predetermined. However it is difficult to assert with any confidence that the measure provided here is an unquestionable understanding of what constitutes a public pension. The definition used by SHARE is a pension which:

*“.. provide financial support to those out of the labour market because of reaching the statutory retirement age. This category gathers the first-pillar of public pension payments, e.g. general compulsory social insurance scheme which may be either flat-rate or earnings related (or a combination of both). In some countries, means-tested top-ups or minimum payments for those with null or incomplete work and contribution histories might also be included.” (SHARE, 2011)*

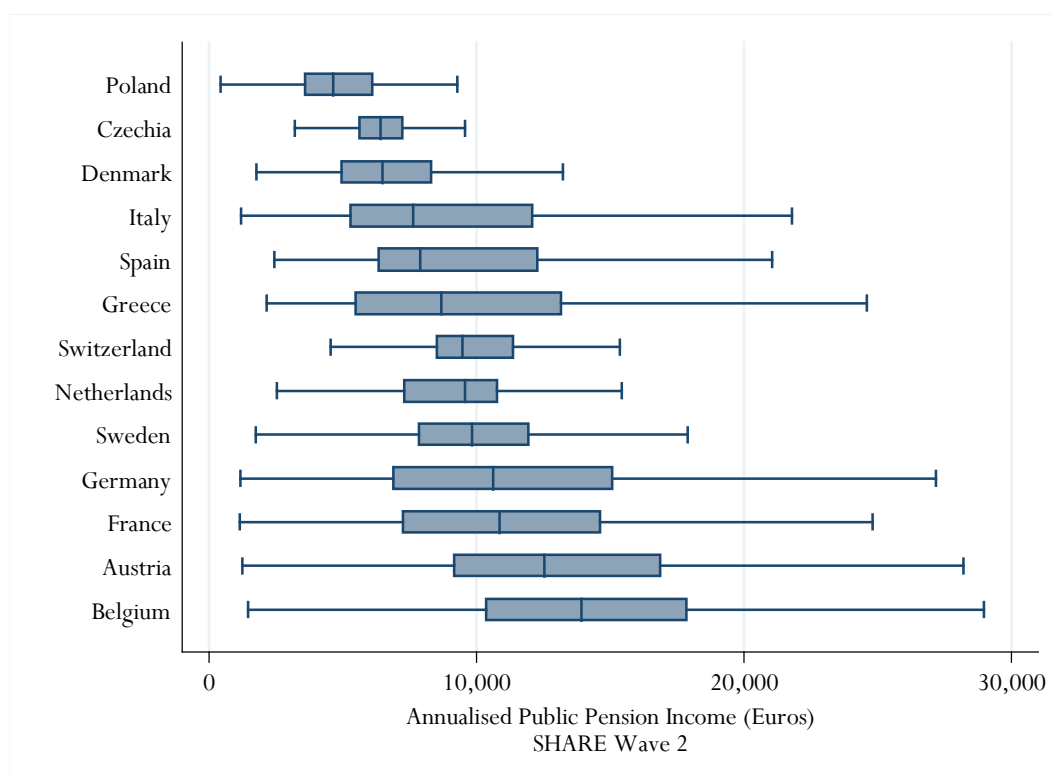
This is a comparative definition of a first-pillar public pension which allows this analysis to conclude whether variations in transfer behaviour at the country level are due to variations in this form of public pension. Using a comparative definition such as this also enables the role of policy to be understood within the wider context of variations in material circumstances between countries. That is to say that the amount of variation attributable to differences in public pensions can be compared to the amount attributable to differences in material circumstances. Do more Swedish parents give financial assistance to their children than Spanish parents because they are richer or specifically because of differences in the public pension provision? The analysis will therefore be able to illustrate how important policy variation is in explaining variations in transfer behaviour.



**Figure 5.2 - Proportion in Receipt of a Public Pension**

*Source: Survey of Health, Ageing & Retirement in Europe, Wave 2, 2006. Notes: The sampling population is all parental households over the age of 50 in the sample country*

Yet this definition does not reflect the extent to which the pension is a defined contribution or defined benefit scheme. This would more accurately reflect the extent to which the pension is derived from a ‘pay as you go’ or funded scheme. This would in turn allow for a more accurate depiction of the intergenerational nature of the debate. If it was possible to identify defined benefit schemes then it would be possible to identify any effect as part of a cycle of public upward and private downward transfers. The inability to distinguish should therefore limit inferences in this regard. Individuals with higher benefits may not be receiving a pension subsidised by the working age population as it may be a defined contribution, personal account. To assert that these individuals are recycling upward public transfers would therefore be misleading. Furthermore, the measure doesn’t take account of the large public subsidies offered via tax exemptions to private pension schemes. This vehicle is used to varying degrees across Europe and this is not reflected in this specific measure. Any conclusion in this regard must therefore be tentative and any assertion of a ‘crowding in’ effect qualified.



**Figure 5.3 - Public Pension Income amongst Pensioners by Country**

Source: Survey of Health, Ageing & Retirement in Europe, Wave 2, 2006. Notes: Central line is the median, box edges are quartiles and whiskers represent 95% values. Outer values are excluded. The sample population is all parents over the age of 50 in the sample country. Pensions are estimated using the variable *PEN1V* for all individuals who are retired.

### 5.3.2. Additional aspects of Parental Decisions to Transfer

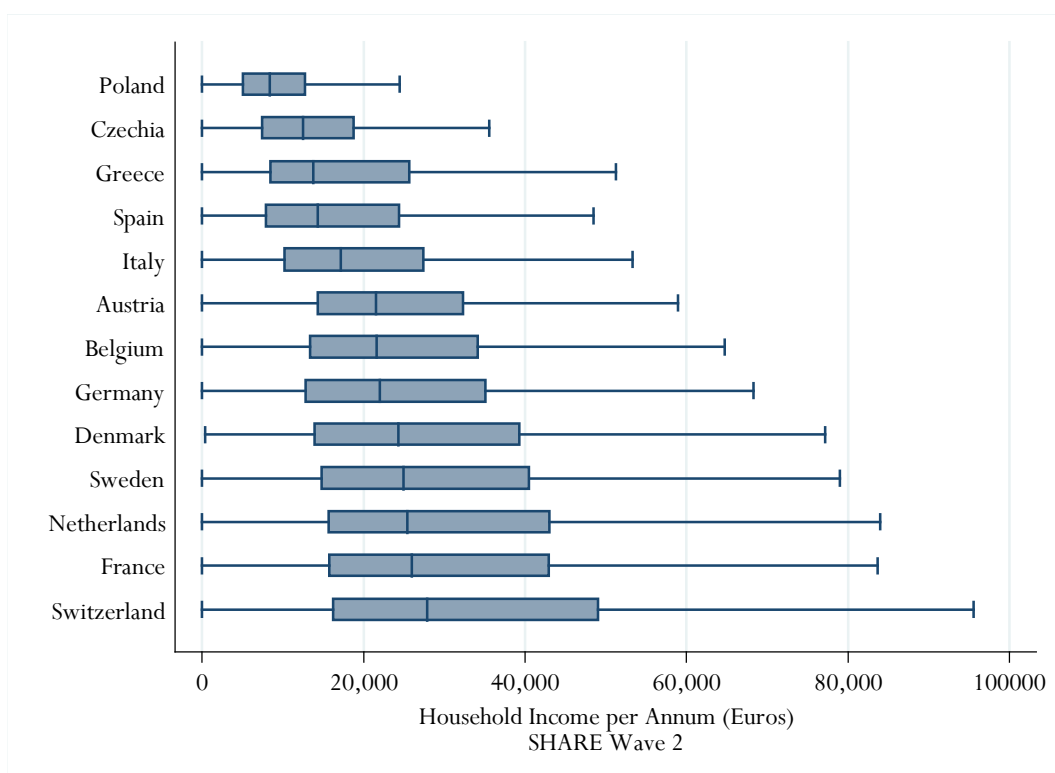
In addition to public pension receipts, there are many other characteristics of a parental household that determine their decision to make a transfer. This section will briefly discuss how these are operationalized and the theoretical reasoning behind their inclusion within the analysis.

#### *Income across Countries*

Altruistic theory and the existing literature on transfers both suggest that the primary determinant of transfer behaviour from the parental perspective is income (Cox, Motives for Private Income Transfers, 1987; McGarry & Schoeni, 1995; Villanueva, 2005; Zissimopoulos & Smith, 2009).

Altruism suggests that a parent will make a financial transfer if the financial circumstances of the parent and child are not already distributed to maximise the utility of the parent. Whilst this model can be applied to 'time', we are referring to financial transfers in this thesis and thus a financial transfer is most

likely to be induced by a financial imbalance. Thus parental income becomes the key indicator of a parent's propensity to transfer with higher parental income, associated with higher transfers.



**Figure 5.4 - Household Income per Annum by Country**

*Source: Survey of Health, Ageing & Retirement in Europe, Wave 2, 2006. Notes: Central line is the median, box edges are quartiles and whiskers represent 95% values. Outer values are excluded. The sample population is all parents over the age of 50 in the sample country.*

In addition to income there are other financial indicators which could be used such as wealth (wealth will be discussed in more detail in section 5.3.2 of this chapter). Nevertheless income is the established indicator in spite of the great differential in parental and child wealth. The reason for this is largely practical and habitual. There is little in the theory of altruism that suggests income rather than wealth should be used, even if lifecycle approaches focus on income rather than wealth. Yet income is the established indicator of parental resources used and has been shown to be a strong predictor of transfers (Cox, 1987; Berry, 2008; McGarry & Schoeni, 1995). As the analysis shows, this should be challenged more readily.

Figure 5.4 depicts the distribution of household income for the sample within SHARE. From a comparative perspective, income is a key concern given that it varies greatly across countries within the European Union. Altruistic theory suggests that differences in country level transfer rates are largely due to such differences.



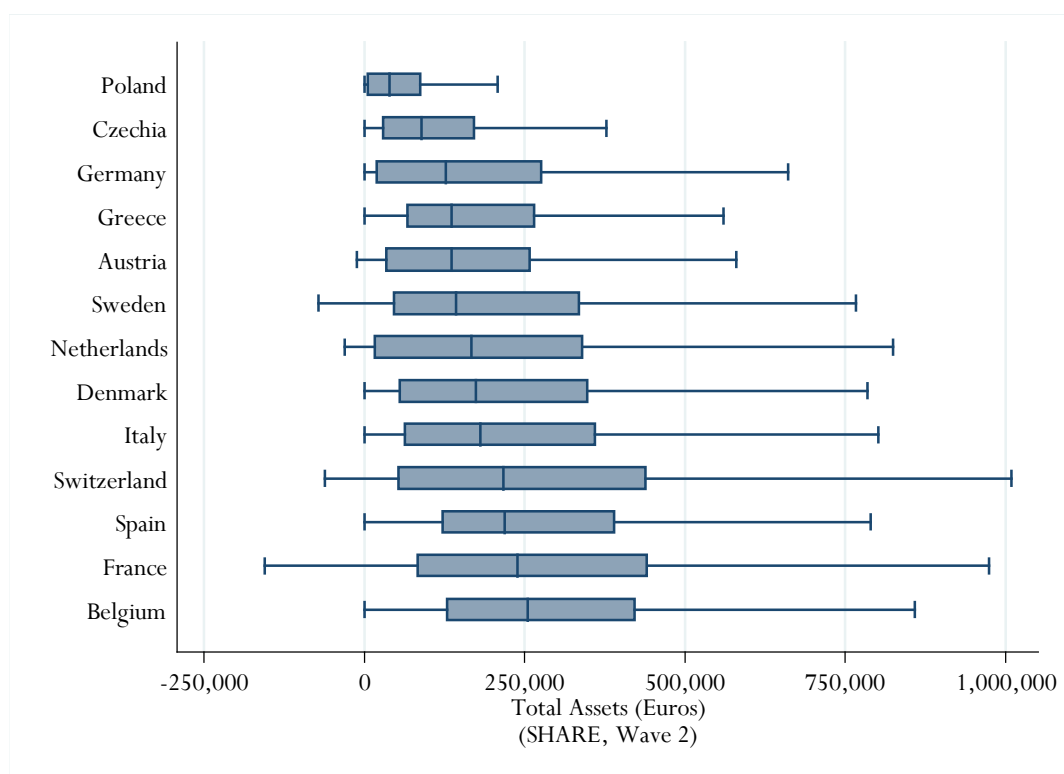
Given this, income's inclusion in the analysis is important for three reasons. Firstly, the analysis is looking to understand the impact of public pension receipts on transfer behaviour. To do this it is necessary to control for income given that it is through increasing a household's income that public pension receipts affect transfer behaviour. Secondly, given that income varies so much across and within countries, accounting for this within the analysis will help assess the degree to which altruistic theory can explain country level variance. Thirdly, in terms of its direct effect on transfer behaviour and the extent to which it explains country level variation, income offers a way of contextualising the effect of public pensions. In short, what matters more, public pensions or other sources of income?

### *Wealth*

Wealth could be considered as a more accurate depiction of the imbalance in resources between generations. Younger generations have had less time to accumulate wealth and the financial restraints younger generations face may be capital issues rather than revenue. That is to say, children may be more likely to receive money from their parents to buy a house, a car or invest in education rather than to buy groceries or cover bills (Zissimopoulos & Smith, 2009). This distinction is more thoroughly explored in chapter 6.

Whilst it is apparent that altruism would suggest that wealth has a positive effect on transfer behaviour, its relative importance within an individual's decision is not that well understood. Therefore wealth's inclusion within this model is designed to contextualise the effect of income. In addition, wealth will inevitably be correlated with public pension entitlements given that both commonly reflect the respondent's career.

To measure wealth this analysis will be taking the financial and real assets of the household at the time of the interview into account. Financial assets include the interest income from bank accounts, interest income from bonds, dividends from stocks and shares, interest and dividend income from mutual funds, individual retirement accounts, contractual savings for housing and whole life insurance (SHARE, 2011). Real assets include the value of the main residence, the value of other real estate, the value of shares in businesses, the value of cars and less the mortgage on the main residence. Figure 5.5 illustrates the different wealth distributions within European countries. As with income, the variance in wealth across countries may help explain transfer behaviour across countries.

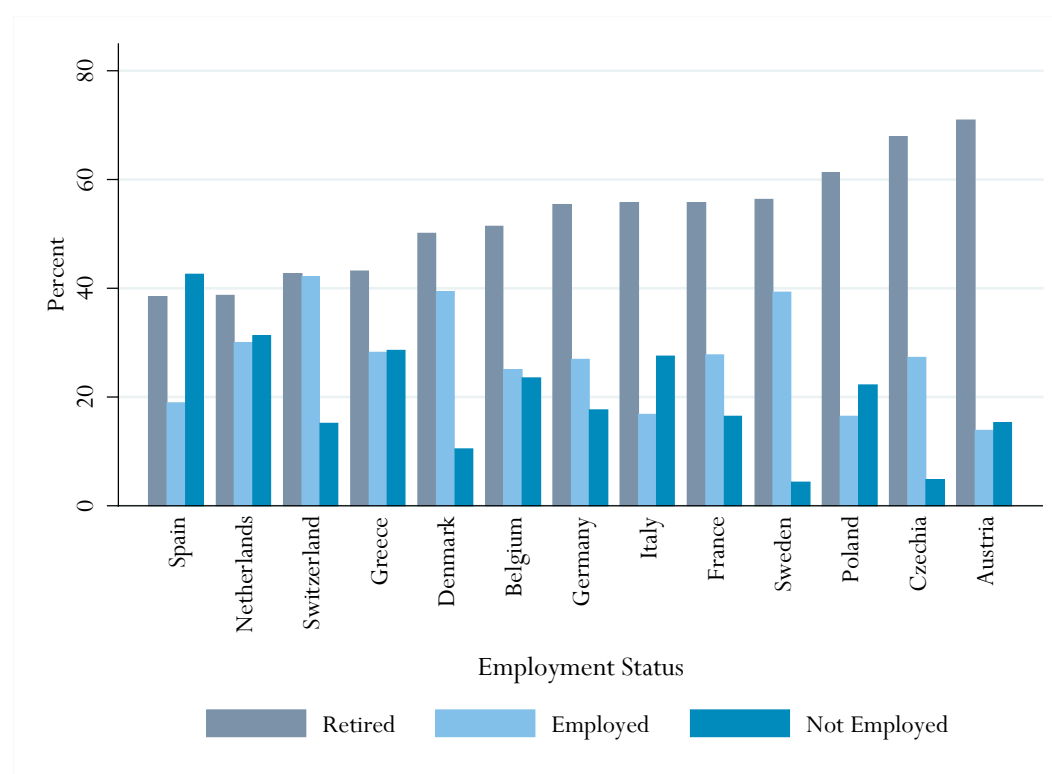


**Figure 5.5 - Household Wealth by Country: Financial and Real Assets**

Source: Survey of Health, Ageing & Retirement in Europe, Wave 2, 2006. Notes: Central line is the median, box edges are quartiles and whiskers represent 95% values. Outer values are excluded. The sample population is all parents over the age of 50 in the sample country.

### Employment Status

Employment status is a very important consideration within the analysis given the high degree of correlation with public pension receipts which serve as the independent variable of interest. Employment status at older ages is heavily influenced by the state retirement age and this in itself varies considerably across Europe. Life cycle models of transfers suggest that when the individual moves from work to retirement they, broadly speaking, move from being a net provider to a net recipient of support (Cyrus Chu & Lee, 2006). This effect is independent of actual levels of income and reflects a stage in the life cycle in which the individual is no longer the primary source of financial support within an extended family network. Altruistic theory does not distinguish between the sources of income or wealth in their impact on transfer behaviour. Retirement income is the same as that earned on the labour market. To assess the degree to which this is true, the employment status of the financial respondent will be included within the model. If employment status is seen to affect transfer behaviour independent of income and other parental resources, it will undermine the altruistic position.



**Figure 5.6 - Employment Status of Financial Respondent**

Source: Survey of Health, Ageing & Retirement in Europe, Wave 2, 2006. Financial Respondents are selected by the interviewer to respond on behalf of the household to financial questions if the residents indicate that they share their finances. In such cases only those answering financial questions are included. In households where finances are separate between respondents, each respondent answers financial questions and they are all included here.

To capture employment status, the employment status of the financial respondent was recorded on the date of the interview and this was subsequently coded as: employed, not employed or retired. This simplified classification focuses on the self-perception of the respondent and the particular distinction between retirement and continued participation in the labour market. Given that this comparison is the substantive and theoretical interest, retired is considered the reference category. Figure 5.6 shows the extent to which labour market status varies across respondent households.

### *Financial Transfer Receipts & Inheritance*

In addition to employment status, another potential blind spot of altruistic theory is the position of the parent within a wider network of altruistic individuals. That is to say the family or other individuals who care about both the parent and child. For example in altruistic theory a parent will transfer money to their child if doing so would increase the parents overall utility. This would not be the case if there was another individual within the network who either cared for their child more than the parent's or that was relatively better off than the parents (Browning, Ciappori, & Weiss, 2010). That is to say that the propensity of an individual to transfer under a more complete consideration of altruistic theory would suggest that it is highly dependent on the parent's positioning within a wider network. This will be elaborated upon considerably in Chapter 8.

Ideally, longitudinal or network analysis would allow for this to be captured but data restrictions limit this. Here, in order to account for this affect, the parents own private transfer receipts are considered. The sum of the transfer receipts for the respondent or respondent couple are therefore used to indicate the extent to which the parent is the primary source of financial assistance within the network. To clarify, the variable measures whether the parent has received any financial transfers from individuals other than the specific child and the dichotomous indicator is then included in the model. Incorporating this within the model avoids potential spurious effects. This is because the resources and depth of a financial support network would presumably be highly correlated with income and thus a potential reduction on the actual effect of transfers.

A similar logic applies to the inclusion of inheritance receipts within the model. Individuals from wealthier, high income backgrounds are more likely to receive inheritance which is itself a potential stimulant of further downward financial transfers. As with transfer receipts, the inclusion of this within the model is intended to reflect the extent to which the parental household is part of a wider support network. If such effects are found to be significant and prominent, altruistic theory would not in itself be contradicted but its parsimonious nature may well be brought into doubt. The need to consider it here is due to the potential spurious effects that inheritance may render. To capture the inheritance

effect, the household was asked whether they received inheritance in the 12 months prior to the interview and this was included as a dichotomous indicator.

### *Age*

As with employment status, there are life cycle effects which are not reflected directly within altruistic theory but have been referenced within other transfer literature (Cyrus Chu & Lee, 2006). These theories emphasise the extent to which the model of altruism shifts over the life course. They are not necessarily directly contradictory to the theory of altruism but do emphasise different aspects of transfer dynamics. In addition, to understand country level variance, age may well be a key factor given the differing population structures within countries. This reflects not only differences in life expectancy across Europe but also historical demographic legacies such as the distinct nature of the post war baby boom in European countries (Neyer, Andersson, Kulu, Bernardi, & Bühler, 2013). What's more, age is inevitably highly correlated with the key independent variable of public pension receipts and is therefore important to consider in the context of this chapter. In instances where the financial respondent was responding on behalf of a couple, age was recorded as the average age of the couple.

### *Education*

Recent research on transfers using this dataset has suggested that the income differential is attributable to socio-economic status over and above the effect of income (Albertini & Radl, 2012). This argument is notoriously difficult to disentangle, especially considering that income and wealth are more closely associated with socio-economic status later in the life course. The need to consider this here derives from the high correlation between educational level and public pension receipts, particularly where receipts are largely dependent on the nature of an individual's career. Individuals with high levels of education will have been in higher paying jobs for longer and will likely receive more in the way of a public pension. If education, or more precisely socio-economic status, does drive transfer behaviour then this may affect the estimates. Education level was taken as the average number of years in education for the household. This measure is not ideal and International Standard Classification of Education codes are generally preferred given that they reflect the actual level of achievement rather than the time spent in educations. However this is not available for the respondents in SHARE (given the time elapsed since education was completed) and thus years in education is used.

### *Single or Couple*

A key methodological issue centres on the distinction between couples and single households. There are obvious differences in a single person's household's utility curve and that of a couple. Consumption requirements and patterns are very different and these are often addressed through the simple exclusion of single households. This is not an unreasonable strategy. Here the decision was made to include both couples and single households in order to maintain a representative sample of older person's households. This is particularly important given that the proportion of households with single respondents varies considerably across Europe. Here the focus is on the Eastern European nations within the sample which show very high levels of single occupancy due to a number of factors. The primary one being the higher differential in female-male life expectancy in this region which makes widowhood a more common and longer lasting period in the life course (Hoff, 2011).

### *Characteristics of the Adult Child*

In addition to these factors, the analysis also includes a number of child characteristics. These characteristics are highly correlated with those of the parent. The public pension receipts of an individual may be correlated with the employment status of the child if existing research is correct in understanding the relationship between parental and child employment patterns (Brandt & Hank, 2011). This inheritance is complex and more thoroughly dealt with from both a theoretical and practical perspective in Chapter 8. The processes used there are identical to those used here. These variables include age, birth order, number of children, employment status, marital status & education.

#### 5.3.3. Methods to be used

### *Hypotheses*

The main aims of this chapter were to establish whether policy affected transfer behaviour via the parent circumstances, what is referred to as the parental opportunity structure in chapter 3, and whether altruistic theory would account for country level differences in parental transfer behaviour. Section 5.3.1 outlined how policy and the parental opportunity structure were operationalized and so it is now possible to outline the specific hypotheses that this chapter tests.

1. *Households with higher public pension receipts are more likely to transfer money to their child*
2. *Once individual characteristics are considered, country level differences in behaviour will be zero*

In testing these hypotheses, this analysis establishes whether policy affects transfer behaviour via the parental opportunity structure as outlined in chapter 3. Yet this hypothesis is worded in a cross-sectional form given that longitudinal analysis was not possible. This is due to the nature of SHARE. This, among other things, limits the extent to which the coefficient identified for public pensions can be considered causal in that there is considerable unobserved heterogeneity between individuals. The cross-sectional design of this analysis therefore means that inferences are purely associational. Chapter 7 discusses and explores more conclusive methods using the European Union Statistics on Income and Living Conditions.

The second hypotheses can be more vigorously tested given that both theoretically and empirically it is cross-sectional in nature. If the difference in transfer behaviour is not statistically significant after individual level circumstances are considered, this would imply that altruistic theory can account for country level variance. If altruistic theory is able to explain such variance then it will address one of the main puzzles in intergenerational transfer research. If the second hypothesis is not confirmed and the country level variation persists then it can be concluded that individual level variation does not fully account for differences in transfer behaviour at the parental level and thus supports macro-social narratives of transfer behaviour (Albertini & Kohli, 2012).

### *The Analytic Strategy*

To establish whether the hypotheses are correct the following analytic strategy was adopted. Firstly a model of transfer behaviour was constructed on a step wise basis at the individual level using the data detailed in sections 5.3.1 and 5.3.2 (Rabe-Hesketh & Skrondal, 2012). This provided a model of transfer behaviour at the individual level (Model 1). Then the key independent variable was introduced and model fit measures were used to determine whether public pension receipts improve estimates of the probability of a transfer occurring (Model 2). This includes an assessment of the estimated effect direction, significance and marginal effects. Model fit characteristics are also considered at this stage but they are not considered as vital to the evaluation of the hypothesis given that it is the effect itself which is of primary interest.

After the first hypothesis has been tested, country level fixed effects (dummy variables for each country) are included (Model 3). The coefficients are then examined and marginal effects for each country obtained and compared to those observed in 2.1. Model fit statistics are also considered given that the assertion is that, given individual characteristics, country level information will not significantly improve our understanding of transfer behaviour.

## 5.4. Results

This section outlines the analysis conducted and summarises findings. It describes the processes by which the models were constructed and the extent to which it tests the hypotheses outlined in section 5.3.3. Methodological limitations are discussed in order to inform and support the substantive and theoretical conclusions of this chapter. To achieve this, the initial model is analysed and its construction discussed in section 5.4.1. This provides the basis by which the analysis progresses. Section 5.4.2 addresses the first of hypotheses in section 5.3.3 and the primary concern of this chapter and indeed thesis. By introducing public pension receipts to the analysis, the model is used to establish whether public transfers induce downward transfers.

Section 5.4.3 then assesses the impact of this model on country level variance and the extent to which country level variance is accounted for by the individual level characteristics under consideration. This is supplemented by an evaluation of the transfer regime approach that has been adopted elsewhere in the literature. The section concludes with a brief summary of the empirical findings and methodological limitations encountered.

### 5.4.1. The Altruistic Model of Transfer Behaviour

Table 5.1 (p.103), Table 5.2 (p.107) and Table 5.3 (p.111) illustrate the results for the four models presented in this analysis. The results in the three tables refer to the same models. They are separated in order to present what are large and complex models in a simple and accessible way. Table 5.1 presents the estimates for coefficients of Parental Variables (Income, Wealth, Employment Status, Transfer Receipt, Inheritance Receipt, Age, Education, Couple or Single). Table 5.2 presents the estimates for coefficients of child variables (Cohabiting, Age, Gender, Proximity, Marital Status, Employment Status, Education, Contact, number of Children). Table 5.3 presents the coefficient estimates for country and regime fixed effects as well as model fit statistics.

The models are constructed as outlined in section 5.3.3. Model 1 was constructed in a stepwise fashion using the variables from sections 5.3.1 and 5.3.2 as well as the child level variables which are outlined in more detail in chapter 7. This section will concentrate on these results from model one and in particular, the results in Table 5.1 which refer to the parental characteristics, the subject of this chapter. As altruistic considerations suggest, income is significant and a considerable effect size. The same is also true of wealth. Whilst any comparison of these two measures is beyond the scope of this chapter and thesis, the results here do suggest that a theoretical distinction between the two should be advanced given that the income and wealth considerations act in very distinct ways. Thus far, income has served as the core of most analysis even in the analysis of status reproduction (Albertini & Radl,



2012). This tendency is questionable and the extrapolation of the distinct effects would serve the theory of transfers considerably. Nevertheless, this is a side issue in the context of the research presented here particularly given that it does not serve as an evaluation of altruistic theory itself.

As outlined in section 5.3.2, two variables within this model do serve to test the legitimacy of altruistic theory: age and employment status. As the results in Table 5.1 show, there is no statistically significant difference in the transfer behaviour of a household where the financial respondent is retired and one where they are still in employment. There is a difference between those who are retired and those out of work but this does not reflect the life course change of moving from employment to retirement. The age of the parents also shows no significant effect which is telling given the compelling life course analysis of transfers discussed in Chapter 2. Nevertheless it would appear that such life course effects can be subsumed within altruistic theory rather than supplant it. That is to say that as we grow older our income is less relative to our children and it is this that reduces behaviour rather than life stage processes.

There are three additional factors which are included as counter points to altruistic theory: transfers received by the household (as opposed to whether they give transfers, which is the dependent variable), inheritance and education. Inheritance and transfer receipts show an effect in the hypothesised direction in Table 5.1 and suggest that the relative position of an individual within a support network is important. That is to say, independent of the individual's own financial position (represented by income and wealth) the behaviour of third parties within a family network is a key determinant of transfer behaviour. This is indicated more by the effect size rather than the significance levels. These effects of family form and structure are considered in greater detail in chapter 8 where they will be shown to considerably alter our understanding of altruistic theory.

The coefficient for education supports assertions that transfer differentials extend beyond financial indicators and supports previous research (Albertini & Radl, 2012). Yet there is little room to fully explore these within this thesis and they are possibly not given the attention that they deserve. A variety of other indicators could have been used to explore the cultural and sociological drivers of transfer behaviour and the failure to do this limits the extent to which this thesis is able to comprehensively assess the explanatory power of altruistic theory relative to other theories of transfer behaviour. The reason for this is that the aim of this chapter is to ascertain whether altruistic theory can accommodate policy within its framework. As with the consideration of wealth however, a comparison of sociological and economic theories of transfer behaviour would assist an evaluation of altruistic theory.

The models F statistic indicated that the model was significantly better than a constant only model and so satisfies the minimum requirements of an analytical model in that it is preferable to the observation

of mean transfer proportions detailed in section 5.2.1. The pseudo R squared in Table 5.2 is 0.116, a credible value for such a model (Liao, 1994). This model is very similar to the analysis provided elsewhere and mirrors many of the existing findings of the literature.

The conclusions from this model suggest that altruistic theory does explain transfer behaviour in Europe to a degree. The limited effect of age and employment status implies that life course considerations such as those discussed in section 5.3.2 add little to the parental perspective. Indicators of a wider financial support network indicate that altruistic theory does need to consider the wider context of a parent child dyad within a family network. Education significantly improved the model though the effect size is not dramatic. This implies that sociological explanations maybe valid but do not confound the altruistic model. This model echoes existing research and demonstrates the established validity of the altruistic model. The rest of this section is dedicated to addressing the hypothesis presented in section 5.3.3, starting with the incorporation of public pension receipts.

**Table 5.1 - Probit Estimates: Parental Variables**

	Model 1		Model 2		Model 3	
Parents Household Public Pension Income			0.017	*	0.021	**
(Log, Euros)			(0.010)		(0.010)	
Parents Household Income (Log, Euros)	0.034	*	0.031	*	0.03	
	(0.017)		(0.017)		(0.019)	
Parents Household Wealth (Log, Euros)	0.052	***	0.053	***	0.068	***
	(0.010)		(0.010)		(0.011)	
Employment Status (#Ref: Retired) -	0.022		0.088		0.117	
Employed	(0.065)		(0.074)		(0.075)	
Not Employed	-0.199	***	-0.135	**	-0.079	
	(0.057)		(0.068)		(0.069)	
Parents received a transfer (#Ref: No)	0.601	***	0.602	***	0.536	***
	(0.077)		(0.077)		(0.078)	
Parents received Inheritance (#Ref: No)	0.292	***	0.294	***	0.303	***
	(0.091)		(0.091)		(0.089)	
Age of the Parents (Average)	0.003		0.002		0.004	
	(0.005)		(0.005)		(0.005)	
Years in Education	0.03	***	0.029	***	0.022	***
(Average if a couple)	(0.006)		(0.006)		(0.006)	
Parents Household, (#Ref: Couple) - Single	-0.037		-0.038		-0.034	
	(0.081)		(0.080)		(0.083)	

Source: Survey of Health, Ageing & Retirement in Europe, Wave 2. Note: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses. Model statistics included in table 5.3.

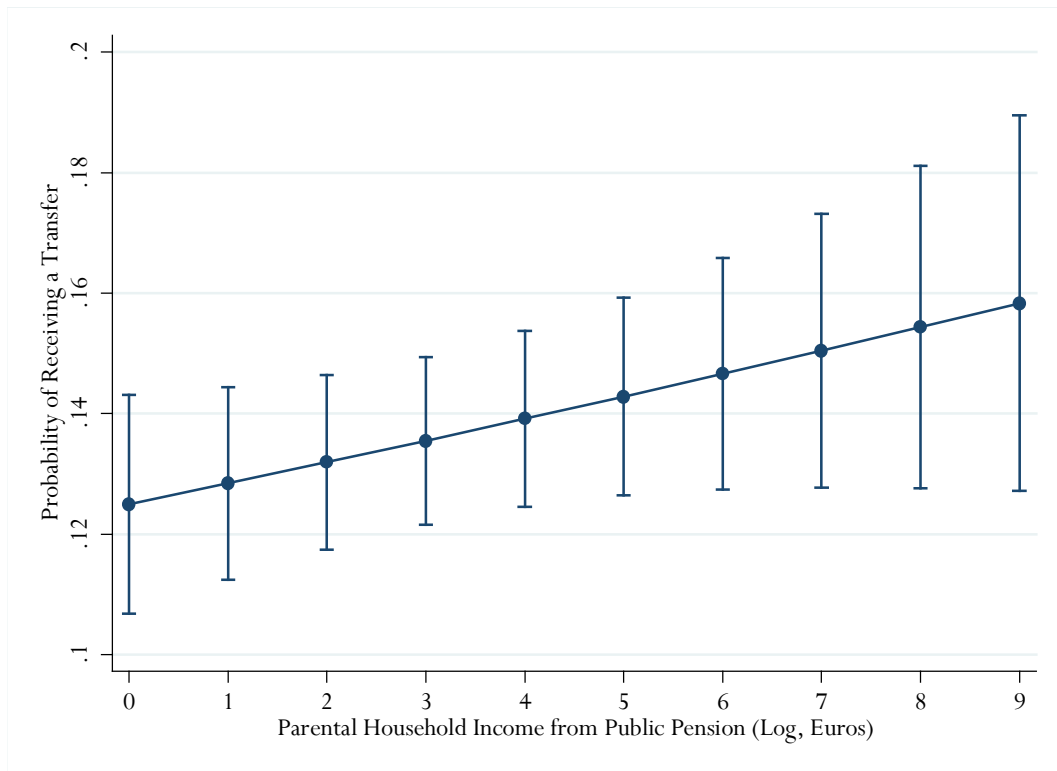
#### 5.4.2. Public Pension Receipts and Transfer Behaviour

The first hypothesis that this analysis seeks to test is whether households with higher public pension receipts are more likely to make a transfer. To do this, model 2 includes the log function of public pension transfer receipts and the coefficient for this can be found in Table 5.1. The model returned a coefficient of 0.017 and a standard error of 0.01. This makes the coefficient significantly different from 0 at the 95% level. The interpretation of this coefficient is statistically and theoretically complex.

Firstly, the value of public pension receipts is logged in order to normalise the distribution. A probit model is not the best estimate of the relationship between x and y if x is not normally distributed (Liao, 1994). The log transformation seeks to rectify this. Secondly, the dependent variable in a probit model

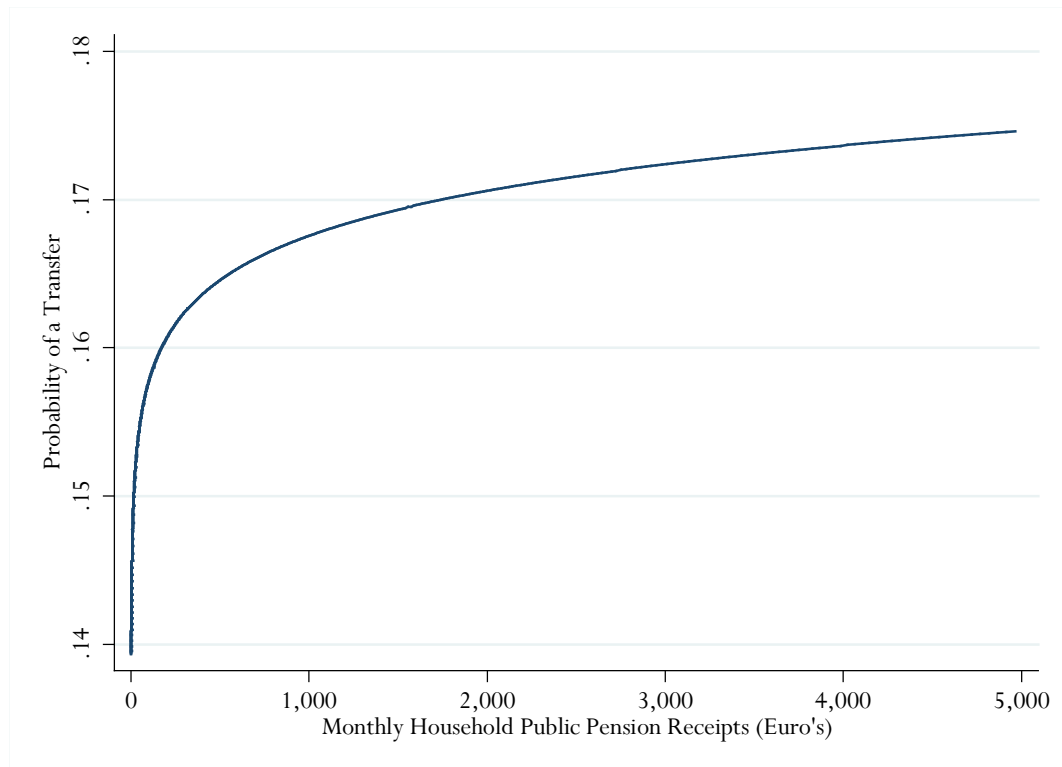
is itself a transformation of the probability of  $y$  occurring. These two transformations cloud interpretations somewhat. For example, the coefficient of 0.017 states that for an increase of 1 in the log value of the Household Public Pension Receipts, the Z score for the probability of  $Y$  occurring increase by 0.017. Figure 5.7 illustrates this marginal effect, showing that the estimated Z score ranges from -1.083457 to -.9601248.

This interpretation underlines the argument made in chapter 4. It was argued there that a probit model effectively prohibits raw interpretations of coefficients given the transformation that the dependent variable undergoes. To understand the model effectively, it is necessary to translate the models estimates into absolute probability values rather than relying on interpretations similar to those in ordinary least square regressions. To place this into substantive terms, this can be translated into an estimated probability of a transfer being made using marginal effects. These consist of calculating the models predicted probabilities at given values of the independent variables. The values calculated here are done so with all other values in the model taken at their means. When the log value of the Parental Households Public Pension Receipts is 1 (€0), the estimated probability of a transfer is 0.1393. When this log value is 6.5, the mean value amongst those receiving a pension and equivalent to €665 per month, the probability of a transfer is estimated at .16. When the log value is 9 which is close to the highest value recorded and represents €8,103 per month, the probability of a transfer is .168.



**Figure 5.7 - Marginal Effect at the means of Public Pension Receipts on Probability of a transfer**

Source: Survey of Health, Ageing & Retirement in Europe, Wave 2. Note: 95% confidence intervals displayed



### Figure 5.8 - Probability of a Transfer over Public Pension Receipts

*Source: Survey of Health, Ageing & Retirement in Europe, Wave 2. Note: Authors own calculations*

Figure 5.8 displays the models estimate for the probability of Y over public pension receipts in Euros. This reveals the effect of the logarithmic transformation which imposes a non-linear relationship. In order to establish whether this restricted the estimate, the model was rerun with the log value of pensions squared included. This was insignificant and the model fit was not significantly improved. The effect of pension receipts was also captured using a dummy variable which indicated whether the household received any public pension in the last year. This model was inferior to model 2 on the basis of Akaike information criteria (Hox, 2010). This implies that the effect cannot be reduced down to a distinction between recipients and non-recipients. The subsequent increase in the probability of a transfer as public pension receipts move into higher levels improves the model's ability to predict transfer behaviour and is therefore preferred.

A substantive interpretation of this model suggests that public pension recipients are around 2-3% more likely to give money to a specific child than households that are not in receipt of financial transfers. In addition, pensioners who receive more than €2,000 per month have a transfer rate of between 17-17.5%. This is compared to those who receive less than €2,000 per month whose transfer rate is estimated at between 16-17%. Grounding the understanding of the model in such estimated probabilities avoids the ambiguities of odds ratios which would have suggested that public pension recipients are up to 25% more likely to make a transfer. As it is the estimated probabilities suggest that whilst significant, the difference between pension recipients and non-recipients is not dramatic and raises doubts about the extent to which policy differences can be said to account for observed variance in transfer behaviour at the country level. This brings us to the evaluation of the second hypothesis.

**Table 5.2 - Probit Estimates: Child Variables**

	Model 1		Model2		Model 3	
Child Cohabiting with spouse (#Ref: No)	-0.190	**	-0.190	**	-0.245	***
	(0.076)		(0.076)		(0.080)	
Age of the Child	0.025		0.024		0.017	
	(0.016)		(0.016)		(0.016)	
Age of the Child Squared	-0.001	**	-0.001	**	-0.001	**
	(0.000)		(0.000)		(0.000)	
Gender of Child (#Ref: Male)	-0.061		-0.061		-0.054	
	(0.045)		(0.045)		(0.045)	
Distance from Parents (#Ref: Less than 5km) -						
5-100km	0.136	**	0.135	**	0.12	**
	(0.054)		(0.055)		(0.055)	
Child lives more than 100km from Parents	0.219	***	0.219	***	0.203	***
	(0.065)		(0.065)		(0.066)	
Childs Marital Status (#Ref: Married) -						
Divorced or Separated	0.515	***	0.52	***	0.476	***
	(0.164)		(0.165)		(0.171)	
Never Married	0.614	***	0.621	***	0.597	***
	(0.142)		(0.142)		(0.148)	
Widow	0.292		0.297		0.282	
	(0.245)		(0.245)		(0.250)	
Employment Status (#Ref: Full Time) -						
Unemployed	0.421	***	0.422	***	0.4	***
	(0.086)		(0.086)		(0.087)	
Self Employed	0.044		0.049		0.014	
	(0.078)		(0.078)		(0.078)	
Part Time	0.19	**	0.188	**	0.151	*
	(0.080)		(0.080)		(0.080)	
Student	0.371	***	0.373	***	0.367	***
	(0.087)		(0.087)		(0.087)	
Parental Leave	-0.114		-0.118		-0.214	
	(0.134)		(0.134)		(0.137)	
Retired	0.181		0.187		0.178	
	(0.226)		(0.227)		(0.232)	

	<b>Model 1</b>		<b>Model2</b>		<b>Model 3</b>
Sick or Disabled	-0.112		-0.117		-0.111
	(0.182)		(0.183)		(0.183)
Homemaker	0.178 *		0.18 *		0.173 *
	(0.098)		(0.098)		(0.098)
Childs Education (#Ref: Medium) -					
Low	-0.185 ***		-0.183 ***		-0.13 **
	(0.066)		(0.066)		(0.066)
High	-0.047		-0.048		-0.002
	(0.048)		(0.048)		(0.048)
Contact with Parents (#Ref: Less than Weekly) -					
Daily	0.388 ***		0.391 ***		0.38 ***
	(0.058)		(0.058)		(0.059)
Weekly	0.303 ***		0.305 ***		0.298 ***
	(0.052)		(0.052)		(0.053)
Child's Number of Children	0.104		0.103		0.114 *
	(0.066)		(0.066)		(0.067)

Source: Survey of Health, Ageing & Retirement in Europe, Wave 2. Note: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses.

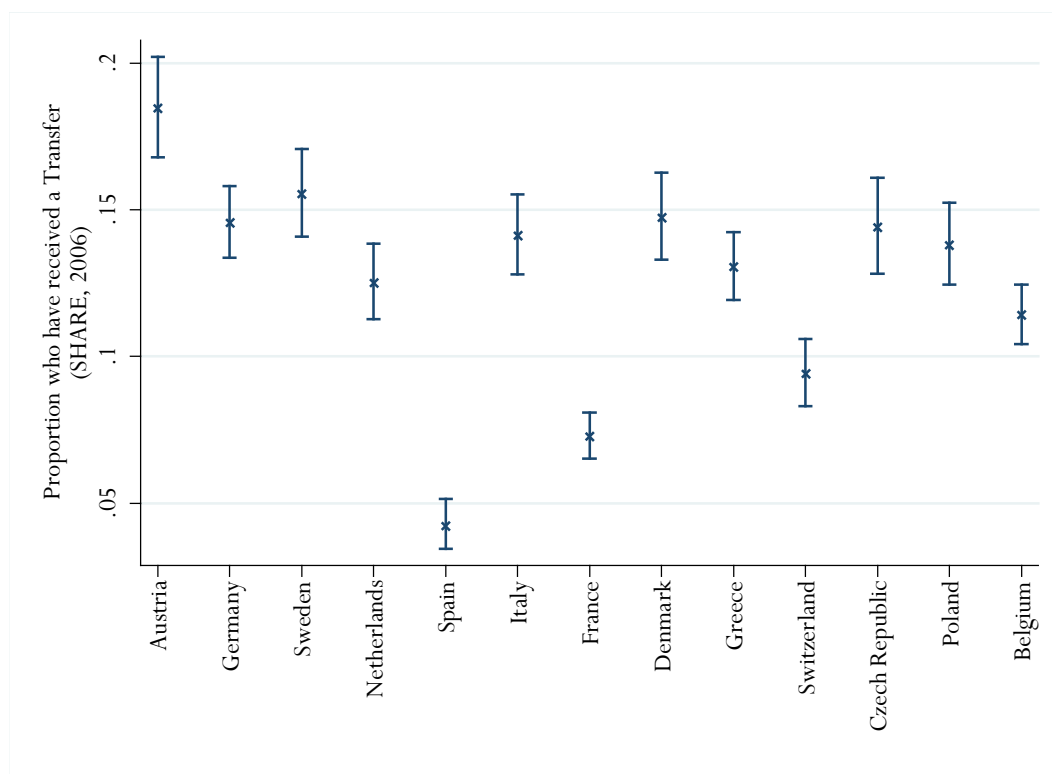
### 5.4.3. Country Level Differences

Table 5.2 includes the country and regime fixed effects that were added in model 3 and model 4. This was to test whether the altruistic model and public pension receipts explained the country level differences identified in section 5.2 of this chapter. It is important to stress that the focus here should be on the effect size itself rather than significance levels. This is because the significance merely indicates the extent to which each country is different to the reference category country. There has been a tendency within analysis to use Austria as a reference country given the arbitrary fact that it is coded with the lowest number amongst SHARE countries (Schenk, Dykstra, & Maas, 2010). Austria has a relatively high level of transfer behaviour, which has the consequence of showing all country level fixed effects to be significant.

In this analysis, Greece is used as the reference category for the similarly arbitrary reason that it has the largest sample size yet this is in some sense preferable given that Greece has a transfer rate of around 16%, close to the average for the pooled sample. Even still it should be stressed that the significance levels reflect very little with regard to this hypothesis. Whilst the existing research has not inferred



country level effects from these significance levels, their presentation has tended to over emphasise fixed effects in comparative analysis.



**Figure 5.9 - Estimated probability of a transfer by country, Model 3 marginal effects at the mean.**

*Source: Survey of Health, Ageing & Retirement in Europe, Wave 2. Note: 95% confidence intervals indicated*

As with the estimates for Public Pension receipts, the tendency to focus on significance levels is heightened by the absence of an immediate substantive interpretation. Instead, marginal effects are presented as in Figure 5.9. This shows that the difference between countries is not great and that once confidence intervals are considered, the country level of variance appears to have largely dissipated. This can be seen given that the confidence intervals largely overlap suggesting that we cannot be confident that the transfer rates in each country are different from one another given our sample which should be sufficient to find substantial differences between countries.

For example, Spain, Switzerland, Austria and France are the only outliers that we can confidently interpret as deviating from the probability of 13-14%. The potential interpretations of these deviations will be discussed later but the emphasis here is that the estimates suggest that individual level characteristics account for observed differences between Italy, Greece, Sweden, Germany, Denmark, Poland and the Czech Republic which have strikingly similar estimates for their transfer behaviour yet come from distinct regions of Europe.

This raises questions about the need for a comparative narrative for transfer behaviour and suggests that altruistic theory is in large part sufficient to explain observed differences in behaviour. Whilst the model fit statistics for model 3 show significant improvement compared to model 2, this is largely inevitable for a variable that accounts for so many unobserved factors. To this end they do incorporate outliers such as France, Spain and Austria and therefore reduce the unexplained variance and thus altruistic theory is limited. Nevertheless the model fit statistics show that including country dummies into our model improves our understanding of transfer behaviour. A comparison of effects suggests however that country level narratives are difficult to defend in light of such results.

Table 5.3 - Probit Estimates: Country Effects

	Model 1	Model 2	Model 3
Greece			0 (.)
Austria			-0.158 * (0.081)
Germany			-0.115 (0.088)
Sweden			-0.252 *** (0.089)
Netherlands			-0.827 *** (0.114)
Spain			-0.177 ** (0.087)
Italy			-0.557 *** (0.083)
France			-0.15 * (0.089)
Denmark			-0.226 *** (0.083)
Switzerland			-0.418 *** (0.092)
Belgium			-0.164 * (0.098)
Czech Republic			-0.191 ** (0.091)
Poland			-0.307 *** (0.081)
Constant	-3.408 *** (0.450)	-3.354 *** (0.450)	-3.078 *** (0.457)
Log Likelihood	-24578870	-24565169	-24109403
Pseudo R Squared	0.116	0.117	0.133
N	14,337	14,337	14,337

Source: Survey of Health, Ageing & Retirement in Europe, Wave 2. Note: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses

#### 5.4.4. Summary

The analysis provided here aimed to address the two hypotheses put forward in this chapter which form question 1 and 4 in the Research Design outline in Chapter 3. The analysis suggests that an altruistic model does describe parental transfer behaviour in Europe well. With regards to the first hypothesis and question 1 in chapter 3, it was shown that those households in receipt of first tier public pensions were more likely to make transfers in line with altruistic theory and the findings of previous research (Künemund & Rein, 1999; Cox, 1987). However this effect is small and unlikely to be the predominant cause of country level variance. This second hypothesis (part of question 4) in Chapter 3 was tested and the results suggest that the altruistic model does indeed reduce country level variance substantially, though not entirely. The primary cause of this is most likely to be income and broad compositional differences rather than specific policy variation. This is concluded given the large difference in effect size between pension receipts and income and wealth observed in all of the models. To corroborate this conclusion, model 3 was run without the public pension receipts variable and there was no significant change in the country estimates.

Outliers persist however and these are still in need of exploration. Firstly, Spain is an outlier that should be considered individually. Whilst no evidence of methodological peculiarities could be identified, this difference could easily be attributable to a practical difference in the data collection techniques of the various participating countries. The observation of depressed transfer behaviour in France, Belgium and Switzerland is less likely to be attributable to such factors and remains the only observation that justifies the use of a regime or typological approach to comparative transfer behaviour. This could be a difference in other areas of policy as the French speaking world has a very distinct approach to family policy (Esping-Andersen, 1999).

### 5.5. Conclusions

#### 5.5.1. Limitations

As with any analysis, there are considerable limitations. The primary limitation is the lack of longitudinal data. Longitudinal data would allow for a greater focus on the effects of public pensions receipts and would enable insightful observations of the transition from work to retirement. Nevertheless this is primarily a limitation that concerns the first hypothesis. The comparative conclusions of this chapter are more robust. Furthermore the lack of longitudinal data tempers the conclusions but does not undermine them. This conclusion speaks of a potential contradiction within contemporary European societies that is not dependent on the observation of a causal mechanism: Those who are receiving financial assistance from the state are more likely to provide private financial

assistance than those who do not. Section 5.2.2 stressed the need for a further assessment of the ‘*crowding in*’ hypothesis which this is. This analysis does not conclude that transfers cause individuals to make transfers. Instead it asserts that those in receipt of assistance are more likely to give assistance.

At the comparative level, this analysis is limited in its consideration of the outliers and the extent to which altruism explains transfer behaviour in Spain and Francophone countries. These should be considered in isolation which is beyond the scope of this thesis. Chapters 6, 7 and 8 use different approaches that go some way to explain these outliers but they in no way fully address the behaviour observed in these countries. This should be the focus of further research. In addition to this, it should be recognised that this analysis, and more generally this thesis, explicitly focus on transfers in Europe. Looking beyond Europe would allow for far greater variation in policies and parental opportunity structures. For example the transfer behaviour of East Asia has been observed to be upward and far more prevalent (Frankenberg, Lillard, & Willis, 2002). This is most likely due to the underdeveloped welfare state and lack of welfare provision in old age. Nevertheless this lies beyond the concern of this research project.

#### 5.5.2. Do pensions drive transfers?

This thesis aims to explore the extent to which policy drives transfer behaviour. The analysis presented here has argued that those in receipt of public pensions are more likely to make a transfer to a specific child than those who do not. This supports a *crowding in* hypothesis to a limited extent yet this should not be exaggerated. The effect is not dramatic and is a constituent part of the broader altruistic theory of transfers. Nevertheless, crowding in occurs and it would appear that upward public transfers are compensated by downward private transfers. These findings are not radical in the transfer literature and as outlined in the introduction this analysis served to ground the wider thesis in the existing empirical work of the field. The results do support the existing findings regarding parental circumstance.

Beyond the search for a causal effect this chapter has demonstrated a potential contradiction within contemporary society. Those receiving public financial assistance are more likely to give private financial assistance. The differential is not large but it is striking. Altruistic theory suggests that private transfer behaviour redistributes money from the well off to the worse off and the findings here imply that the state does the opposite. Whilst public pensions are generally not need based, it might be seen as contradictory for public transfers to redistribute money to older persons that are then redistributed back to younger generations via private financial assistance. If the conclusions of this chapter are robust it raises the question of whether the existing public upward transfers are efficient and whether transfers directly to those in need might be more effective.

### 5.5.3. Do policy differences lead to Transfer differences?

The primary contribution of this analysis lays in the comparative endeavour encapsulated within the second hypothesis. This has shown that the country level narratives of transfer behaviour are largely rendered irrelevant once parental circumstances are considered. This was evidenced by the dissipation of country level differences in Model 3. In this respect the conclusion of this paper supports the assertions of Schenk et al in that transfer regimes appear to be under theorised and lacking empirical foundation (Schenk, Dykstra, & Maas, 2010).

This is not to undermine the comparative method of analysing transfer behaviour. This approach enhances the variance in variables such as income, wealth and pension receipts. For example, to understand the effects of income and wealth it is helpful to incorporate Eastern European countries that have distinct and divergent wealth and income profiles. What this analysis suggests is that the comparative narrative of typologies or cultural distinctions is not helpful in understanding transfers from the parental perspective. Later chapters will seek to see if this is similarly true with the child and family perspectives of transfer behaviour. From a parental perspective however, policy is best incorporated through a micro model of altruistic theory rather than the regime and typological approaches found in much of comparative social policy.

### 5.5.4. Implications for the Thesis

This chapter has argued that transfer behaviour is affected by policy via the parental household's circumstances. Upward public transfers via the taxing of the working age population, are correlated with downward private transfers. Given that this thesis seeks to understand the effect of policy on transfer behaviours, this finding is important. Furthermore, the parental household's circumstances have been shown to account for a considerable amount of country level variation. This supports the use of altruistic models in analysing transfer behaviour and undermines arguments that seek to employ typology or regime based narratives to the analysis of comparative transfer behaviour. In short, if the Swedish transfer more than the Czechs, then it is because they are richer and not because they are more Swedish.

Yet this is only one perspective through which to view transfer behaviour. Almost all of the existing literature has sought to explore transfers via the parental households. There have been legitimate and practical reasons for this. The rest of this thesis will however diverge from this and seek to understand whether the findings of this chapter can be supported and validated with alternative sampling methods, analytical techniques and data sources. This allows new questions to be addressed such as; what is the effect of children's circumstances on transfer behaviour? Do bigger families transfer more or less? Do

policies that support the child, crowd out transfers? Does this help explain variation in transfer rates across countries? These are the questions that are to be answered in Chapters 6, 7 & 8. In this context, this chapter represents only a validation of existing research and we now turn to these questions in order to further understand transfer behaviour in Europe.

## 6. Receiving Transfers: For consumption or investment?

### 6.1. Introduction

The previous chapter examined who makes transfers. This chapter considers who receives them. Is it richer households or poorer households? A child's eye view of financial transfer receipts is used to investigate whether investment, enablement and social advancement narratives are supported by empirical evidence or if households with severe financial constraints are the primary recipients of financial assistance. Therefore two hypotheses are considered:

1. *Financial transfers are used to meet a basic minimum standard of living*
2. *Financial transfers are a means of investing in a household as an alternative source of finance.*

In short, are transfers given to those who are most in need or are they received by those with the richest parents? Ultimately, do the recipient's circumstances matter?

In order for this thesis to assess to what extent is policy directed at children associated with transfer behaviour (page 46, question 2), it is necessary to understand this child's view. This question asks; to what extent does policy directed at 'children' affect transfer behaviour in European families? This is a formidable challenge as almost all studies of intergenerational transfers have been from a parent's perspective in terms of sampling and data collection (Bianchi, Evans, Hotz, Seltzer, & McGarry, 2007). Altruistic theory suggests that the child's circumstances are important but empirical evidence has been exceptionally thin (Cox, 1987; Browning, Ciappori, & Weiss, 2010). By using a household survey which is representative of the entire population, the analysis in this chapter identifies who receives a financial transfer and when.

This analysis also allows for more detailed analysis in Chapter 7. There, the effect of public financial transfer receipts on private financial transfer receipts is explored and the crowding out argument is addressed. Whilst this is the primary aim of this thesis, it is necessary to first understand financial transfers from a child's perspective given that this is an understudied area in the transfer literature. For example, altruistic theory discusses the circumstances of the child as a primary driver of financial transfer behaviour but does not elaborate on how this works in practice. Therefore to test the validity of this theory, it is necessary to understand financial transfers from a recipient perspective and test potential extensions to the theoretical model.

Section 6.2.1 extrapolates on altruistic theories understanding of the child's perspective. This revolves around a distinction between what are defined as a '*Minimum Income Model*' and an '*Aspirational Model*'. Section 6.2.2 then evaluates a number of measures of a child's well-being and material circumstances and other issues of operationalizing the theoretical model. Section 6.2.3 then details the analytical



strategy and data utilised within this analysis. Section 6.3 presents the results of the analysis and individual evaluations of the hypotheses put forward in section 6.3. This is then followed by section 6.4 which summarises the chapter's findings, their significance for the wider project and argues that only materially deprived households with well-resourced support networks can expect financial assistance.

## **6.2. Model and Methods**

The primacy of the parental perspective in existing research derives from the decision to transfer being firmly in the hands of the parent (Browning, Ciappori, & Weiss, 2010). Nevertheless it is also of substantive interest to understand who receives such financial assistance and when (Berry, 2008). This chapter argues that parents are best understood as seeking to ensure a minimum standard of living for their children rather than maximise a child's well-being and this is evidenced by financial transfer behaviour that appears to target the poorest households. This section outlines a theoretical model to support this assertion and an empirical model with which to test it.

The section therefore proceeds as follows. Section 6.2.1 discusses the various models which may describe financial transfer receipts based on the altruistic model outlined in Chapter 3. Section 6.2.2 discusses how we might define the material circumstances of the child. This includes detailed outlines of how such concepts are operationalized using the EU-SILC. Section 6.2.3 then gives a detailed outline of the hypotheses, analytical strategy and methods used in section 6.3.

### **6.2.1. Aspirational or Minimum Standard?**

When looking at the parental perspective, altruistic theory clearly states that richer parents will be more likely to make financial transfers to their children than poorer children (Cox, 1987). We can empirically test this by comparing rich parents with poorer parents and observe differences in financial transfer behaviour as in Chapter 5. However, altruistic theory does not imply that children who are poorer will receive more financial transfers. Whilst altruism suggests that those in need will receive financial transfers, the empirical implications deviate from this. This is because an altruistic parent is still happy to provide financial assistance to their child, even when they are not poor. For example, a parent may help a child purchase a family home and improve their own circumstances even if the child is not in severe financial hardship but is still poor relative to their parent.

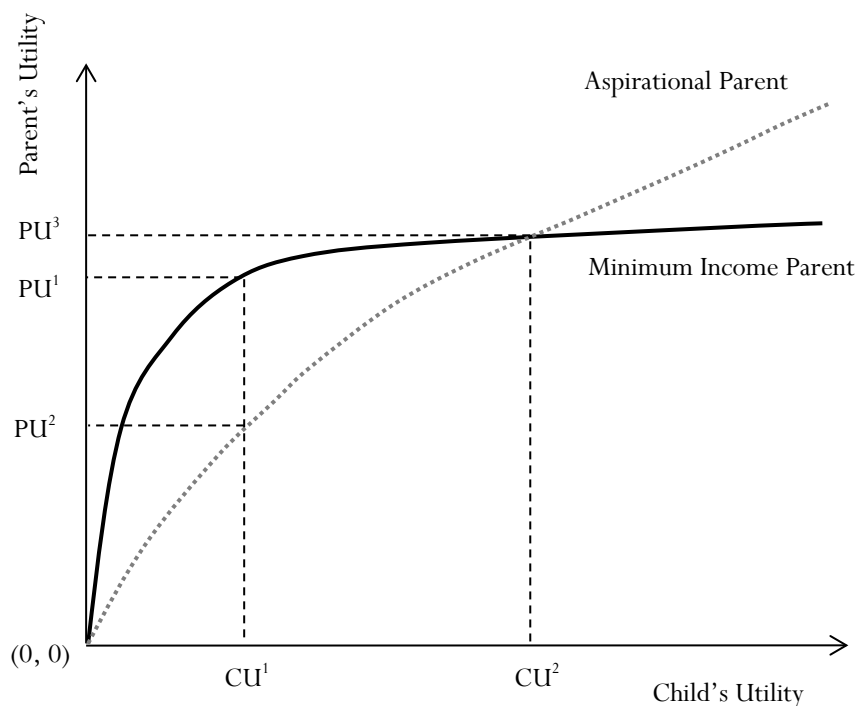
On the other hand, altruistic theory could be interpreted as predicting financial transfer receipts for those households with the greatest need. This interpretation suggests that the effect of a child's circumstances on a parent's propensity to transfer should be understood in absolute terms. For example, a parent would be concerned that their child had enough food, could keep their house warm and afford to pay rent. If it is such absolute needs that drive financial transfer behaviour then we would

expect there to be a strong relationship between the child's household income and the probability of receiving a financial transfer. In this scenario, the parent's own resources are only then relevant as a conditional factor rather than the main motivation for making a financial transfer.

Most existing literature has tended to view financial transfer behaviour as the former. For example, Albertini & Radl (2012) argue that financial transfers are a class based practice used to transmit social status. The crucial determinant in their model is therefore the social status of the parent and not the needs of the child. Similarly, Zissimopolous and Smith (2009) identified education as a primary motivation for financial transfers. Such transfers could be better described as an investment rather than a boost in the child's consumption. Indeed much of the rhetoric surrounding financial transfers identifies them as a middle class practice and a key transmitter of inequalities (McDaniel, 1997).

The distinction between these two interpretations is to be found in the relationship between the parent's utility and child's utility. If the effect of a child's utility on a parent's utility has rapidly diminishing returns then this would imply that the parental household is primarily concerned with the child meeting a certain standard of living, after which the parent's concern is muted (Browning, Ciappori, & Weiss, 2010). This is referred to here as the '*Minimum Income Model*'.

Alternatively, the diminishing returns could be more gradual. If the returns in utility on a financial transfer are more constant then financial transfers would be seen to occur irrespective of the child's circumstances. In this situation the relationship between financial transfers and the child's own material circumstances would be weaker and financial transfers would be driven more by the child's circumstances relative to the parent's. The parent is inclined to make transfers to their child, not because they are poor but because they are poorer than them. In this respect, children are seen more consistently as a good investment and for this reason this model will be referred to as the '*Aspirational Model*'.



**Figure 6.1 – The hypothesised relationship between Parent and Child Utility**

This difference is graphically illustrated in Figure 6.1. Firstly, the solid black line shows the ‘*Minimum Income Parent*’ who is concerned with their child meeting a certain level of material well-being. For example if we look at the increase in the Child’s utility from the point of 0 to the point  $CU^1$ , there is a large increase in the Parents Utility from 0 to  $PU^1$ . However when we compare this to the subsequent gains in the child’s utility from point  $CU^1$  to  $CU^2$ , which is a much larger increase in child’s utility than the move from 0 to the point  $CU^1$ , we see the resulting increase in parental utility from  $PU^1$  to  $PU^3$  is actually rather small. This reflects the steep drop in marginal returns to child utility in the ‘minimum income’ model of altruism.

This can then be compared to the scenario depicted by the grey dotted line. Again, there is a large increase in parental utility as we move from point 0 to  $CU^1$ . Yet this time the move from  $CU^1$  to  $CU^2$  is much greater relative to the previous increase. This is because of the more consistent marginal returns to child utility. This is labelled the ‘*Aspirational Model*’ as the parent is more consistently interested in the child furthering themselves and will therefore be more likely to take actions such as financial transfers to further this regardless of the level of income already enjoyed by the child. A scenario of increasing marginal returns is possible but is not considered here given that it should be considered unlikely that a parent would gain more satisfaction from a child moving from middle management to

company director than they would from them being lifted from abject poverty to a minimum level of decency. This is something that defines diminishing marginal returns.

The substantive context of this distinction is that in a *'Minimum Income Model'* the child's income is of greater importance than in an aspirational scenario. In an *'Aspirational Model'* a parent will seek to make a financial transfer more consistently as the returns for their own utility of doing so will be consistent in relation to the child's utility.

The most straightforward way to explore this distinction is to attempt to replicate Figure 6.1 using proxies and establish which pattern the results closer approximate to. To do this a model is constructed that allows an estimation of the effect of a child's circumstances on the probability of a financial transfer. If the *'Minimum Income Model'* is correct then the model will show a strong relationship between deprivation and financial transfer behaviour. If the *'Aspirational Model'* is more accurate, the effect size will be weaker and a child's circumstance will not be seen to affect the probability of receiving a financial transfer. To do this in the most comprehensive manner possible, a number of indicators for circumstances are used which are detailed and discussed in section 6.2.2.

The limitation of this approach is that it does not offer a clear point by which the *'Aspirational Model'* is preferred over the *'Minimum Income Model'* and vice versa. This is partly due to the two theories being two points on a single gradient rather than absolute states. The point at which an *'Aspirational Model'* becomes a *'Minimum Income Model'* is unclear. Both models predict that the probability of a financial transfer will decrease when circumstances improve; the distinction is in how dramatic that decrease is. The ambiguity of testing a theory based on effect size therefore requires subtle and tempered analysis of the estimates. Yet this limitation should not be over stressed. This chapter argues that the evidence is fairly conclusive in supporting a *'Minimum Income Model'* over an *'Aspirational Model'* given the weight of evidence.

### 6.2.2. Financial Assistance & Children in Need

The *'Minimum Income Model'* and *'Aspirational Model'* provide two interpretations of basic altruistic theory. With regards to transfers specifically, the two models imply a relationship between financial transfer receipts and the material circumstances of a household. Ceteris Paribus, a household that become richer is less likely to receive a transfer under the *'Minimum Income Model'* given that the returns on the financial transfer, in terms of the parent's utility, will be less. This section details how these concepts are measured within this analysis. Firstly, financial transfers are discussed before a detailed discussion of the various problems involved in assessing household circumstances.

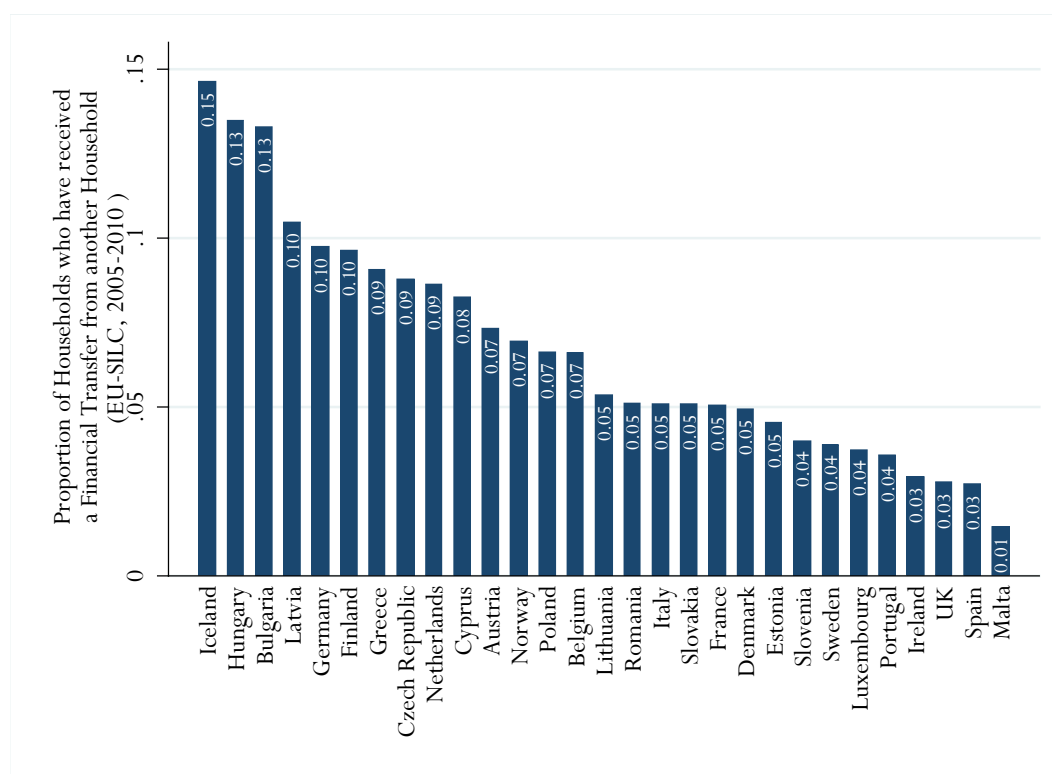
### *Financial Transfer Receipts*

In Chapter 4 the distinction between the two databases, SHARE and EU-SILC, which are used in this thesis were outlined and in particular the shifting definition of financial transfers that this implied. To reiterate this briefly here, when referring to the receipt of financial transfers we are referring to whether a household received a financial transfer from any other household in the last year. Therefore financial transfers do not only refer to those received from parents of household members but refer more broadly to all financial transfers received.

With regards to the wider thesis, this chapter seeks to test the altruistic understanding of financial transfer behaviour from the perspective of the child which is here more broadly defined as the recipient. Doing this is difficult from an empirical perspective. This is because data on income and living conditions are usually collected at the household level. Studies of income and living conditions are carried out at the household level because this is viewed as a primary economic unit in modern societies. The coordination of couples and the extent to which they redistribute income amongst themselves is a good example of such problems (Browning, Ciappori, & Weiss, 2010). A male bread winner may provide for his wife but in a statistical survey of individuals she may appear as of low income (Millar & Glendinning, 1989). For this reason, household surveys are often used as a more comprehensive assessment of individual's material well-being.

In the EU-SILC, both individual and household level data are collected. However, the key dependent variable which indicates the receipt of financial assistance from other households is measured at the household level. Household data are therefore used in this research. Nevertheless, as detailed in chapter 4, this is not a serious limitation for the analysis but has implications for inference and contextualising of this chapters findings within the wider thesis.

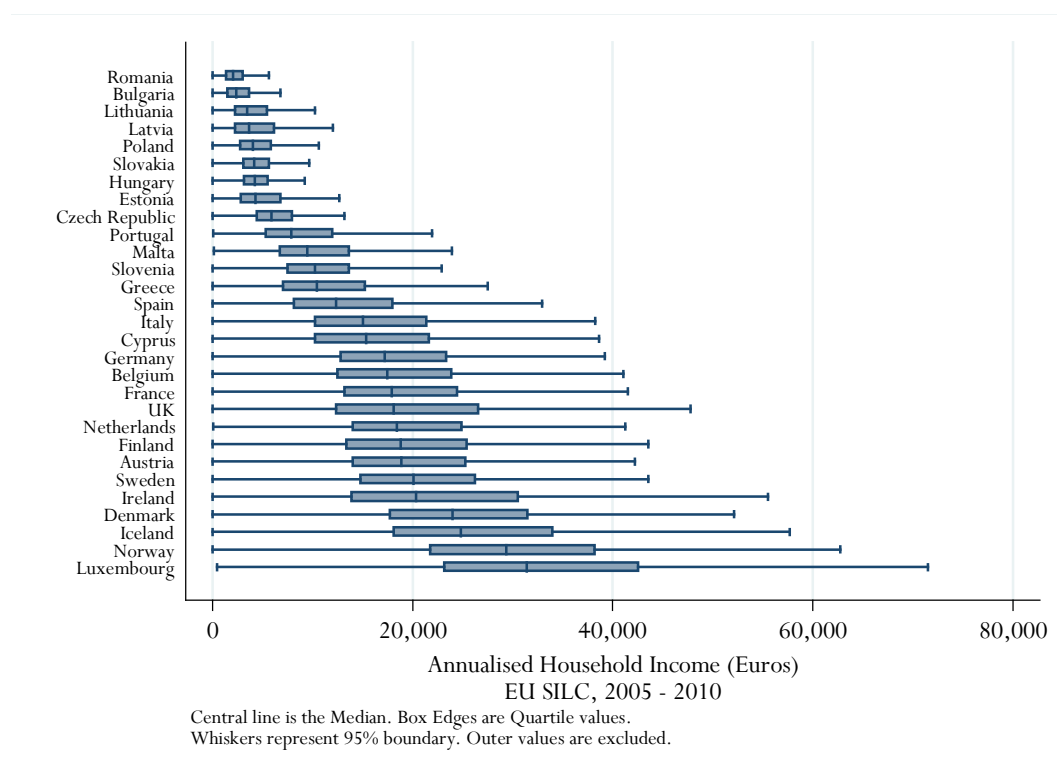
The proportion in receipt of a financial transfer is considerably lower than those who were identified as giving them in SHARE. This is because SHARE sample a population that are net givers amongst the population as a whole, not everyone has a parent who falls within SHARE's sample, SHARE has a reference period of two years and the EU-SILC is a general social survey including the respondents within SHARE. Despite these methodological and theoretical ambiguities the operationalisation of financial transfer receipt is relatively straight forward in that it simply measures whether a household received financial assistance from another household in the past 12 months (HY080G). It will be this which will be used to identify financial transfer behaviour from a recipient perspective.



**Figure 6.2 - Household Financial Transfer Receipts across European Countries**

Source: European Union Statistics on Income and Living Conditions, 2005-2010. Notes: Calculations based on pooled data.

The proportion is that of those households who responded to hy080g with a value greater than €0. Where hy080g was missing hy080n was used which reflects the net transfer value after taxes. This was the case for 7.13% of respondents.



**Figure 6.3 - Annual Equivalised Net Household Income (Euros)**

Source: European Union Statistics on Income and Living Conditions, 2005-2010. Central line is the median. Box edges are quartile values. Whiskers represent 95% boundary. Outer values are excluded.

### *Income*

The theoretical framework in section 6.2.1 referred to a child's utility and material circumstances. This section details how this is measured within this analysis and the limitations of such an approach. First, household income is considered but revealed to be an unnecessarily burdensome measure with many limitations. To address this, the section then discusses a subjective self-evaluation measure of material circumstances that is better suited to this analysis and is used in section 6.3.

Household Income has been a core concept for measuring household need in spite of its crude and narrow understanding of living conditions, household distributional factors, cross-cultural variation and arbitrary treatment of compositional factors such as the individual needs of household members (Muellbauer, 1974). For example, Household income may identify two households as having an income of €20,000. Nevertheless, one may contain a severely disabled adult and a teenager, whilst the other contains a housewife and a toddler. Income as an indicator fails to consider such distinctions (Blundell, 1991).

The limitations of income as an indicator of material circumstances have been discussed in detail elsewhere (Diener, Sandvik, Seidlitz, & Diener, 1993; Helliwell, 2003). Operationalizing material circumstances inevitably encounters the narrow and inflexible nature of income as an indicator (Meyer & Sullivan, 2003). As with our understanding of family relationships, a desire to generalise does not circumvent the subjective and multi-dimensional aspects of conceptual measurement. The universality of accounting measures such as income does not negate households experiencing distinct and complex scenarios to which income as a measure is insensitive. Income is extremely limited in this regard and is unable to capture issues of gender, cultural diversity and a subjective understanding of what is necessary (Diener & Biswas-Diener, 2002). Therefore whilst adaptations such as purchasing power parity are incorporated here, the extent to which it is comparable across households and countries is questionable.

Its centrality in existing analysis derives from its status as the primary medium of exchange but also from the nature of the exchange under study. The central question in this analysis is what circumstances induce financial transfers. It is reasonable to assume that a household would need to be considered financially constrained if the solution is then to give financially. If a household has a high level of need for emotional or physical support then one might expect a transfer of time or support to be induced instead of financial payment (Kalmijn & Saraceno, 2008).

### *Household Size & Composition*

A key problem with using income as an indicator is its insensitivity to issues of household composition. This consideration is often dealt with by using a standardised measure of income which divides the overall income of the household across its members using a scale to reflect the impact of each additional person. Increasingly in comparative research, the first person in a household counts for 0.67, subsequent adults count for an increase of 0.33 and children under 13 count as 0.2 (Anyaegebu, 2010). Income is then divided by this equalising figure. The accuracy of this is debatable particularly in a survey whose sample population totals almost 500 million people across 29 countries (Aaberge & Melby, 1998). These figures are largely arbitrary divisions to reflect the effect of household size on the needs that an income must meet.

Whilst income is standardised in this analysis, further steps are taken to smooth the crude manner by which such methods operate. Compositional issues relating to age are the primary differentiation that is addressed. There is a large amount of evidence demonstrating the evolving consumption patterns of individuals over the life course (Lee, Lee, & Mason, 2006). The very old and the very young require fewer resources. This evidence implies a more developed life course narrative of need than that captured by standardisation processes and is based on the primary focus of intergenerational research

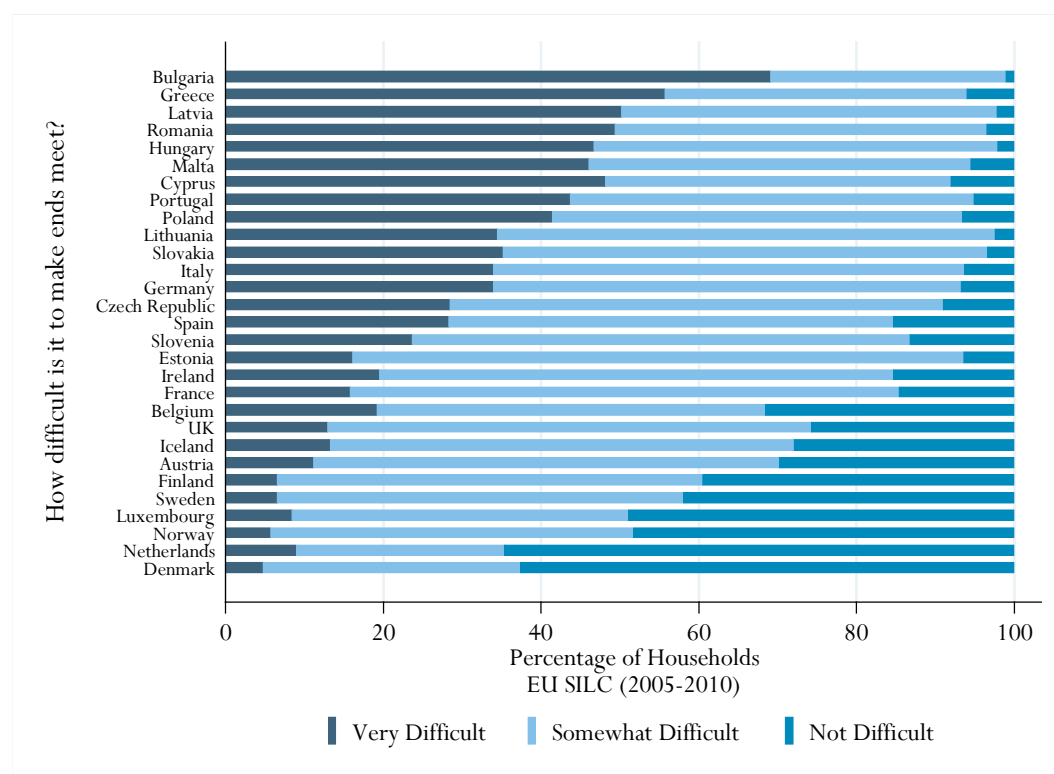


which considers the redistribution of resources across the life-course (Mason, Lee, Tung, Lai, & Miller, 2006).

The analysis in this chapter is based on a sample of the population rather than a sample of a specific sub group as is the case in SHARE. Given this the full age spectrum of society is included, the incorporation of such compositional factors is important. For example, older person's households have far lower income than households with working age adults yet incur significantly less in the way of costs (Börsch-Supan, 1992). In addition to this those in poor health are also likely to be in greater need than those who are not, reflecting the complex interaction between financial status and the more abstract and slippery concept of material circumstances or utility. Nevertheless, this measurement of material circumstances of a household is severely limited and so alternative measures are preferred.

### *Making Ends Meet*

Given the crude nature of income as a measure, this analysis considers alternative indicators of material circumstances. This is in order to encapsulate a more valid measure of the concept of need within a household. The strategy within a number of social surveys of recent years has been to evaluate material circumstances through a list of measures that aim to evaluate the material circumstances of a household more directly (Boarini & d'Ercole, 2006; Whelan, Nolan, & Maitre, 2008). In the EU-SILC this has included a question regarding how difficult the household finds it to 'make ends meet'. That is to say the extent to which they are able to live within their means. This measure has the advantage of circumventing tricky issues of needs and resources by simply asking for the household's assessment based on these two factors (Guio, Fusco, & Marlier, 2009). Yet this comes at the expense of inevitable subjectivity of responses and possible respondent and measurement bias.



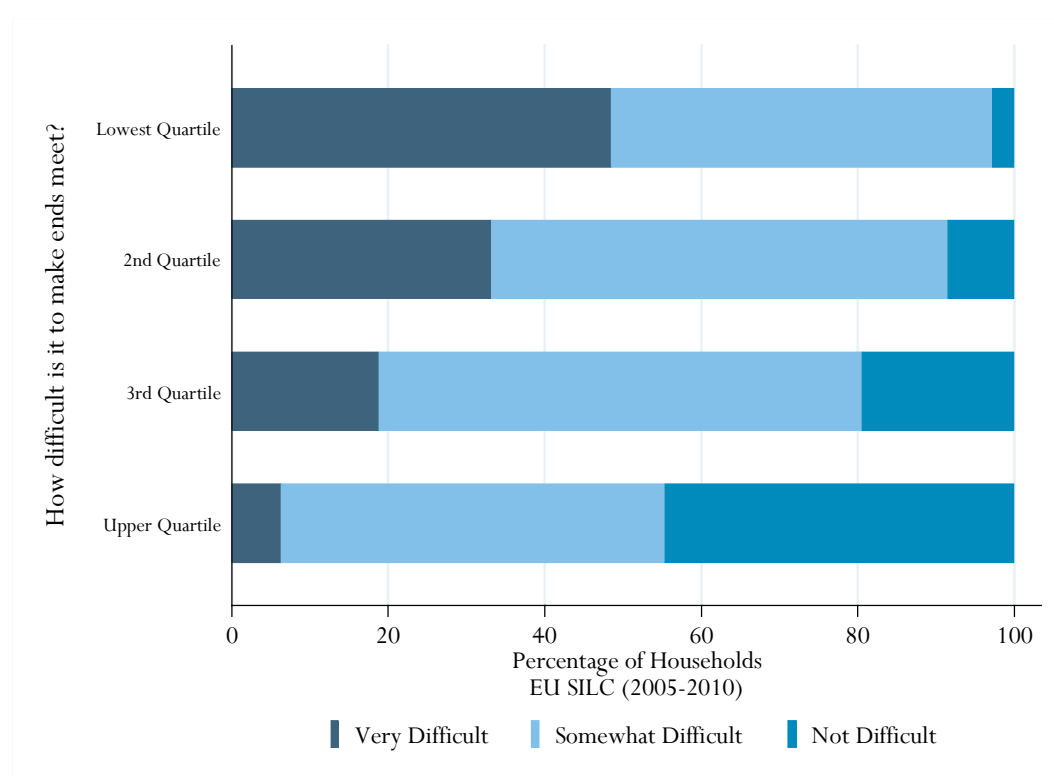
**Figure 6.4 - How difficult is it to make Ends meet?**

Source: European Union Statistics on Income and Living Conditions, 2005-2010. Note: 'Making Ends Meet' is taken from variable *hsl20* in the EU-SILC and the results here are from a pooled longitudinal sample.

For example, it might be suggested that older individuals are less likely to report a difficulty in making ends meet even after controlling for resources and needs. That is to say those certain households are less likely to report difficulties, independent of their actual needs, yet there is little empirical evidence to support this (Gordon, et al., 2000). The impact of this on conceptual validity is further dampened by the broader requirements of this operationalisation process. The concern here is to consider the response of donors to recipient's needs and this in itself is a subjective assessment that will in large part be based on the self-reporting of the recipient household. In summary, a household that is underreporting its needs to the EU-SILC could also be underreporting them to potential sources of support.

It is this subjectivity that supports its use as the primary indicator of need. This analysis focuses on this measure so as to establish a greater understanding of this subjective self-reporting element in the driving of financial transfer behaviour. Figure 6.5 illustrates the relationship between this indicator and measures of household income and demonstrates that, whilst linked, they are not one in the same so this additional dimension will be considered within this analysis. In the context of the distinction between a minimum income and aspirational model of financial transfers, this measure should also be

insightful given that the minimum income model predicts that it will be a very strong predictor of financial transfer behaviour, reflecting the assistance rather than investment nature of financial transfers for donors.



**Figure 6.5 - Difficulty to make Ends meet by Income Quartile**

Source: European Union Statistics on Income and Living Conditions, 2005-2010. Note: 'Making Ends Meet' is taken from variable *hs120* in the EU-SILC and the results here are from a pooled longitudinal sample. The income quartiles are calculated from a pooled sample across countries and time and are based on Household Income for the Income reference period.

### 6.2.3. Methods

#### *Unobserved Heterogeneity*

In estimating the effect of material circumstances on the probability of financial transfer receipt there is an underlying concern about the potential spurious effects of parental income or what will be more broadly referred to here as the resource capacity of support networks (Albertini & Radl, 2012). That is to say that there is a correlation between a household's material circumstances and the capacity of their friends and family to provide them with financial assistance (Behrman & Taubman, 1976; Solon, 2002). As detailed above, this effect is less important in a 'Minimum Income Model' given that the decision to transfer is conditional on the material circumstances of the recipient as well as the capacity of the

network. In an *'Aspirational Model'* there is a more constant incentive to transfer and thus the recipient's material circumstances are less important.

Nevertheless, if the recipient's material circumstances are positively correlated with the capacity of the network which is itself positively correlated with the probability of receiving a financial transfer, then it should be anticipated that the effect of material circumstances on the probability of receiving a financial transfer will be biased upward. This therefore risks a Type I Error regarding both models, but particularly the *'Minimum Income Model'*. This is because it states that material circumstances will be negatively correlated with the probability of receiving a financial transfer and this would be clouded by the spurious effect relating to the support network's capacity.

It was therefore necessary to control for this factor as it is the primary threat to the internal validity of the analysis. To do this a longitudinal approach was needed to shift from comparisons between households to comparisons within households over time. Given that the capacity of a support network is assumed to not change dramatically over time, this should reduce the potential spurious effects (Kohli, 1999; Börsch-Supan, 1992). The validity of this assumption is not beyond reproach and the evidence from Chapter 5 illustrates that financial transfer behaviour is sensitive to even subtle changes in the capacity of parents to give.

The ideal remedy to this problem is the accurate measurement of financial transfers at both the parental and child level as detailed in Chapter 4, yet such data is not available in a comparative dataset that contains dyad specific information (Bianchi, Evans, Hotz, Seltzer, & McGarry, 2007). Therefore longitudinal modelling of a latent, time constant coefficient which captures network capacity and other time-invariant factors is the best available alternative. It is to this that we now turn as the analytical methods used in section 6.3 are detailed.

### *Cross Sectional Analysis*

In order to test the two models of financial transfer receipt in section 6.2.1, this chapter uses three separate models and uses the summation of findings to come to a clear conclusion as to which model is better. Firstly, a pooled probit analysis will be run which looks to estimate the extent to which the probability of receiving a financial transfer varies across indicators of material circumstances. This will allow for marginal effects to be drawn which can then be compared and the rate of diminishing returns established. This cross-sectional analysis allows us to identify poorer households as the primary recipients of transfers in line with the *'Minimum Income Model'*

### *Random Effects*

In order to address the issue of unobserved heterogeneity which is attributable to the support network's resource capacity, a multilevel random coefficient model will be used to cluster observations within households (Rabe-Hesketh & Skrondal, 2012). This approach shifts the analysis so that comparisons are made within households rather than between households with the random coefficient capturing the underlying latent tendency of the household to receive financial transfers. In this model this is taken as a control for the resource networks capacity to give financial assistance to the household. Nevertheless the random coefficient model is not without its problems. Most importantly the model is only the best estimate of the effect of income on the probability to receive a financial transfer if all factors correlated with the dependent variable at the household level are included (Rabe-Hesketh & Skrondal, 2012). Given that numerous pieces of research have demonstrated cultural and social characteristics that are not incorporated within this model it would be impossible to assert that this is the case (Albertini & Radl, 2012; Szydluk, 2008; Zissimopoulos & Smith, 2009; Jappens & Van Bavel, 2012). To counter this, global mean centred values are included to estimate unbiased, within household effects. The analysis is then able to accurately estimate whether the material circumstances of the recipient household affect the probability of receiving a transfer.

### *Fixed Effects*

To provide a robustness check against potential violations of internal validity, a fixed effects logit model will be used to ascertain whether the coefficient is consistent. This fixed effects model has far more internal validity and is far more efficient at controlling for unobserved heterogeneity than a random coefficient model and thus is a more appropriate procedure (Gelman & Hill, 2007). However the reason that this fixed effects model is used as a validation rather than the primary model is due to the fact that all households that never make a financial transfer or that always make a financial transfer will be excluded from the analysis (Rabe-Hesketh & Skrondal, 2012). This means that the sample is not the same and only refers to individuals who received at least one financial transfer during their observation period. It does however offer an insightful counterpoint to the random coefficient model. The analysis is then able to determine whether it is the households broader support network and socio-economic background or their immediate material circumstances that initiate financial support.

### 6.3. Results

The question of who receives transfers is a complex one as outlined in the previous section. The following section attempts to go some way to answering it through the use of a probit regression analysis and then a multilevel model which nests household-period observations within their household. In so doing, the analysis reveals clear evidence of a minimum income standard model of transfers. The following section includes discussion of statistical models designed to account for unobserved heterogeneity and the distinction between within and between household variations. This is merely a sideshow to the underlying assertion that transfer behaviour is primarily targeted at those most in need. In order to outline the empirical evidence for this assertion, this section proceeds as follows; section 6.3.1 details a cross-sectional assessment of transfer receipt that attempts to identify whether it is poorer or richer households which are in receipt of transfers. The primary concern of this section is exploratory and the evidence presented appears to support a minimum income model of transfers. Section 6.3.2 then considers potential alternative explanations by employing a longitudinal model of transfer receipt. This analysis, whilst less conclusive, still shows strong evidence for a minimum income standard of transfer behaviour over an aspirational model of transfers.

Section 6.3 then looks only at those households who varied their transfer behaviour over the period of observation and estimates what factors drove this change in behaviour. This further tempers the evidence for a minimum income model of transfers by demonstrating that transfer receipt is heavily conditional on time invariant factors unrelated to temporal material circumstances. Section 6.4 of this chapter then attempts to synthesise these somewhat contradictory findings and summarise their implications for altruistic theory and the thesis more generally.

## 6.3.1. Cross-Sectional Analysis

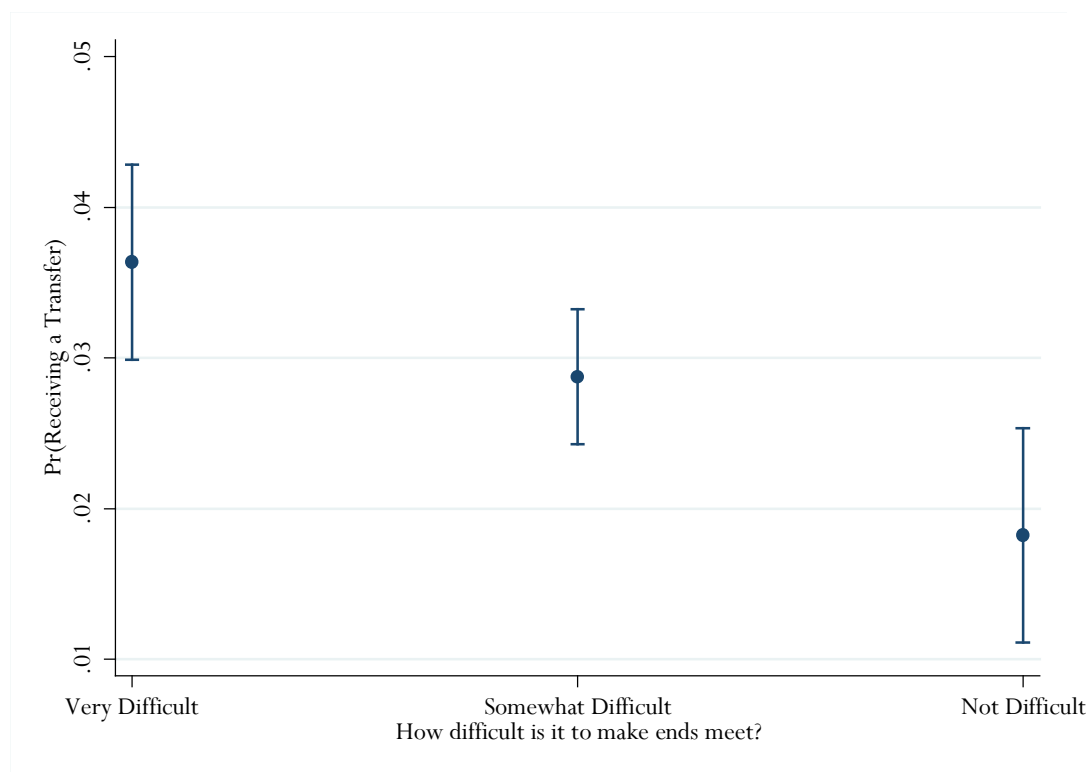
**Table 6.1 - Results Tables for the Main Covariates in all three models**

	<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>	
	<i>Probit : 2010</i>		<i>Random Intercept</i>		<i>Fixed Effects Logit :</i>	
			<i>Probit : 2005-10</i>		<i>2005-10</i>	
Household Income (Log, Euros)	0.11		-0.126		-0.109	
	(0.171)		(0.135)		(0.238)	
Household Income Squared (Log, Euros)	-0.022	*	-0.011		-0.022	
	(0.011)		(0.009)		(0.015)	
Very Difficult to Make Ends Meet (ref: Not Difficult)	0.293	***	0.248	***	0.428	***
	(0.085)		(0.066)		(0.125)	
Somewhat Difficult to Make Ends Meet (ref: Not Difficult)	0.094	*	0.058	*	0.113	*
	(0.236)		(0.063)		(0.119)	
Constant	0.104		-2.792	***		
	(0.742)		(0.461)			
Constant (Household Residual)			-1.764	***		
			(0.028)			
N	26,158		147,000		8,423	
Log Likelihood	-5,420,000		-23,800		-2,889.03	
AIC	10800000		47775.9		5818.057	

Source: European Union Statistics on Income and Living Conditions, 2005-2010. Note: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses.

Model 1 is a probit model of the probability of someone receiving a financial transfer. The sample under analysis is from the 2010 wave of the longitudinal EU-SILC survey as detailed in section 6.2.3. These are households from across 24 European Countries, the fixed effects for which can be found in appendix 1. As it is just those observations from 2010, each household has only one observation within the analysis. The coefficients are therefore calculated exclusively on cross-sectional comparisons. Given this, a more descriptive inferential process is adopted here. Nevertheless, such descriptions are of significant substantive interest. Regardless of whether transfers are a key mechanism of

intergenerational status transmission, it is important to understand who receives financial assistance from other households. The results in Figure 6.6 show the indicative decreasing marginal returns that would be expected if the *Minimum Income Model* were accurate. As suggested in section 6.2.3, this is not clear cut as it is unclear at what point an *Aspirational Model* would be preferred. Nevertheless, if returns to a child's utility were constant we would expect the family to continue to provide financial assistance even when they considered it 'not difficult' to make ends meet. The results would have been more conclusive if the probability of a transfer dropped more dramatically and the distinction was sharper, yet there is a clear decline in the probability of receiving a transfer.



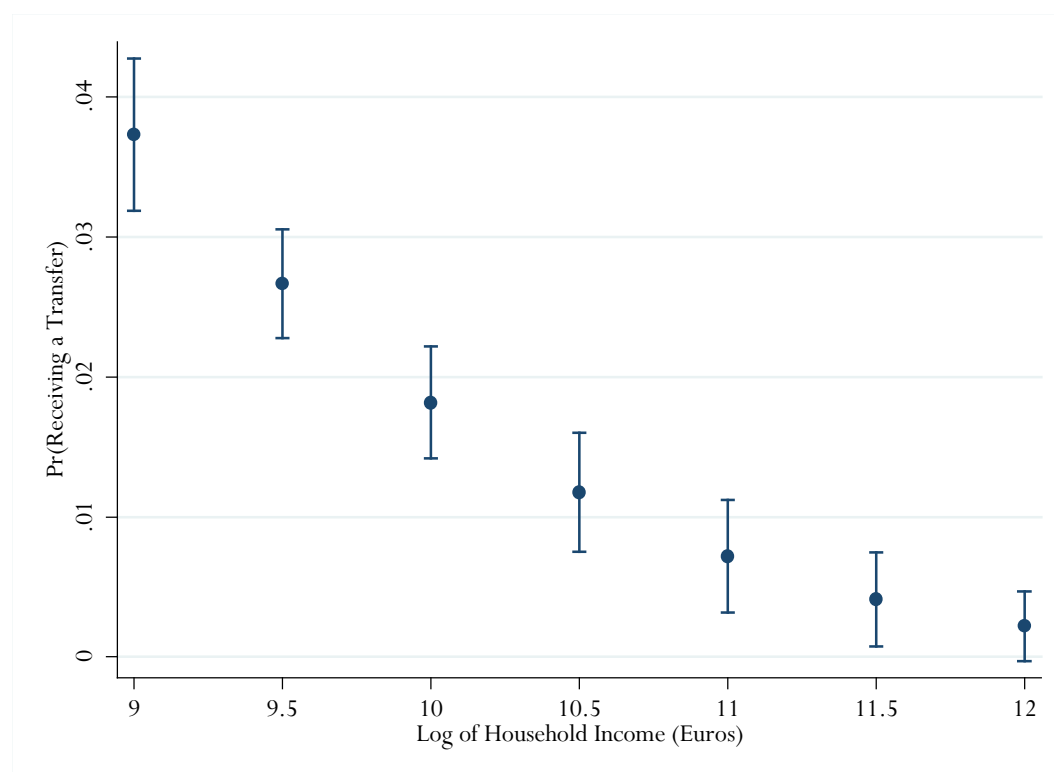
**Figure 6.6 - Probability of Transfer by Subjective Material Circumstances**

Source: European Union Statistics on Income and Living Conditions, 2005-2010

A concern with this measure of material circumstances is that it is measured post transfer. That is to say that those who received a transfer would be more likely to report themselves as being able to make ends meet than those who did not. The question implicitly includes financial assistance from others in prompting individuals to assess the extent to which they are able to get by. This is not thought to be a problem in this instance because it would bias the results against the hypothesised effect. That is to say that the effect would appear flatter. If this effect is indeed occurring then it would imply that the *Minimum Income Model* is more accurate than the estimates here suggest.



The results from model 1 illustrate that the coefficient for the Log value of Household Income is not significantly different from 0 but that the quadratic term is. This ambiguity can be addressed by looking at the marginal effects which are displayed in Figure 6.7. Here we can see that there is a noticeable decline in the probability of receiving a transfer. When the Log of Household Income is 9 which is the equivalent to just €8,103 Euro's per annum, the probability of receiving a transfer is around 3.7%. At the other end of the spectrum, a Household with an income of €59,874 per annum (this is 11 when logged) has just 0.7% chance of receiving a transfer. Whilst, the likelihood of financial assistance is rare in both cases, it is significantly and considerably rarer amongst those with very high income.



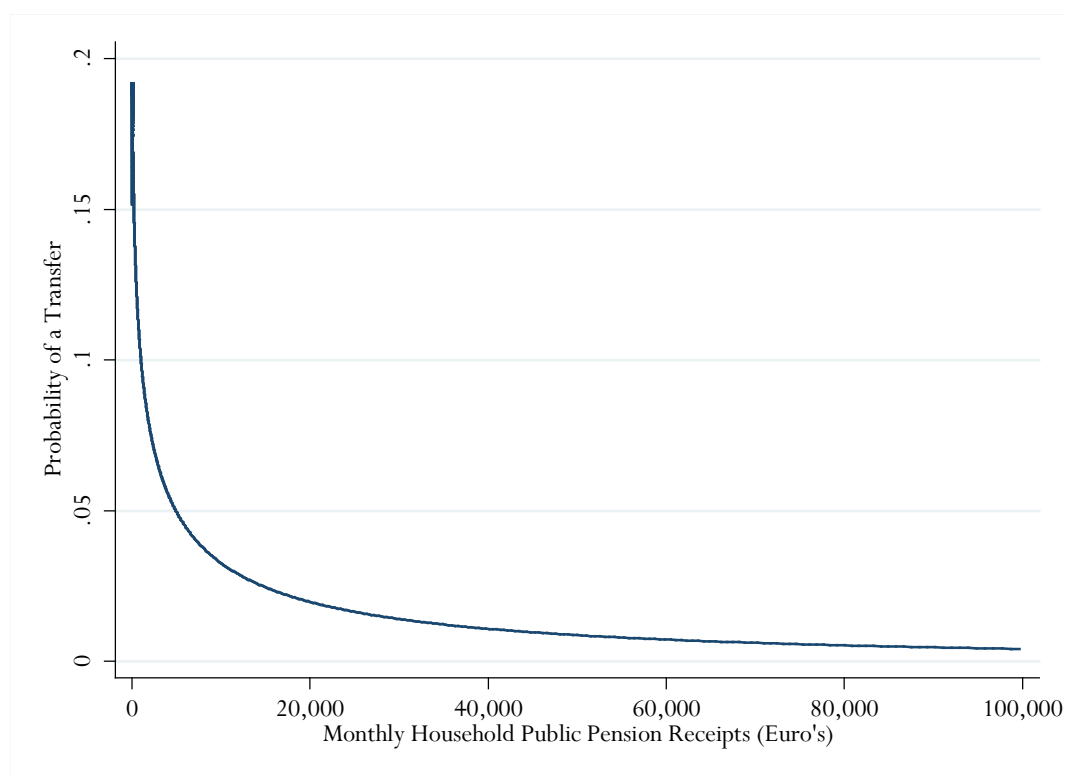
**Figure 6.7 - The Marginal effect of the Log of Household Income on Probability of Receiving a Transfer (Model 1)**

*Source: European Union Statistics on Income and Living Conditions, 2005-2010. 95% Confidence Intervals depicted.*

With regards to the significance of the estimates, the 95% confidence intervals are shown and illustrate the degree to which we can confidently describe the probability of receiving a transfer as varying. Here the limitations of relying on the coefficients are very apparent. The estimate for a household with an income of around €8,103 (Log 9) is significantly different from a household with an income of €13,359. In contrast, a Household with an income of €162,574 is not significantly different from the estimate for a household with an income of €59,874. The significance of the coefficient only serves to

indicate the level of certainty attributable to the claim that it is not zero. Using the marginal effects and their accompanying standard errors allows us to see beyond this into the finer ambiguities of the data.

To test the core hypothesis of this chapter however it is important to try and describe this relationship as depicted within the model. To do this it is necessary to convert the log values back into Euros and plot these against the estimates obtained from model 1. The results of doing this are displayed below in Figure 6.8. This relationship shows quite a definitive demonstration of the 'Minimum Income Model'. The probability of receiving a transfer at very low levels is very high and diminishes rapidly to the extent that the probability of receiving a transfer at €20,000 is not strikingly different from the estimate for a household with an income of €100,000. In short, the transfers appear to be aimed at the very poor only. This is consistent with a 'minimum income' description of transfers and not an 'aspirational model' of transfers. It should be stressed however that the shape of the curve is a relic of the log transformation and not decreasing returns. The decreasing returns are evidenced by the maximum effect observed for this variable in Figure 6.7.



**Figure 6.8 - Estimated Probability of receiving a transfer by Household Income (Euros)**

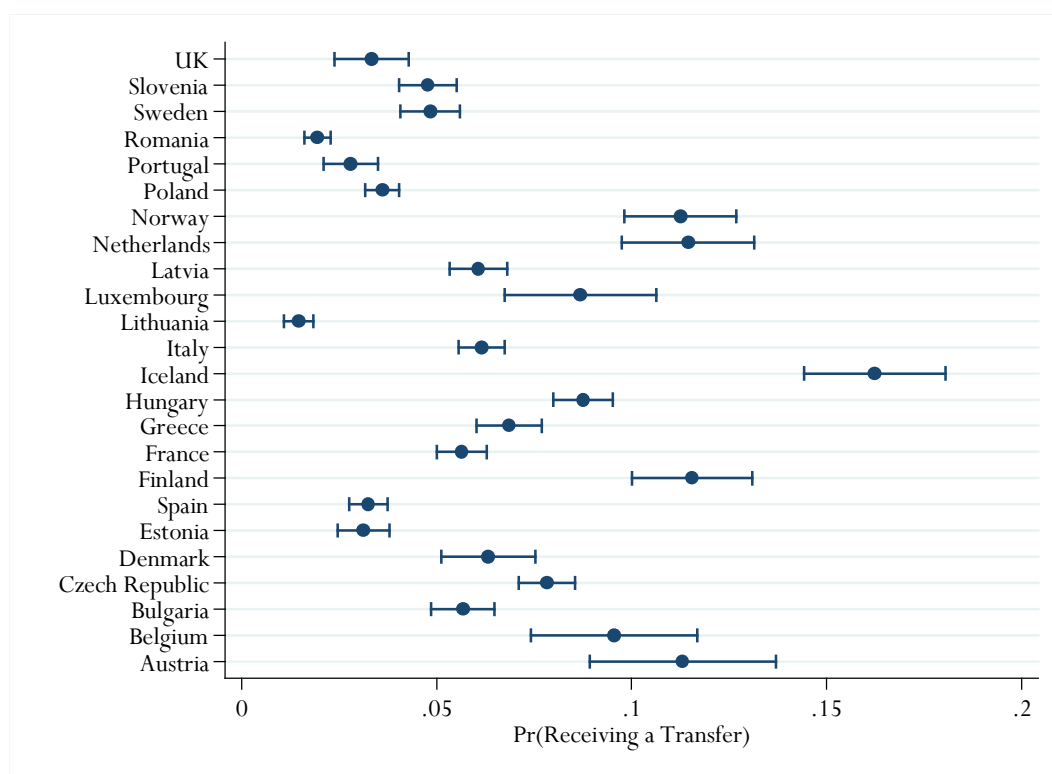
*Source: European Union Statistics on Income and Living Conditions, 2005-2010. Note: Authors own calculations*

A limitation of this analysis is that it is a cross-sectional assessment and this will be addressed in section 6.3.2. Nevertheless the substantive inferences are valuable because of and not in spite of this. The cross-sectional analysis implies that those in receipt of transfers are those with the very lowest levels of

income and under the greatest financial stress, even when controlling for various household compositional factors which may cloud this. The financial transfer literature has often speculated that financial transfers were a middle class activity resulting in status transmission and tempering social mobility (Albertini & Radl, 2012). The results here seem to refute this. Transfers are received by households with very low incomes. It may be that transfers are conditional on the wealth of a parent but it is apparent that what is also important is the circumstances of the recipient household.

### 6.3.2. A Comparative Narrative

The analysis also offers the opportunity to address question 4 in chapter 3. This seeks to understand the extent to which cross national differences remain after controlling for individual level characteristics. This analytic strategy was dealt with more comprehensively in chapter 5 and details can be found there. This question is given less attention here as the analysis of the parental perspective is capable of being far more definitive on this subject. Chapter 5 argued that once individual characteristics are considered, the cross-national differences in transfer behaviour disappear. Yet if they fail to disappear when analysed using data on the recipient, then it might be due to parental characteristics which are not controlled for and that have been identified as key determinants of transfer behaviour. It is therefore less definitive in establishing whether the altruistic model is indeed capable of explaining cross-national variation.



**Figure 6.9 – Fixed Effects for the 24 countries in Model 1**

*Source: European Union Statistics on Income and Living Conditions, 2005-2010. Note: The marginal effects are measured at the mean values for the pooled sample for all independent variables.*

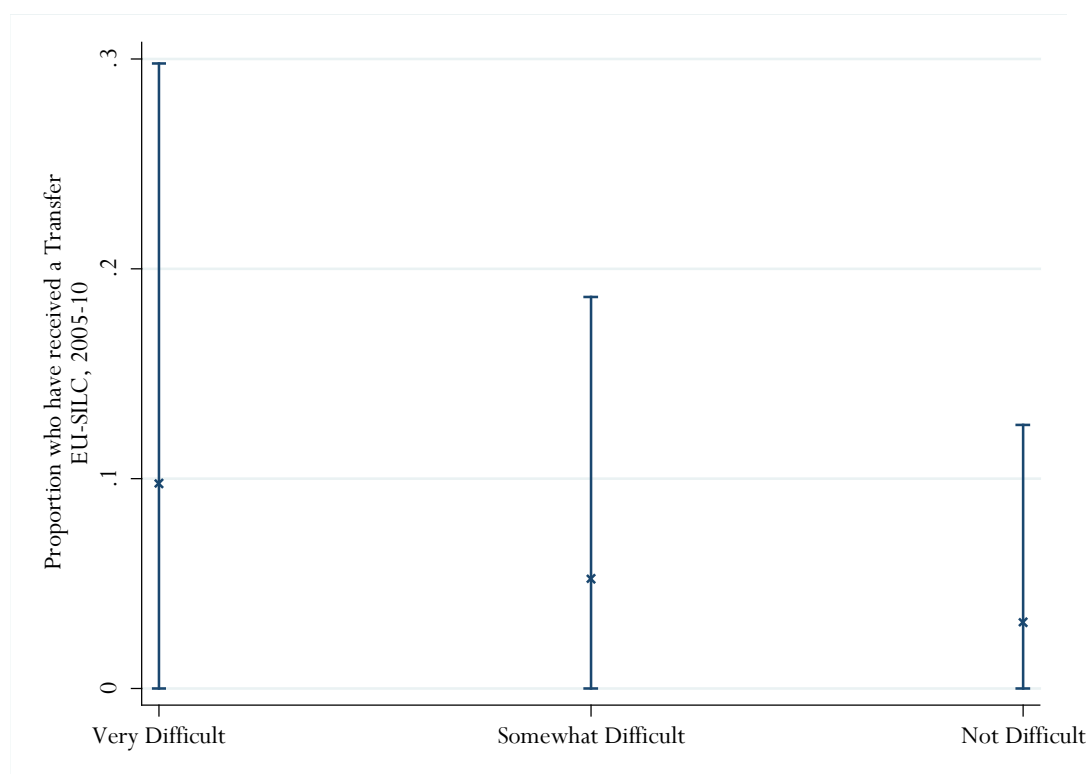
The marginal effects suggest that the country level differences in transfer behaviour do remain to a large extent in spite of controlling for recipient characteristics. Whilst the majority of countries are clustered between a 5-10% rate of transfers, there are countries which are still obvious outliers. The Netherlands, Norway, Finland and Iceland have a larger number of transfers. The persistence of country level differences is likely to be due to heterogeneity at the parental level as evidenced by chapter 5. The conclusions are therefore limited.

It could be argued that those below the average are generally Eastern and Southern European whilst those above it are Northern and Western European. This is a pervasive axis within European societies as detailed in Chapter 2. It is of religious, cultural, economic, geographical and social origins that makes comparative narratives clumsy. Given that there are a number of striking countries outside this delineation, such as Sweden being slightly below average and Hungary slightly above average, there seems little basis to offer a macro level comparative assessment of transfer behaviour. Whilst this analysis is not definitive in supporting an altruistic interpretation of transfers, it is evidence that should be seen as counting against existing typological narratives of transfer behaviour.

### 6.3.3. Longitudinal, Random Effects Model

Caution is necessary with cross-sectional data because of the large degree of unobserved heterogeneity. There are a large number of differences between poor and rich households beyond their bank balance which may explain why some receive transfers and others do not. Culturally, socially and economically households differ in a wide number of ways which could explain the results of section 6.3.1 without recourse to inferences about when parents care and when they do not. The main unobserved characteristic is the resource capacity of the households support network. In order to demonstrate the validity of the *Minimum Income Model* this section uses comparisons within households over time rather than the cross-sectional analysis of section 6.3.1.

In order to make within household comparisons a random intercept model was constructed. This model estimates the underlying tendency of a household to receive a transfer. The coefficient estimates are then based upon the probability of receiving a transfer given this predisposition. In substantive terms this model shifts the focus from comparing between households to comparing within households over time. The model is not without its limitations however and the coefficients are not considered to be best estimates if there are factors at the household level which are correlated with the dependent variable and not included within the model (Hox, 2010). Given this is the underlying assumption for using a longitudinal approach, this assumption can be said to be violated. To address this, mean centred values of all time-varying covariates were included within the model to account for potential level two heterogeneity such as parental resources (Rabe-Hesketh & Skrondal, 2012).



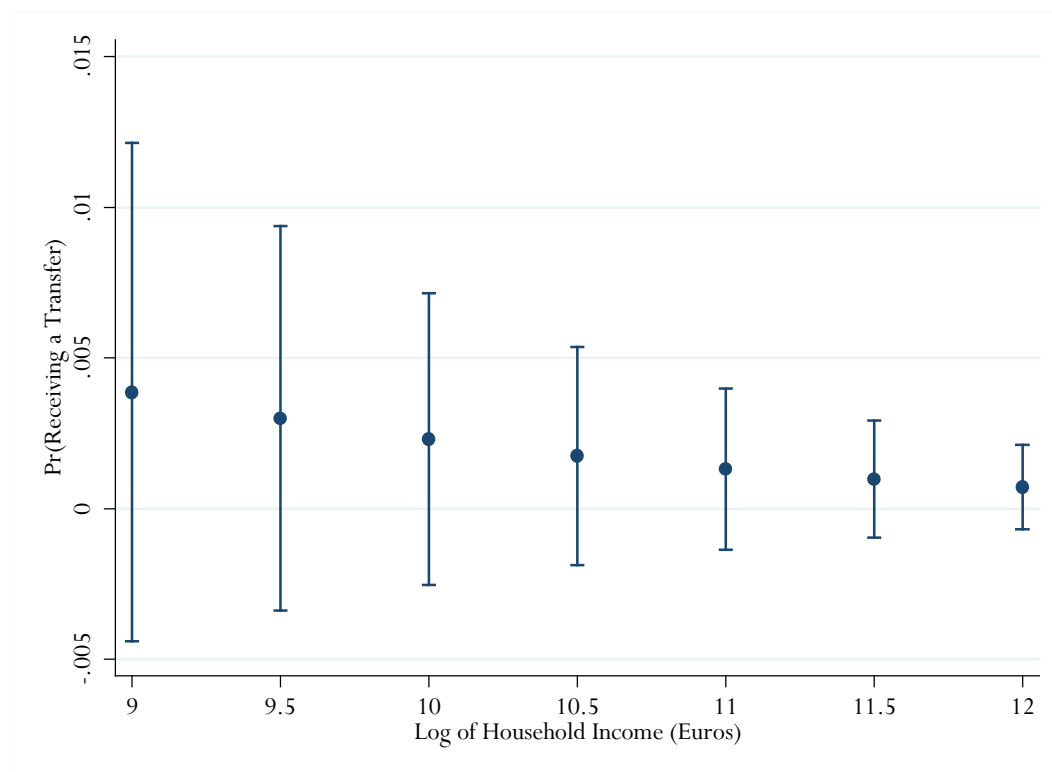
**Figure 6.10 - Estimated Probability of Receiving a Transfer by ‘Making Ends Meet’**

Source: European Union Statistics on Income and Living Conditions, 2005-2010. Central line is the median. Whiskers represent 95% boundary.

The coefficient for the self-assessed material circumstances remains a strong predictor of receiving a financial transfer. Figure 6.10 illustrates this finding through the distribution of estimated probabilities of receiving a transfer from model 2 across the categories of the ‘making ends meet’ variable. The results clearly show a far larger tendency amongst those who find it very difficult to make ends meet. These findings do support the *‘Minimum Income Model’* over the *‘Aspirational Model’*. Those who perceive themselves as struggling financially are considerably more likely to receive financial help from other households. If an *‘Aspirational Model’* were accurate then the likelihood of receiving financial assistance would not be so sensitive to the existing material circumstances of the household.

The results from this model are distinct from model 1 and fail to show a significant effect of income on the probability of receiving a transfer. This in itself is indicative of an *‘Aspirational Model’* in that it suggests that high income households are as likely to receive transfers as low income households and that the determinants of transfers are instead on the supply side of the equation. Figure 6.11 emphasises this finding by showing the marginal effects for this model. The results suggest that the pattern identified in model 1 is correct but that the standard error for the estimation is large.

The low probability estimates also reflect the finding that the estimated constant term was not normally distributed and was highly skewed. This suggests that transfers occur in certain types of families and that a large degree of unexplained variance exists at the household level. This suggests that certain families are inherently more likely to receive transfers than others. This is most likely a reflection of the resource capacity of the households support network and potential cultural factors which promote or discourage financial interdependence between households. Given this, the analysis in model 2 does appear to support the *'Minimum Income Model'* in spite of income's insignificance which is potentially attributable to the measurement issues identified in section 6.2.2.



**Figure 6.11 - Marginal Effect of Log Household Income in Random Effects Model**

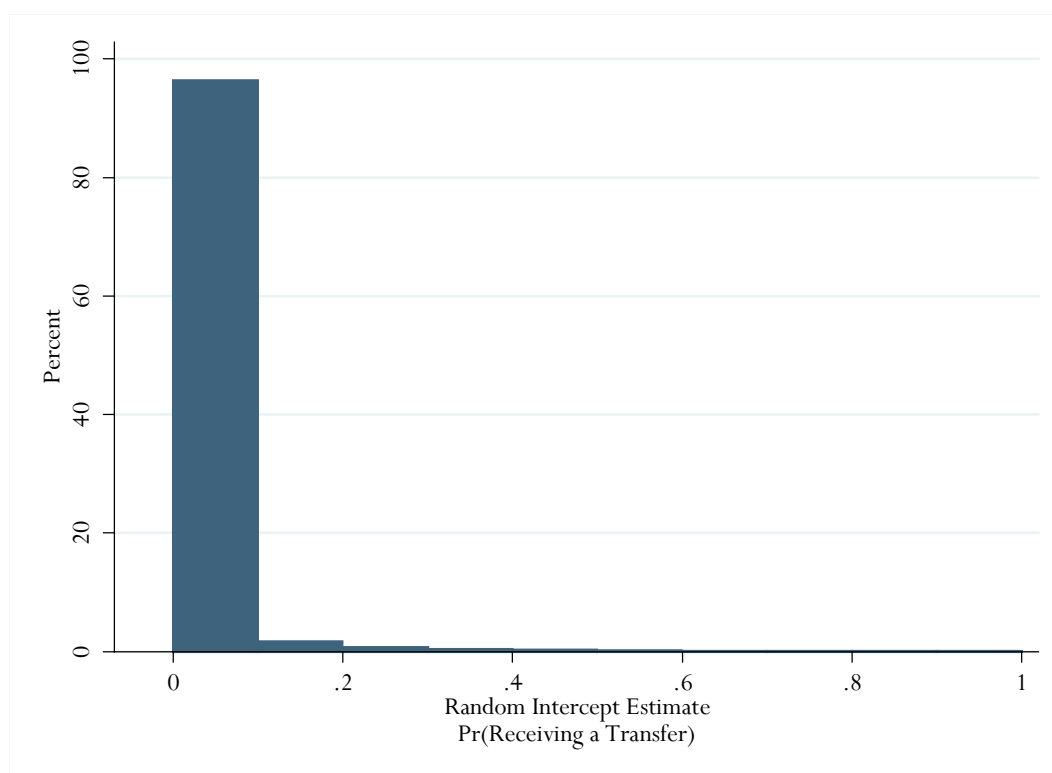
Source: European Union Statistics on Income and Living Conditions, 2005-2010. Notes: 95% Confidence Intervals depicted.

### *The Family Effect*

One thing that is striking from the estimates of the marginal effects is the low probability of a transfer. For Household Income the predicted probability of receiving a transfer ranged from 0.5% to 0%. That is to say that across the full range of household incomes, the model predicts that this is the average probability of receiving a transfer. The reason for this exceptionally low figure is because the marginal effects use the margins at the means. They take the mean for each independent variable and except income and substitute it in to the estimated equation to produce an estimated probability of receiving a

transfer for the average household. This includes the random intercept estimated by the random effects model.

A normalised estimate of these random intercepts is given below in a histogram for all households in the sample. This shows that the average probability of receiving a transfer for most households is practically 0. Only 20.95% of the population have an intercept that is above a 5% probability of receiving a transfer. This could be evidence of a poorly specified model but it is more likely that it indicates the importance of the parental perspective over the child's perspective. This is because the model identifies a large number of individuals who never receive a transfer and therefore have an estimated underlying tendency of close to 0. In fitting the model, the information regarding the child's household was not a good predictor of transfer receipt and so when a household received a transfer it was captured by the intercept. From a substantive point of view, what this means is that in order to understand whether a transfer will be received the most important factor appears to be this underlying propensity to receive.



**Figure 6.12 – Histogram of Normalised Random Intercept Estimates from Model 2**

*Source: European Union Statistics on Income and Living Conditions, 2005-2010. Notes: The estimate represents the household specific random intercept estimated for each household which is then normalised. This represents the underlying probability that a specific household will receive a transfer.*



This could be attributable to cultural factors or other time invariant characteristics. Yet given the conclusions of chapter 5 it would appear far more likely that issues of parental characteristics and family structure are driving these tendencies. This offers a great deal of context to the other results offered here. Despite the effect of material circumstances observed and the assertion of a '*minimum income model*', these are relatively poor predictors of transfer receipt.

#### 6.3.4. When do Recipients Receive?

The final model in this chapter attempts to further validate the findings of 6.3.1 and 6.3.2 which suggested that poorer households are more likely to receive transfers. To do this a fixed effects logit model is employed. Fixed effects include a dummy variable for each household and therefore account for any household level unobserved heterogeneity. In other words, any inherent aspect of the household that affects the probability of receiving a transfer is accounted for within the fixed effect coefficient. This is inclusive of the unobserved resources of any potential support network. The major drawback of this model is that it requires some variation in the dependent variable within each unit. Only households that make a transfer at least once and fail to make a transfer at least once are included in the model (Rabe-Hesketh & Skrondal, 2012). The consequence of this is that the results are only generalisable to a group of households inherently predisposed to make transfers. The switch from a probit to a logit link is purely an issue of the statistical package used which does not provide a computationally efficient probit fixed effects model.

Nevertheless the model is interesting for the question at hand. If a transfer is made to a household in a given period, when is it most likely to be made? These results are incomparable with the results in model 1 & 2. They refer to different coefficients and are estimated using a different sample size which goes some way to explaining the fall in significance levels. They are also using a different link function and subsequently have a different substantive interpretation.

As with model 2, the coefficients suggest that the self-reported financial circumstances variable is strongly significant. A household which is finding it very difficult to make ends meet is estimated to be 53% more likely to receive a transfer than a household which is not having difficulties. This suggests that as households move out of a period of financial hardship, the financial assistance offered by other households is withdrawn. This result is strong evidence that amongst those households who are receiving financial transfers, around 35% will stop receiving financial assistance. This is a considerable drop. If financial assistance is withdrawn after meeting this minimum income condition, it suggests that the motives for making such transfers have abated and thus fits the description of the '*Minimum Income Model*'. The results also show that the coefficient for Log Household Income is not statistically

significant from 0 and thus as with previous models the subjective measure appears to be a better predictor of transfer behaviour.

## 6.4. Summary

Households which identify themselves as financially strained are more likely to receive a financial transfer than those who are not. Based on the theoretical outline given in section 6.2.1, this suggests that parents are primarily concerned with their children achieving a minimum level of material conditions and being financially secure. This suggests that the transfers are not being made as investments or an alternative source of finance. If this were the case, households who were richer would be receiving transfers almost as often as poorer households. What's more, if financial transfers were a legitimate and feasible alternative to formal financing (i.e. student loans, the mortgage market etc.) then the practice would probably be far more common than the 5.3% who reported receiving a transfer in this sample.

This '*Minimum Income Model*' must be taken in the context of existing research however. A household's probability of receiving a transfer is determined first and foremost by potential source's ability to provide. This was the conclusion of chapter 5 and evidence was found to support this here. The skew in the estimates of the constants in Model 2 suggests that certain households are predisposed to receive transfers. This indicates that there is considerable unobserved heterogeneity at the household level which chapter 5 and 8 imply would be attributable to the parent's income, wealth and underlying predisposition to making transfers. It should therefore be noted that a household's income only increases the probability of receiving a transfer if they belong to a network that is resourced and inclined to offer such support. In summary only those in economically constrained circumstances with very rich parents receive financial support and this goes some way to explain the residual levels of transfer behaviour.

Finally this analysis has identified the limitations of a purely accounting understanding of financial transfers. Using income as a predictor was far less effective than the self-reporting measure. This is not to say that self-reporting is a better measure of material circumstances but it is potentially a better indicator of what is perceived of as need. The use of income as a measure is problematic and its poor performance relative to a self-assessment suggests that the altruistic model is highly relativized from a child's perspective and cannot be monetized to the extent that the parental perspective was in chapter 5. This in itself underlines the need to understand transfers from a recipient perspective. In so doing, the ambiguity of the altruistic model is unfurled through the complex conceptualisation of a parent's perception of their child's material circumstances.

### *Implications*

As a preliminary exploration of a child's eye view of transfer behaviour, this chapter contributes a great deal to the arguments put forward in this thesis. Primarily, the findings suggest that transfers are driven by material circumstances and are not an investment strategy. This in itself is an extension of the traditional altruistic model which suggests that extended families provide a residual function with regards to welfare support. Existing research was only able to infer motives based on the characteristics of parents and a limited description of their children. This chapter fleshes out the pull factors and does much to explain the limited rates of financial transfers. It concludes simply that children in economically challenging circumstances with rich parents are likely to receive transfers and this is exceptionally informative in answering question 2 which was put forward in chapter 3 of this thesis (page 46). Chapter 7 seeks to explain whether policies crowd out transfers to potential recipients but would be unable to do so without the ground work provided by this analysis.

In addition to this, the analysis gave an indication of the extent to which transfer receipt is conditional upon parent circumstances. This was seen to be quite considerable in Model 2 and Model 3 where the random and fixed effects showed a large degree of variance between rather than within households. The overall implications of this are that it would appear that parental circumstances and tendencies are of primary importance in determining transfers with receipt heavily conditional upon this. In terms of the theoretical model put forward in Chapter 3, this chapter has therefore provided evidence that the interaction between parental and child circumstances is distinctively one sided.

The implications of these two findings for the primary concern of this thesis are considerable. This thesis looks to assess the extent to which policies affect transfer behaviour. The residual narrative put forward by this chapter implies that the extended family mimics a residual welfare state. The analysis suggests that the family only seeks to ensure a minimum level of material conditions. This may imply that the family will therefore react to minimum income protection policies. Where the welfare state effectively ensures a minimum income for households, the family should find little incentive to provide financial assistance on the basis of the findings in this chapter. What's more, the finding that receipt is heavily conditional on a latent tendency to receive transfers suggest that policy effects on financial transfer behaviour will be amplified through the parent relative to the child. Therefore, as chapter 7 looks to examine how policies affect the likelihood of receiving financial assistance it should be contextualised by the assertion that parental circumstances appear to be more decisive than recipient circumstances in determining transfer behaviour.

### *Limitations*

The limitations within this analysis centre on the inability to fully and adequately account for unobserved heterogeneity between households. There may exist a spurious effect related to the resources of the support network for each household. Households with richer support networks are more likely to be rich themselves and therefore it is not income having an effect but the capacity of their friends and family to give financial assistance. Nevertheless, the direction of this spurious effect runs counter to the *'Minimum Income Models'* assertion that poorer households will be more likely to receive financial assistance. Therefore, a more appropriately designed longitudinal design that allowed for measurement of parent and child resources would allow for better estimates but intuition would suggest that this would only increase the effect size observed here.

The distinction between the two models here could also be disputed in terms of the dependent variable used. Here only the receipt of a financial transfer was recorded and the amount was ignored. It is possible to take the amount into account using a Tobit model but this was not done here. The reason for this was the estimation of a random effect Tobit model covering such a large data set is beyond the computing capacity available. This approach does have significant benefits and would be a more robust test of the theory given that one would expect a *'Minimum Income Model'* and *'Aspirational Model'* to predict different sized transfers. Minimum income transfers maybe a small transfer that act as a residual to existing incomes. Aspirational transfers are likely to centre on investments and large purchases such as deposits for housing, education or a car.

In addition to this, the distinction in effects between self-reported financial circumstances and the actual level of income suggests that the concept of a child's material circumstances is cloudy. Section 6.2.3 illustrates the relationship between the two concepts as correlated but not concrete. It is possible to 'struggle to make ends meet' in the upper income quartile whilst over half of those in the lowest income quartile report no difficulties in living within their means. This underlines the ambiguity of the self-reported status. Given that the findings here are largely based on the relationship between this variable and the probability of receiving a transfer, it is important to establish its conceptual meaning. Here it is taken as a subjective self-assessment that would be transmitted to the households support network and not just the survey. The validity of this claim is however questionable and further consideration should be given to how this variable behaves across a variety of indicators. To the author's knowledge, such analysis does exist but not for the EU-SILC specifically (Gordon, et al., 2000).

## 7. Public & Private Transfers to European Households

### 7.1. Introduction

Chapter 5 examined whether public financial transfers to the parents increases the likelihood that they make private financial transfers to their children, a process labelled ‘crowding in’. This chapter examines whether *receiving* public financial transfers decreases the likelihood of *receiving* a financial transfer, a process known as ‘crowding out’.

This discussion is embedded in a contemporary debate about the way in which the family and state interact. The 2008 economic crisis has led to retrenchment of the market *and* welfare state in many areas of Europe. This process evokes a debate that asks whether the expansion of the state meant the retrenchment of family and social ties (Van Oorschot & Arts, 2005). Given this, to what extent can we expect social networks to ‘pick up the slack’ in welfare provision? This chapter examines whether there is an identifiable relationship between public and private provision of financial support and therefore whether such a crowding out effect can be identified in contemporary Europe.

There has been considerable research investigating the crowding out principle with mixed evidence suggesting that it is highly context dependent (Argimon, Gonzalez-Paramo, & Roldan, 1997; Andreoni & Payne, 2011; Reil-Held, 2006). It is also evident that due to a number of factors, the effect is particularly hard to isolate and identify from an empirical perspective. Using comparative and longitudinal methods in a multilevel design, this chapter looks at the relationship between receipts from public and private transfers across 24 European countries between 2005 & 2010.

Given the significant retrenchment in many welfare states following the financial crisis, understanding the capacity and willingness of the family and others to respond in times of hardship is a pertinent and substantively interesting question. In addition to this, the analysis looks to consider the extent to which public financial assistance is a confounding factor in the effects observed in chapter 6. For example, there appears to be a large difference between social classes in their private transfer behaviour (Albertini & Radl, 2012). This observed effect could be spurious if public transfer receipts are higher amongst some social classes and are also ‘crowding out’ private transfers. That is to say that richer parents may only make financial transfers to their adult children because their adult children don’t receive assistance through public transfers.

In order to satisfy these substantive and theoretical concerns, the chapter begins in section 7.2.1 by outlining the existing literature and exploring existing evidence of a crowding out effect and the limitations of such research. This is supplemented by a consideration of the importance of the crowding out hypothesis in the context of private transfer behaviour and the related literature in section 7.2.3.

This is followed by a detailed discussion of methodological issues with existing research and potential limitations to this chapter in section 7.2.4. Attempts to address these concerns are then considered in section 7.2.5. Section 7.3 discusses various results of the analysis before section 7.4 summarises the findings, limitations and areas for future research.

## **7.2. Context, Model & Methods**

In order to make inferences from the analysis in this chapter, the context of the debate needs to be considered. This section does this by first outlining the long running crowding out debate. It then progresses to the perspective of intergenerational transfers within this literature, before outlining the methodological challenges that the analysis encountered.

### **7.2.1. The Genesis of the Debate**

The aim of this thesis is to understand the effect of social policies on intergenerational, financial transfers. The effect of policy on societal institutions is not a new area of study. In order to make broader inferences from the analysis within this thesis, it is therefore necessary to consider the broader debates within which it sits. This was outlined in detail within chapter 2 of this thesis and this section seeks to outline the role of this analysis within a debate that is of considerable social significance in contemporary Europe.

The crowding out hypothesis is attributable to a number of scholars examining the extent to which contractions and expansions in public sector activity are linked to expansions and contractions in private activity (Abrams & Schitz, 1978; Fukuyama, 1999; Buiter, 1977). Quite simply, crowding out is when the existence of public sector activity leads to less activity from private actors such as firms, families or third sector institutions. Discussions of the crowding out hypothesis tend to deal with each of these actors individually, focusing on either market or societal responses to public expansion or retrenchment (for an example of market crowding out: Simmons & Emanuele, 2004 & for an example of social crowding out: Andreoni, 1993).

With regards to welfare provision, this chapter primarily deals with the relationship between the family and the public sector and is therefore more concerned with 'social crowding out'. The third of welfare provider is the market place. There is a large amount of research concerning the relationship between public and market provision of welfare (Ahmed & Miller, 2007; Argimon, Gonzalez-Paramo, & Roldan, 1997) but this thesis focuses on family provision rather than market provision. The primary concern here is whether households receive more from friends and family when public support is reduced and whether they decrease it when public support is increased. Given that chapter 6 argued

that private transfers are targeted at those in need, the crowding out hypothesis should logically follow if public transfers are effective in reducing need.

Yet the debate surrounding the crowding out hypothesis regarding family support is sustained by the inherent flaws of existing methods and limitations of data. Endogeneity, unobserved heterogeneity, selection effects and a lack of data have starved the debate of empirical foundations on both sides, reducing policy effects to dummy variables or de-contextualised coefficients (Kunemund & Rein, 1999; Zissimopoulos & Smith, 2010; Albertini, Kohli, & Vogel, 2006).

The financial crisis of 2008 has reenergised this debate. With the market less able to provide employment, the hypothesis has begun to re-enter public discourse. Fiscal constraints have led some governments to utilise a logic that the state need not do what the family could do instead (Cameron, 2010). The ideological implications of such a claim imply a change in tide within European Societies that have persistently advanced the principles of individualism and de-familisation over the past two decades (Lewis, 1992; Saraceno C. , 2000; Sapir, 2003). The question is therefore whether public retrenchment has been met with family renewal and whether ‘rolling back the state’ means a reinvigoration of family support.

### 7.2.2. Previous Findings

Existing evidence of crowding out can be found in a wide array of subject fields. There has been research on the extent to which charitable giving is crowded out by public funding (Andreoni, 1993; Andreoni & Payne, 2011; Eckel, Grossman, & Johnston, 2005); whether private investment is crowded out by public investment (Argimon, Gonzalez-Paramo, & Roldan, 1997; Ganelli, 2003; Ahmed & Miller, 2007); whether volunteering is supplanted by welfare state expansion (Day & Devlin, 1996; Simmons & Emanuele, 2004); whether families spend less on education when it is made publicly available (Zissimopoulos & Smith, 2010) and whether families continue to provide care when public provision is extended be it for older persons (Costa-Font, 2010) or the young (Long, 1991).

The findings from this research, and countless other studies not included here, have been mixed but predominantly in support of the crowding out hypothesis. But whilst the majority of analyses have identified a crowding out effect (Andreoni & Payne, 2011), others have demonstrated no effect (Eckel, Grossman, & Johnston, 2005) and a small number allude to a ‘crowding in’ effect by which the family is enabled or motivated to increase support in line with public support (Kunemund & Rein, 1999). As well as being split in terms of their findings and dependent variables, there is a demarcation in the literature between studies using micro analyses and those using macro analyses.



Findings using a macro approach are more mixed in their conclusions and are open to criticisms such as the ecological fallacy (Goldstein, 2011). There are a large number of omitted variables within these studies and they inevitably struggle to describe a micro process using higher level data. Micro analysis studies on the other hand tend to be limited by one of two issues. Firstly, much of the individual level analysis on crowding out has been conducted in psychological experimental conditions (Andreoni, 1993; Eckel, Grossman, & Johnston, 2005). Whilst widely considered a gold standard in research, it is not clear whether such findings can be observed in circumstances in which the hypothesis has been invoked (Cartwright, 2007). This can also be said of a number of other micro studies which focus on particular policies or cases that relied on a natural experiment (i.e. policy change) to test the hypothesis (Juarez, 2009; Long, 1991; Reil-Held, 2006). It is these studies which have predominantly produced confirmations of the crowding out hypothesis. What is missing from this literature is a more holistic treatment of the hypothesis in a 'real world' setting and this is the gap that this paper intends to fill.

There has been considerable research on the financial support offered by families across different households and this has included the interaction between public and private provision of financial assistance. The majority of this research has taken a comparative form in trying to identify a policy effect (Schenk, Dykstra, & Maas, 2010; Albertini & Kohli, 2012; Brandt & Deindl, 2013). This approach entails identifying cross national differences in behaviour and attributing them to policy differences. For example Albertini & Kohli argue that the larger yet less frequent transfers in Southern Europe are due to the welfare state being orientated towards the family. In the North of Europe, the welfare states focus on supporting individuals mean that transfers are small but pervasive. Similarly, Brandt et al (2013) analyse intergenerational exchange dynamics in differing regimes and argue that the differing dynamics are brought about by policy environment rather than cultural, demographic or environmental factors. The reason for this approach is that the authors are not primarily concerned with the direct impact of the transfer but are instead considering a broader understanding of intergenerational dynamics. This is grounded in the assumption that macro level factors represent distinct typologies and are better captured by the methods that they have employed (Esping Andersen, 1990).

By contrast the crowding out hypothesis is based on an individualistic, utility maximising model of behaviour and so testing it requires policies to be understood from the individual's perspective. One solution to the question of how to more accurately capture the effect of policy on individual level behaviour is to use multilevel methods in order to attain a methodologically sound yet generalisable assessment of the interaction between public and private welfare provision from a comparative perspective (Rabe-Hesketh & Skrondal, 2012; Hox, 2010). Yet concerns exist with such an approach. Firstly, it is unclear to what extent the country level can be considered a random sample of a population for which frequentist statistics are appropriate (Maas & Hox, 2005). Secondly, the number

of units at the country level often severely limits the analytical power that such an analysis has. Therefore to tackle the question of how policy affects individual level behaviour, this analysis conceptualises policy at the individual level by measuring welfare receipts for each household, mitigating the need for ‘random effects’ at the country level. This subsequently allows the use of fixed effects for country specific effects.

One study was identified that was not reliant on comparative techniques and was able to measure policy at the micro level. Björnberg and Latta (2007) used data from Sweden to demonstrate that public and private financial assistance filled distinct and complementary roles rather than displacing one another. They found that the family often provided assistance for no reason whatsoever and thus undermined the assumption that both the welfare state and family should respond to the same forms of need. However this study was limited in that it only looked at Sweden which the authors illustrated was a society which heavily relied upon the welfare state for financial support.

### 7.2.3. Intergenerational Transfers as Welfare Provision

This analysis will examine the impact of changes in public provision of financial assistance on the likelihood of receiving financial assistance from individuals outside of one’s current household. Crowding Out has a great deal of significance for debates regarding intergenerational transfers. Much of the existing literature has noted inequalities in transfer behaviour (Cox, 1987; Loury, 1981; Gale & Scholz, 1994). Some studies have looked to intergenerational transfers as a source of low socio-economic mobility by exploring class and income differentials (Albertini & Radl, 2012; Zissimopoulos & Smith, 2010; Leopold & Schneider, 2010). Others have looked at cultural values and even human capital explanations for the differences in private transfer behaviour (Attias-Donfut, Ogg, & Wolff, 2005; Albertini & Kohli, 2012; Lennartson, 2010). The primary conclusion of such research is that class and income status are transmitted through financial support, primarily from parents to their adult children because the children of the financially affluent are more likely to receive financial assistance.

Yet this commentary on private transfer behaviour is complex when considered in the theoretical framework of chapter 3. Firstly, in analysing the effect of income or class on the probability of receiving a private transfer, they fail to account for the welfare receipts of the individual child which may be acting as an intervening variable creating spurious effects. It could be argued, for example, that richer people’s children do not receive welfare support and therefore need external financial support (Zissimopoulos & Smith, 2010). If true then the effect of parental income, wealth or class maybe overstated. This is because a child of a poorer parent may receive financial assistance from the state in lieu of assistance from their parents. If this is the case then the assertion that such financial transfers perpetuate inequalities does not hold and their substantive impact would be questionable given that

children of both the poor and rich would have comparable outcomes. For the poorer child, their financial assistance from their family has been simply crowded out and they are not, *ceteris paribus*, less likely to receive financial assistance from family and friends than richer families.

Given that many welfare systems incorporate family wealth and support within their welfare systems, this may indeed be plausible and consideration of the socio-cultural context is necessary. For example, in some circumstances individuals can be excluded from public assistance on the basis that the family is capable of doing so (Saraceno & Keck, 2009). It could also be expected that the children of the educated and higher classes are disinclined to receive welfare support and therefore rely upon the family to a greater extent (Taylor-Gooby, 2001). In short, if crowding out exists then it is possible that the existing private transfer literature has reached a premature conclusion regarding the effect of private transfers on social mobility. The implications of this are considerable for the field given that one of the primary conclusions of the literature has been that private financial transfers will have dampened social mobility and perpetuated inequalities (Loury, 1981; Kohli, 1999; Kunemund, 2008).

The second point of consideration in this debate is the extent to which transfers are made based on need rather than aspiration. Income or class differentials in transfer behaviour are often considered to be aspirational and not need based. This claim has been based on the notion that private transfers are made based on kinship rather than need and are subsequently the anti-thesis of the welfare state (Heath, 1981). Chapter 6 largely contradicted this assertion and argued that it was poorer and more financially constrained households that were the targets of transfers. This indicated a '*minimum income*' motive rather than an '*aspirational*' one. Nevertheless the results also indicated that certain families transferred whilst others did not. This, based on the conclusions of chapters 5 & 6, is likely attributable to the family structure and financial position of the parental household. That is to say that the likely recipient of financial assistance is a household that is in financial difficulty and whose family is predisposed to help them.

The assertion of the '*minimum income model*' from chapter 6 would therefore be that there should be a strong crowding out effect if public financial assistance accurately targets those in financial hardship. If public assistance alleviates financial hardship, the likelihood of receiving private financial assistance should decrease when a household is in receipt. Examining the interaction between public and private financial assistance should therefore help in understanding not only why and when parents provide financial assistance but also the extent to which such transfers are substitutes for state welfare or a means of transmitting wealth and social status. In short, what emerges are two hypotheses which should support each other. The first says that households that are in greater need will receive more financial assistance because their parents care about them and will provide such assistance. The second says that those who are in receipt of public financial assistance, are less likely to receive private financial

assistance because there need will be reduced by the public transfer. Given the interdependence of these hypotheses, how can the observation that households are more likely to receive financial assistance from other households when they have already received financial assistance from the state be reconciled with the understanding of transfer behaviour outlined in chapter 6 which suggested that those in the most pressing of economic circumstances are the likeliest recipients of financial assistance? This question is explored in this analysis and potential explanations offered in section 7.4.

#### 7.2.4. Empirical constraints

This chapter asks whether public transfers crowd out private transfers and make households less likely to receive financial support from their family and friends. Or whether this association is due to spurious effects or misspecifications in the relationship. Therefore it is necessary to explore the methodological issues that cloud the debate on crowding out.

##### *Endogeneity & Crowding Out the State*

The assertion in the crowding out hypothesis is that it is the welfare state that crowds out the family and not the other way around. This is intuitive given the logic that an individual will more readily react to public measures than a state will to an individual. However, in many European countries welfare state mechanisms can be conditional on family wealth and the capacity of the family to care for its members both internal and external of the household (Saraceno & Keck, 2009). On such occasions, it is the capacity to give a private transfer that leads the state not to.

The plausibility of this criticism maybe questioned given the sporadic nature of such instances in which this may occur. Yet its effect on the substantive understanding and empirical estimates of the relationship between family and state could be meaningful. In the defamilisation literature, the point is made that it is precisely these legal and policy institutions that induce a male breadwinner family model (Lewis, 1992; Esping-Andersen, 2009). Welfare states provided welfare to a household via the male worker in return for contributions to social insurance. In this model a woman does not directly receive public, financial, welfare assistance as it is assumed that the husband will be able to provide. It is therefore the receipt of a private transfer from the husband to the wife that ensures that there is no public transfer. This can be seen as private transfers crowding out the state. It is not an economic response on the part of the family but instead a reaction of the state and a question of institutional values and principles.

### *Unobserved Heterogeneity*

As argued in 2.2, income and class differentials in the likelihood of making a private financial transfer are a particular concern in the literature on private transfer behaviour (Albertini & Radl, 2012).

Cultural factors, the proximity of households to existing welfare institutions and the extent to which individuals are familiar with systems of welfare will drive private transfer behaviour and potentially cause greater inequality and dampen social mobility (Lennartson, 2010). This has been evidenced by those with higher incomes making private transfers more regularly than those on low incomes, thus perpetuating existing inequalities across generations (Zissimopoulos & Smith, 2010).

Yet the state may have crowded out private transfer behaviour and therefore private transfers cannot be seen as discriminatory. Low income families would make private transfers if not supported by the state. It is therefore important to isolate the response of family networks to the receipt of private transfers as it affects our understanding of private transfer behaviour in a macro-social context.

### *Homogenous Effects for Families*

According to the crowding out hypothesis, the effect will be the same across households and their associated family networks. Economic conceptualisations tend to view the family as a means rather than an end in the sense that they redistribute resources and maximise the utility of all constituent members. Given varying characteristics and contexts of these family units, it should be anticipated that families are heterogeneous (Browning, Ciappori, & Weiss, 2010). In some, the family unit may be one in which a large amount of redistribution occurs due to large amounts of specialisation by members, such as in traditional nuclear families. In family units with greater homogeneity amongst members, arrangements may be less orientated towards redistribution (Puur, Sakkeus, Schenk, & Poldma, 2010). If implicit agreements are different between families, it should be anticipated that the effect itself is dependent upon a number of household and contextual factors (Attias-Donfut, Ogg, & Wolff, 2005). This assertion is supported by the findings of chapters 5 & 6 where the broader family context was shown to be a key determinant of transfer behaviour.

### *Homogenous Effects for Policies*

The hypothesis also suggests that all public transfers crowd out private transfers. Yet the logics and dynamics of individual policy programmes vary. For example it could be anticipated that certain family policies such as child benefits may indeed crowd out payments given that they support the independence of a particular household (Aassve, Arpino, & Goisis, 2012). Yet simultaneously, welfare state payments made to the more affluent members of a family network (i.e. pensioners) could crowd

in private transfers as they may induce redistribution as evidenced in chapter 5 (Kunemund & Rein, 1999; Reil-Held, 2006).

These considerations place large demands on any insight into the crowding out hypothesis' validity. These issues are deeply embedded within the methods, institutions and conceptualisations of social policy research and so to assert that existing approaches can be undermined through the limited analysis provided here would be misguided. Instead, what can be offered is an attempt to explore the complex relationship between family and state provision of assistance in the context of private financial transfers.

The findings of chapter 6 in particular suggested that the logic of transfer behaviour was one of financial assistance rather than an investment. It may therefore be that certain policies crowd out transfers whilst others do not. Benefits that are given in relation to educational support such as subsidised student loans or bursaries may not be related to private forms of financial assistance given that they target separate needs. If a private transfer is designed to alleviate financial hardship it may be less responsive to such 'investment' policies. In contrast benefits that target social exclusion and low income households may well crowd out private financial assistance given that they are fulfilling a similar role. To consider these theoretical distinctions in the types of policies, the receipts from public benefits are categorised into seven broad groups and analysed separately.

#### 7.2.5. Data & Methods

In order to examine this hypothesis, data from the European Union's Statistics on Income and Living Conditions (EU-SILC) will be used to analyse the extent to which public and private transfers occur concurrently (Eurostat, 2011). This dataset was chosen for a number of reasons that are discussed more fully in chapter 4. Firstly, it is a comparative dataset of the 27 members of the European Union (data for Iceland and Norway are also included taking the total number of countries to 29 of which 24 are used here<sup>8</sup>). This allows us to examine the relationship across national boundaries and address the comparative question within this thesis. Secondly, the data is a longitudinal rotational panel with households followed for four years. This allows us to examine the extent to which public and private transfer receipts vary within households over time. This also allows for a large degree of unobserved heterogeneity at the household level to be captured and therefore more robust inferences made.

The third reason for choosing the EU-SILC is the sheer number and quality of measures used within it. Data is collected on the receipt of a wide range of social benefits and transfers as well as an indication of informal private financial transfers from non-cohabiting private actors. Such data is not often collected

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<sup>8</sup> Germany was excluded because data was only available for 2006 at the time of analysis. In addition, Malta, Cyprus, Slovakia and Ireland did not have data on key variables.

and especially not in a longitudinal and comparative perspective. This provides a unique opportunity to address a number of issues identified within the previous section. The analysis that is possible with such data allows for robust inferences that can help inform our understanding of the relationship between family and state support (Rabe-Hesketh & Skrondal, 2012).

In analysing this data, a multilevel model is adopted which aims to control for family level unobserved heterogeneity. This approach nests individual observations within households so that a household coefficient can be estimated that is itself determined by time invariant factors in the same way as chapter 6. This approach means that a great deal of unobserved heterogeneity can be captured. This is because we are comparing households with themselves over time rather than other households. This makes comparisons more meaningful as the comparison is between observations that are more comparable.

There are strict assumptions that come with such an approach, the most onerous of which is the assumption that all factors at the household level which are correlated with the outcome variable are included within the model. This is an ambitious assumption and one that is also difficult to test in these circumstances but necessary nevertheless if we are to analyse comparative, longitudinal data regarding this issue. To address this, Household means are included within the model in order to control for second level endogeneity (Rabe-Hesketh & Skrondal, 2012). In this respect the model represents an exact replica of model 2 in chapter 6 with the difference being the segregation of household income into income & benefit receipts.

**Table 7.1 - Descriptive Statistics**

Variable	Obs	Mean	Std Dev.	Min	Max
Received a Transfer	108,916	6.27%	-	-	-
Average Age in Household	108,918	44.269	11.609	11	82
Number of Children in Household	108,918	1.329	1.57	0	14
Household Size	108,918	3.186	1.535	1	20
Household Income (PPP)	107,973	€ 13,891	17,574	€ 0	€ 3,679,263
Household Benefit Receipts (PPP)	108,828	€ 12,341	19,482	€ 0	€ 886,909
Household includes someone of Ill Health	108,918	37.77%	-	-	-
Household Struggles to make ends meet	108,739	35.52%	-	-	-
Household includes someone Unemployed	108,918	37.63%	-	-	-
Household includes a Student	108,918	12.47%	-	-	-
Maximum Education in Household - Low	107,817	11.26%	-	-	-
Medium	107,817	44.37%	-	-	-
High	107,817	42.10%	-	-	-
Household includes a Couple	108,918	82.07%	-	-	-

Source: European Union Statistics on Income and Living Conditions, 2005 - 2010

The unit of analysis for this research is the household, with each household contributing between 1 and 4 observations to the overall sample. These observations are nested within the relevant household using a multilevel random intercept structure as discussed above.

The dependent variable for the analysis is a dichotomous variable which is constructed using the variable HY080G which captures the gross private transfers that the household has received in the last full calendar year. This is coded as 1 if they have received at least €1 and 0 if they have not received any. As Table 7.1 illustrates, 7.4% of household observations in the sample received a private transfer.

The financial value variables are calculated using the purchasing power parity weights calculated by Eurostat and are all expressed in Euros. All these financial variables are then logged in order to provide a normal distribution that is more appropriate for this analysis. Income is constituted by the total amount of gross household income.

The value of the total benefit receipts is the summation of all public transfers made to the household in the income reference period which includes the household level transfers such as child benefits, housing



benefits and other unclassified social benefits. These are then added to the sum total of individual level benefits for each household member including unemployment benefits, old age benefits, survivor benefits, sick benefits, disability benefits and educational benefits.

A potential measurement issue derived from this is the missing variable of in kind payments from the public sector such as tax exemptions or relief. Although this analysis only focuses on financial transfers, in kind payments are often made as an alternative to financial payments and are therefore correlated with the main independent and dependent variable. For example, childcare is often provided directly as a service and sometimes it is supported through financial payments such as child benefits. This is largely unavoidable within this analysis and lies outside the scope of this research.

It is nevertheless a threat to the internal validity of this analysis. One potential solution would be to generate an indicator of eligibility for in kind help. That is to say, where the receipts are measured on an individual level, a proxy could be created which identified the in-kind social assistance that an individual or household was eligible for and an indicator used to capture this. Such a task for 29 countries lies outside of the resources of this project however.

Household level indicators are also included within the model such as the average household age, household size, number of children, maximum education level in the household, unemployed person in the household, student in the household and ill person in the household. In addition to this, whether the household struggled to make ends meet was used to identify general material circumstances as was the case in chapter 6. There it was identified as the primary determinant of receiving financial assistance as is therefore afforded greater scrutiny here. The stability and nature of the household was captured using a dummy variable for whether the household included a couple.

### 7.3. Results

Section 7.3 of this chapter describes the results of the analysis. Section 7.3.1 starts by discussing the effect of total public transfer receipts on the likelihood of receiving a transfer. This is a longitudinal model and the discussion centres on whether the crowding out hypothesis is supported. The findings suggest a crowding in effect and the validity of this finding are examined. Section 7.3.2 then explores whether the finding holds across policies and finds that it does with only a few exceptions. Section 7.3.3 then examines whether it is robust across a geographical clustering of countries and finds that the results are largely consistent.

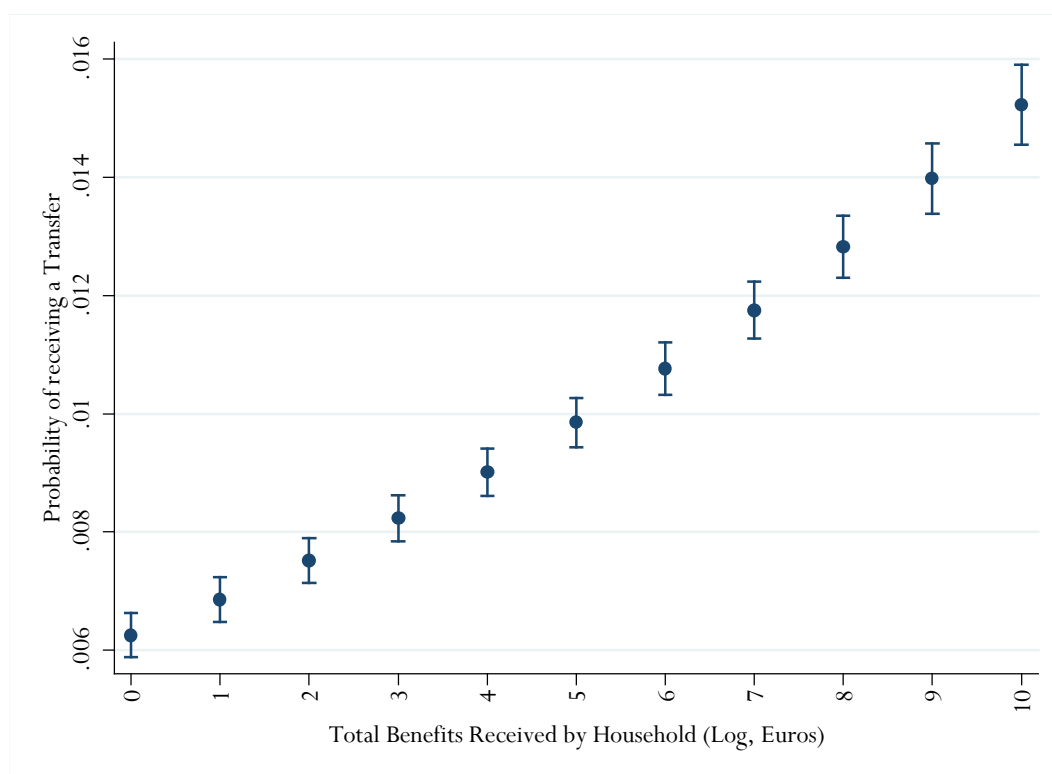
#### 7.3.1. Household Level Variations in Europe

In order to assess whether private transfers are crowded out by public transfers, longitudinal, multilevel probit analyses were used and models constructed in a stepwise fashion. The results of this can be seen in Table 7.2. The first model analyses the extent to which total public transfers are associated with private transfers. The second model then breaks this analysis down into various forms of benefits to examine whether there are homogenous effects of public transfers on the likelihood of receiving financial assistance. This section discusses the findings of model 1. Counter to the crowding out hypothesis, the analysis shows that public transfers are associated with an increase in the probability of receiving a private transfer and this is significant at the 99.9% level of confidence. In the context of the effect of income, the size of the coefficient and maximum effect is rather small. The far greater determinant of whether a transfer is received is the financial constraints that were identified in chapter 6. 'Making Ends Meet' and 'Household Income' are shown to impact the probability far more than the public receipts and shows them to be secondary to the effect of material circumstance.

**Table 7.2 - The effect of Public Transfer Receipts on the likelihood of receiving a Private Transfer in the last 12 months using a Probit Model**

	<b>Model 1</b>	<b>Model 2</b>
Total Benefits (Log, Euros)	0.026 *** (0.003)	
Child Benefits (Log, Euros)		0.046 *** (0.004)
Social Exclusion Benefits (Log, Euros)		0.023 *** (0.005)
Housing Benefits (Log, Euros)		0.022 *** (0.004)
Old Age Benefits (Log, Euros)		-0.006 (0.003)
Widow Benefits (Log, Euros)		-0.036 *** (0.005)
Disability Benefits (Log, Euros)		0.002 (0.004)
Sickness Benefits (Log, Euros)		0.001 (0.004)
Education Benefits (Log, Euros)		0.047 *** (0.005)
Intercept Variance	0.897 *** (0.017)	0.890 *** (0.017)
N	106,436	106,436

Source: European Union Statistics on Income and Living Conditions, 2005 – 2010 Notes: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses. The full models are given in Annexes 1 & 2.



**Figure 7.1 - Marginal Effects at the Means of Total Benefits on the Predicted probability of receiving a transfer in the last 12 months**

*Source: European Union Statistics on Income and Living Conditions, 2005 - 2010*

The results from this model are consistent with those in Chapter 6. All coefficients are in the direction broadly hypothesised by theories of altruism except that concerning unemployment (Cox, 1987). This coefficient suggests that households that include an individual who is unemployed are less likely to receive a private transfer than those which do not. This could be occurring for a number of reasons. First, households who experience unemployment are also far less likely to be part of groups which are affluent enough to support them during times of unemployment. However this argument does not hold in a longitudinal approach given that the comparisons made are within household and therefore such issues should not be causing this effect because households are compared with themselves over time. Doubt in this explanation is reinforced by no such effect being evident for the dummy variable which captures the ability to make ends meet. The same causal relationship should be in evidence here if the negative coefficient for unemployment is due to unemployed people having poorer social networks. This is because one would anticipate that households struggling to make ends meet also come from poorer support networks as is the case with unemployment.

A further explanation could lie in the unit of analysis used. This effect could be caused by unemployed individuals being inclined to move and cohabit with households capable of supporting (Rosenzweig &

Wolpin, 1993). Therefore these households would be net transfer givers, something inevitably correlated with low transfer receipts. This would explain the negative coefficient yet such an explanation is undermined as similar processes are not undermining the coefficient for a student or person of ill health in residence. If the finding is taken to be empirically robust then it could be argued that individuals who are unemployed are distinguished from other forms of need.

**Table 7.3 - Covariates of Model 1 & 2 predicting the receipt of a financial transfer in the last 12 months.**

	Conservative		Scandinavian		Southern		Eastern	
Child Benefits (Log, Euros)	0.068	***	0.056	***	0.016	*	0.040	***
	(0.016)		(0.011)		(0.007)		(0.006)	
Social Exclusion Benefits (Log, Euros)	-0.005		0.003		0.024	*	0.029	***
	(0.014)		(0.015)		(0.012)		(0.008)	
Housing Benefits (Log, Euros)	0.033	*	0.060	***	0.044	**	0.023	*
	(0.014)		(0.009)		(0.014)		(0.010)	
Old Age Benefits (Log, Euros)	0.014		0.015		0.000		0.009	
	(0.012)		(0.011)		(0.007)		(0.006)	
Widow Benefits (Log, Euros)	-0.067	*	0.012		-0.028	**	-0.042	***
	(0.027)		(0.016)		(0.010)		(0.007)	
Disability Benefits (Log, Euros)	0.005		0.027	**	0.005		-0.004	
	(0.013)		(0.008)		(0.009)		(0.006)	
Sickness Benefits (Log, Euros)	0.008		-0.002		0.004		-0.001	
	(0.019)		(0.008)		(0.018)		(0.007)	
Education Benefits (Log, Euros)	0.067	***	0.046	***	0.017		0.039	***
	(0.015)		(0.009)		(0.013)		(0.010)	
Intercept Variance	0.798	***	0.903	***	0.743	***	0.779	***
	(0.068)		(0.055)		(0.043)		(0.028)	
N	8,333		13,937		25,741		39,264	

Source: European Union Statistics on Income and Living Conditions, 2005 – 2010. Notes: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses. Scandinavian: Denmark, Finland, Iceland, Sweden, Norway. Conservative: Austria, Netherlands, Belgium, France, Luxembourg. Southern: Cyprus, Spain, Greece, Italy, Malta, Portugal. Eastern: Bulgaria, Czech Republic, Estonia, Hungary, Latvia, Lithuania, Poland, Romania, Slovenia, Slovakia

Whilst these results do account for *between* household heterogeneity, they do not fully account for *within* household heterogeneity. They suppose that public transfers increase the likelihood that an individual will receive a private transfer independent of the households' circumstances. If it is assumed that public transfers are directed at those in most material need then an external event that triggers public transfers would also trigger private transfers and therefore it is not the public transfers themselves which caused the private transfer.

Attempts are made to correct for this by including indicators of whether the household includes individuals who are unemployed, students or those in poor health. It also accounts for the number of children within the household. The importance of these factors in attracting informal support is evidenced by strongly significant and large values. However data restrictions and the limitations of this analytic approach mean that changes in circumstances and a full picture of household circumstances cannot be fully captured by this analysis.

In order to more fully address such issues it would be more pertinent to use an instrumental variable approach (Heckman, 1991). This approach isolates the effect of public transfers on private transfers by using an instrument to mimic the random allocation evident in experimental designs. This was not adopted here because an adequate instrument could not be specified that would identify individuals who were more likely to receive a public transfer but that had no association with the likelihood that they would receive a private transfer. The inability to use such a model here means that issues of within household heterogeneity cannot be fully controlled for and the analysis presented here represents the most appropriate alternative.

The final potential issue mentioned in section 7.2 was endogeneity: where the likelihood of receiving a private transfer affects the likelihood of a public transfer. This is most likely to operate through the capacity of a household support network. For example, a household with wealthy relatives may be less likely to be in receipt of public transfers given their alternative means of financial support. However, the capacity of support networks are assumed to be largely time invariant and therefore addressed through the longitudinal design of the study.

### 7.3.2. Different Policies, Different Effects

Model 2 in Table 7.2 is the same as that in Model 1 except that Public Transfer Receipts have been categorised into various types as defined by the EU SILC. The classification system used by Eurostat is taken as given but is not beyond reproach. The comparability of welfare benefits is intrinsically difficult and this is exacerbated by the varying degree to which various welfare systems utilise cash transfers rather than in-kind payments or subsidies (Clasen & Siegel, 2007). To consider whether this maybe leading to biased estimates, the analysis was repeated across different welfare regimes.

The results of the model are striking in that all but three of the categories are positively associated with private transfers. Widow benefits are negatively associated with transfers suggesting a crowding out effect. The others have coefficients that are 0. All the household level transfers positively affect the likelihood of receiving a private transfer, as well as Educational and Sickness benefits at the individual level.

Of the policies that were shown to be positively associated with the likelihood of receiving a private transfer, the usual caveats of causality apply. There is possible endogeneity and unobserved heterogeneity that is not captured by this model and the extent to which the results are robust is open to doubt. The distinction between household and individual level benefits may indicate a structural or methodological issue rather than a crowding in effect. That is to say that the individual level benefits may also have an effect on behaviour but given that they are a summation of individual level receipts, this effect could have been missed due to the ecological fallacy of attempting to measure a process at one level (an individual's receipt of a transfer) using aggregated data (for all household members). This suspicion is re-enforced by the shift in the coefficient for family size from positive to negative and a fall in the effect size of the number of children, potentially indicating a structural consideration. To test this, the analysis was conducted again using equivalised figures. The results remained the same with the significance levels identical between the two models.

What is of interest is whether the finding that these particular policies 'crowd in' private transfers can be substantiated by any social theory. Whilst space is limited here to explore such a consideration there is a potential thematic distinction between those with significant effects and those without. Those with a null or negative effect (disability, widow, old age) tend to be received by households with older members. Transfers from parents to children and their correlation with age is well established (Kohli, *Private and Public Transfers between Generations: Linking the Family and the State*, 1999). Yet here there is an effect independent of age. It suggests that when households with older residents receive public financial assistance, private financial assistance is either crowded out or unresponsive (which given that the probability of receiving for such a household is relatively low anyway is approximately the same thing). Research on South East Asian societies with less developed pension and care systems have suggested that there is an enormous amount private financial and physical support from adult children to their parents in lieu of state support (Frankenberg, Lillard, & Willis, 2002). This may represent the very edge of this crowding out process.

In contrast, the policies with an identifiable crowding in effect are policies aimed at supporting younger households or those in earlier stages of the life course including child benefit, housing benefit, and education benefits. Of those policies with significant and positive effects, child benefit and educational benefits have anticipated returns that look beyond the existing material conditions of individual



households. That is to say that the design of these policies is based on future returns on the transfer rather than an immediate effect on material circumstances.

From an economic perspective, this finding makes little sense given that the marginal returns to any investment would be lower with each additional Euro the household receives. That is to say that it makes little financial sense for extended family to contribute more to educational costs or child related costs when the state contribution is high in comparison to when it is low. If the public transfers are low, the marginal returns would be greater than if provision was more extensive. In addition chapter 6 also suggested that the receipt of transfers was primarily due to financial difficulties rather than an investment or aspirational drive. If parents are targeting financial assistance at households under the most economic pressure, it does not seem to sit with a narrative of cooperative investment between public and private financial assistance.

Whilst the theoretical reasoning remains unclear, in the context of the crowding out debate these results do however suggest that if private sources of finance are likely to positively respond to any state retrenchment it is likely to be to policies affecting older households. In other words, if there is an interest in stimulating private financial transfers retrenchment should be focused on areas such as old age benefits rather than social exclusion or social investment policies but that this would be largely ineffectual given the estimated effect size.

**Table 7.4 – Model by Regime Clusters**

	Conservative		Scandinavian		Southern		Eastern	
Total Benefits (Log, Euros)	0.042	***	0.063	***	0.006		0.023	***
	(0.006)		(0.007)		(0.005)		(0.005)	
Household Income (Log, Euros)	-0.084	***	-0.208	***	-0.272	***	-0.269	***
	(0.014)		(0.038)		(0.021)		(0.02)	
Number of Residents	-0.015		-0.163	***	-0.131	***	-0.156	***
	(0.038)		(0.043)		(0.032)		(0.023)	
Make Ends Meet (Ref# - Very Difficult)								
- Somewhat Difficult	-0.048		-0.208	***	-0.254	***	-0.141	***
	(0.04)		(0.059)		(0.031)		(0.024)	
Not Difficult	-0.243	***	-0.274	***	-0.3	***	-0.283	***
	(0.051)		(0.066)		(0.065)		(0.063)	
A Resident has a Health Problem (Ref -	0.136	***	0.077		0.158	***	0.065	*
No)	(0.035)		(0.047)		(0.033)		(0.025)	
Household Contains a Couple	-0.77	***	-0.325	***	-0.536	***	-0.425	***
(Ref - No)	(0.054)		(0.057)		(0.047)		(0.035)	

	Conservative	Scandinavian	Southern	Eastern
Average Work Experience of Residents	-0.007 *** (0.002)	-0.002 (0.003)	-0.006 *** (0.002)	-0.003 (0.001)
Number of Children	-0.026 (0.033)	0.082 * (0.041)	0.084 ** (0.029)	0.156 *** (0.023)
Household Contains a Baby (Ref - No)	-0.205 ** (0.073)	-0.421 *** (0.08)	-0.099 (0.078)	-0.135 * (0.063)
Age	-0.039 *** (0.004)	-0.056 *** (0.004)	-0.024 *** (0.003)	-0.025 *** (0.002)
Maximum Age of Residents	0.021 *** (0.004)	0.026 *** (0.004)	0.010 ** (0.003)	0.007 ** (0.002)
Education (Ref - Low): Medium	0.268 *** (0.074)	0.344 (0.202)	0.095 * (0.047)	-0.033 (0.051)
High	0.347 *** (0.079)	0.239 (0.205)	0.260 *** (0.054)	0.088 (0.055)
Household Contains a Full Time Employee	-0.193 *** (0.042)	-0.132 * (0.059)	-0.184 *** (0.045)	-0.175 *** (0.036)
Household Contains an Unemployed Resident	-0.125 * (0.059)	0.079 (0.082)	0.047 (0.051)	0.015 (0.044)
Household Contains a Student	0.285 *** (0.045)	0.163 ** (0.05)	0.233 *** (0.049)	0.129 *** (0.038)
Household Contains a Retired Resident	-0.244 *** (0.064)	0.046 (0.096)	0.001 (0.049)	-0.039 (0.039)
Household Contains a Disabled Resident	0.04 (0.084)	-0.075 (0.089)	-0.126 (0.095)	-0.22 *** (0.053)
var(const)	1.034 *** (0.039)	1.01 *** (0.045)	0.86 *** (0.037)	0.771 *** (0.026)
N	31,415	20,623	38,018	47,902

Source: European Union Statistics on Income and Living Conditions, 2005 – 2010. Notes: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses

### 7.3.3. The Comparative Perspective

If different social policies have different effects it is tempting to suggest that this should be echoed through the types of policy that are evident in each regime. Given that there was evidence that child

benefit and educational benefits crowded in transfers, it may be argued that households in countries where such policies are more prevalent should also be seen to be the largest transfer countries. Furthermore if the relationship is age dependent, it is likely that the demographic differences across countries may be biasing the estimates. On the other hand, it should also be recognised that the relative effect size of these transfer policies was marginal given other determinants such as income, housing status and the number of children. Therefore, it does not necessarily follow that policy matters to that great an extent and that cultural or socio-economic factors may cloud any policy effects that we might expect to see.

This section explores the singular effect of social transfer receipts (as in Model 1 of Table 7.2) in the various welfare regimes that have been common within comparative research literature (Hantrais, 2004; Puur, Sakkeus, Schenk, & Poldma, 2010; Saraceno & Keck, 2009; Esping Andersen, 1990). Unfortunately, the UK and Ireland are the only countries available in the liberal regime and so it has been omitted from this analysis for the sake of clarity. What remains are the four regimes most commonly identified in the literature; Conservative, Scandinavian, Southern & Eastern.

The results suggest a large degree of consistency across the various regimes with regards to many of the basic dynamics of transfer behaviour. However there is some variation in some coefficients. For example, the number of children in the household is positively associated with the receipt of a transfer in all but the conservative regimes. Whilst these represent interesting findings, a detailed discussion of these differences is not given here for two reasons. Firstly, the focus of this analysis is on the stability of the observed crowding in effect across countries and detailed consideration of these coefficients would detract from this. Secondly, even if the chapter were focused on an exploratory consideration of transfer behaviour and its variation across policy regimes, such an analysis would be limited as the variation could be attributable to a considerable number of other methodological or substantive issues.

From Table 7.4, it would appear that the finding that public transfers crowd in private transfers is robust across regimes. This undermines any suggestion that it is a single country or regime skewing the results. From the maximum effects it is evident that the Scandinavian countries do indeed tend to show the largest effect size with regards to crowding in. They are followed closely by the Conservative, Eastern and Southern countries respectively.

This could be inferred as being in line with the findings of the previous section which suggested that child benefits and educational benefits encourage greater crowding in of informal transfers than policies directed at the elderly population. Scandinavian countries and to a lesser extent Conservative Countries have been proponents of such policies such as reconciliation policies and intensive investment in education. At the other end of the spectrum, social policies in the South and East tend to follow traditional labour market arrangements (Taylor-Gooby, 2004).

Nevertheless, this comparison of policy regimes serves to show that the effect found in the earlier analysis is evident in all four regimes. The analysis does support this in large part but any further inferences in support of a difference in effect size may well be beyond the capacity of this analysis. What is evident however is that there is no evidence of crowding out from any of the regimes analysed here and, given the diversity evident within Europe, this is quite surprising in and of itself. This in turn supports the assertion made within chapters 5 & 6 which argued that comparative narratives of transfer behaviour can be subsumed to an understanding of transfer behaviour based on individual's circumstances.

#### **7.4. Summary**

##### *Conclusions*

This chapter set out to test a long standing hypothesis in the social sciences which asserted that the presence of public transfers lessens the probability of private transfers. There is reasonable evidence to suggest that there is instead a 'crowding in' effect. The analysis shows that this effect appears to be consistent across policies except those directed at older persons. A cross regime analysis also demonstrated that the effect is consistent across traditional welfare clusterings.

From an empirical perspective, the aim of this chapter was to consider the potential critique of existing analysis. This suggested that the children of richer parents do not receive more transfers because they have more money but because they are not eligible for assistance from the welfare state. That is to say, only wealthy parents make financial transfers because their children do not receive public financial assistance. This critique asserted that it is not possible to understand the role of private transfers as a means of redistribution in isolation of social policy given that social policy crowded out informal transfers. This analysis suggests this is not the case and in so doing supports the argument that private transfers are potential sources of inequality and dilute social mobility.

Yet Chapter 6 of this thesis argued that the poorest households were the recipients of transfers. Coupled with this analysis it could be argued that both the family and the welfare state aim to fill a role as welfare provider. Given this assertion one would assume that the crowding out hypothesis must hold. Assuming that both public and private transfers target need, statistically the crowding out hypothesis should be supported. Yet no evidence was found of this in this analysis. If transfers are made to those in financial difficulty and social payments reduce financial difficulty, public financial assistance should reduce transfers. There are a number of potential solutions to this paradox.

The first and most likely of these is that the two types of transfers target (and are therefore correlated with) different types of need. For example, chapter 5 identified a clear effect of family size in terms of

resources. The results showed that the more children in a household, the more likely they were to receive financial assistance. The majority of social policies have diminishing returns to children (Saraceno & Keck, 2009). Families may therefore be identifying a different need to those identified by policies. That is to say that social policies identify more children as not requiring further financial support whereas private sources of financial assistance see it as a strain on the household's material circumstances and therefore provide assistance to offset this.

The second potential explanation is that a spurious effect exists somewhere within this system. This could involve the misspecification of the model in chapter 6 or chapter 7. The methodological limitations of these approaches have been discussed in detail and to counter this future research could attempt to replicate this analysis with numerous data sets or with differing specifications. The final issue could lie in the narrow operationalisation of transfers. No amounts are considered in this analysis. When coupled with the finding throughout this thesis that some families are inherently predisposed to make transfers, the solution to this puzzle may lie in changes in the amounts given.

### *Substantive implications*

The analysis presented here has argued that there is a crowding in effect associated with some public transfers. However, certain policy debates within Europe and beyond consistently assert the opposite, that public transfers reduce private transfers and weaken social bonds. No evidence is found of this. The current financial crisis has seen a large decrease in market activity and a subsequent increase in market activity. This has been followed by fiscal contraction in many European countries. In the absence of work and support from the state, the evidence presented here suggests that private means of support such as friends and family may not be forthcoming for those affected by welfare state retrenchment. Instead the loss of public support is compounded by a reduction in the support offered through informal channels. The exact reasoning for this is ambiguous but the empirical evidence is robust.

This analysis finds that there is not a negative relationship between public and private transfers. Its findings contribute to our understanding of the relationship between households at the micro level and policy movements at the macro level. Given the longitudinal and comparative nature of the data, future research could look to expand upon this approach to determine how comparative frameworks of social policy regimes are reflected in household level behaviour, as this has been previously shown to be a fruitful area of research.

With regards to the broader aims of this thesis, this chapter must be seen in the context of preceding chapters. Discussions of 'crowding out' or 'crowding in' at the recipient level must be seen in the context of crowding in at the parental level (Chapter 5). This parental level process appears to be far

more robust in estimating the likelihood of receipt. This was supported by the results of Chapter 6 which showed an underlying unobserved tendency to receive transfers amongst some households which would logically be attributable to the capacity of a support network. Chapter 5 argued that the crowding in effect comes next and demonstrates the importance of parental resources. Only once these factors are determined do the considerations of a child's circumstances come into account.

Given this, future research should be tentative in its conclusions regarding recipient perspectives of demand driven narratives of transfers. From a statistical point of view, a child's circumstances explain relatively little of the variance observed in transfer receipts to the extent that they often appear as random allocations of money. From a substantive perspective this should undermine any attempt to describe intergenerational transfer behaviour as needs based. Whilst they target the poor more readily than the rich, they are poor in addressing needs and reach a limited number of those in need. They are largely determined by birth and are a consequence of circumstance. They are a poor substitute for public welfare provision. It is therefore the conclusion of this chapter that whilst evidence exists of a crowding in effect at the recipient level, this should not be read as suggesting that public transfers may stimulate private transfers. The wider thesis has underlined their random nature and to attempt to direct transfer behaviour in such a way would be futile.

### *Limitations*

The analysis was unable to fully take into consideration unobserved heterogeneity in the form of time variant factors such as events and circumstantial changes but reflection suggests that this is not driving the findings presented. Similarly, it would appear that endogeneity is not a credible explanation for the effect. Any such endogeneity has always been hypothesised in the opposite direction necessary to nullify the findings as the likelihood of a private transfer would be seen to reduce the likelihood of a public transfer. That is to say that if the capacity of potential sources of financial assistance was larger, the public sector would be less likely to make a financial transfer. Any confounding factor would therefore only be weakening the observed effect.

The data limited the extent to which the individual level could be placed in the context of the family. This hampered policy specific inferences to a great extent as structural household effects could not be properly captured. What is more, just one form of policy transfer was considered in the form of financial transfers and this is equally true of the dependent variable. The abundance of time use surveys and more detailed analysis of support networks would allow for a more rounded picture of the interaction between state and non-state actors. This lies outside of the scope of this analysis but the necessary data sets exist for such analysis to be conducted.

A further limitation lies in the analysis concentrating on receipts and not giving. The original 'crowding in' hypothesis suggested that excess pensions had a trickledown effect to younger generations and therefore it may be of interest to study the effect of policy transfers on giving and thus replicate the analysis of chapter 5 with a general survey that did not identify the recipient (Kunemund & Rein, 1999). Such a diversion lies outside the scope of this analysis but it would certainly help expand on the findings here. The EU-SILC operates in a different way to SHARE in that recipients and benefactors are not linked within the dataset. Yet the sample is of the whole population and more detailed data is provided on the recipients circumstances. To fully analyse the crowding out effect however a longitudinal, comparative, relational dataset would be needed. To the author's knowledge, no such data exists.

## Annex 1 - Independent Variables (Models 1 & 2)

**Table 7.5 - The Independent Variables from model 1 and model 2**

Source: European Union Statistics on Income and Living Conditions, 2005 – 2010. Notes: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses.

	Model 1	Model 2
Household Income (Log, Euros)	-0.081 *** (0.007)	-0.103 *** (0.007)
Number of Residents	-0.118 *** (0.015)	-0.131 *** (0.015)
Make Ends Meet (Ref# - Very Difficult) - Somewhat Difficult	-0.157 *** (0.016)	-0.14 *** (0.016)
Not Difficult	-0.294 *** (0.025)	-0.26 *** (0.026)
A Resident has a Health Problem (Ref - No)	0.109 *** (0.016)	0.114 *** (0.016)
Household Contains a Couple (Ref - No)	-0.549 *** (0.021)	-0.548 *** (0.022)
Average Work Experience of Residents	-0.005 *** (0.001)	-0.006 *** (0.001)
Number of Children	0.143 *** (0.013)	0.108 *** (0.014)
Household Contains a Baby (Ref - No)	-0.201 *** (0.035)	-0.195 *** (0.035)
Age	-0.026 *** (0.002)	-0.021 *** (0.002)
Maximum Age of Residents	0.01 *** (0.002)	0.012 *** (0.002)
Education (Ref - Low) - Medium	0.132 *** (0.029)	0.153 *** (0.029)
High	0.187 *** (0.031)	0.221 *** (0.032)
Household Contains a Full Time Employee	-0.172 *** (0.020)	-0.173 *** (0.020)
Household Contains a Part Time Employee	0.09 *** (0.023)	0.083 *** (0.024)
Household Contains an Unemployed Resident	0.035 (0.026)	0.023 (0.026)
Household Contains a Student	0.251 *** (0.021)	0.196 *** (0.022)
Household Contains a Retired Resident	-0.098 ***	-0.03



	(0.024)		(0.026)
Household Contains a Disabled Resident	-0.144 ***		-0.116 **
	(0.035)		(0.038)
Household Contains a Homemaker	0.006		-0.002
	(0.025)		(0.025)
<hr/>			
var(const)	0.897 ***		0.89 ***
	(0.017)		(0.017)
<hr/>			
Log Likelihood	-98853.6		-97867.9
AIC	197797.2		195835.8
N	147,000		147,000
<hr/>			

## Annex 2 - Multilevel Model (Country Effects)

**Table 7.6 - The fixed effects from model 1 and model 2**

Source: European Union Statistics on Income and Living Conditions, 2005 – 2010. Notes: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses. Austria is the reference category.

	Model 1		Model 2			Model 1		Model 2	
Belgium	0.242	***	0.209	***	Italy	0.022		0.05	
	(0.055)		(0.055)			(0.046)		(0.046)	
Bulgaria	0.528	***	0.517	***	Lithuania	0.009		-0.009	
	(0.063)		(0.063)			(0.06)		(0.061)	
Cyprus	0.355	***	0.319	***	Luxembourg	-0.077		-0.111	
	(0.068)		(0.068)			(0.068)		(0.069)	
Czech Republic	0.216	***	0.239	***	Latvia	0.293	***	0.253	***
	(0.05)		(0.05)			(0.055)		(0.055)	
Germany	0.355	***	0.34	***	Malta	-0.654	***	-0.742	***
	(0.065)		(0.066)			(0.18)		(0.184)	
Denmark	0.045		-0.022		Netherlands	0.016		-0.017	
	(0.067)		(0.067)			(0.055)		(0.055)	
Estonia	-0.207	***	-0.251	***	Norway	0.29	***	0.243	***
	(0.058)		(0.058)			(0.06)		(0.06)	
Spain	-0.134	**	-0.053		Poland	0.055		0.08	
	(0.05)		(0.051)			(0.046)		(0.046)	
Finland	0.251	***	0.182	***	Portugal	-0.132		-0.095	
	(0.054)		(0.054)			(0.074)		(0.075)	
France	0.018		-0.021		Romania	0.04		0.003	
	(0.051)		(0.051)			(0.057)		(0.058)	
Greece	0.371	***	0.415	***	Sweden	-0.062		-0.157	**
	(0.053)		(0.054)			(0.058)		(0.06)	
Hungary	0.52	***	0.479	***	Slovenia	-0.202	***	-0.232	***
	(0.047)		(0.047)			(0.057)		(0.057)	
Ireland	-0.395	***	-0.47	***	Slovakia	-0.107		-0.102	
	(0.077)		(0.078)			(0.065)		(0.066)	
Iceland	0.693	***	0.675	***	UK	-0.353	***	-0.417	***
	(0.063)		(0.064)			(0.062)		(0.062)	

## 8. Does the number of siblings matter?<sup>9</sup>

### 8.1. Introduction

The intergenerational transfer literature is well developed and sits at an important junction between family studies, economics and demographics. Existing research has been rich, fruitful and insightful over the past 20 years to the extent that we now know a great deal about the support role played by the extended family throughout the life course (Berry, 2008; Cox, Motives for Private Income Transfers, 1987; Hurd, Smith, & Zissimopoulos, 2007; Attias-Donfut, Ogg, & Wolff, 2005; Altonji, Hayashi, & Kotlikoff, 1997; Albertini, Kohli, & Vogel, 2006; Hurd, Smith, & Zissimopoulos, 2007; Albertini & Radl, 2012). This literature was discussed in detail in chapter 2 and the findings were supported by the analysis in chapters 5 and 6.

Yet intergenerational transfers are about families and in existing analysis the family size, birth order and the interdependence of siblings transfer receipts are largely absent from the empirical and theoretical framework. As noted by Szydlak (2008), and the discussion of this thesis' conceptual framework in chapter 3, it is highly likely that such 'family structures' determine many of the parameters identified as directly affecting transfer behaviour. The aim of this chapter is to explore this assertion and it concludes by suggesting that such issues are of equal if not greater importance than the parental resource variables that have thus far garnered the majority of the attention. In doing so it helps establish to what extent the altruistic model explains differences in transfer behaviour across Europe as outlined in chapter 3 (page 46). This places the analysis of parental and child circumstances in a wider context.

This chapter begins by exploring why family structure isn't more prevalent in intergenerational transfer research and argues that it is to be found in the econometric roots of the analysis. It goes on to argue that this has led to biased estimates and an incomplete theoretical comprehension of transfer behaviour. Furthermore, using multilevel techniques to analyse data from the Survey for Health, Ageing and Retirement in Europe (SHARE), the chapter attempts to more accurately specify modelling which might help identify family size and birth order effects on intergenerational transfers and subsequent welfare outcomes.

Family size and birth order have played a crucial role in other areas of family studies such as investment in children and the provision of care for the elderly (Black, Devereux, & Salvanes, 2005; Voorpostel & Blieszner, 2008). Research on intergenerational transfers has however tended to ignore family size and birth order due to a lack of multilevel methods and a focus on economic variables such as parental

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<sup>9</sup> A version of this chapter was published as: Emery, Thomas. "Intergenerational transfers and European families: Does the number of siblings matter?" *Demographic Research* 29 (2013).

income, as in Chapter 5 of this thesis (Cox, 1987; Altonji, Hayashi, & Kotlikoff, 1997; McGarry, 1997; Zissimopoulos & Smith, 2009). We now consider whether this tendency is distorting inferences regarding social mobility and the interaction between the family and the welfare state which underpin Intergenerational Transfers substantive contributions and the primary questions underlying this thesis. In order for this thesis to understand the relationship between social policy and intergenerational transfer behaviour it is therefore necessary to consider the mediating effect of family size and structure. In order to achieve this, this chapter proceeds as follows. Section 8.2 examines existing analysis of the role of family size within intergenerational transfer research. It also discusses family size in the context of existing theories and offers a strategy for the inclusion of siblings within the altruistic model. Section 8.2.3 discusses the data to be used and the extent to which the data is capable of representative multilevel analysis. It then proceeds to outline the methods to be used in the analysis and the advantage of these methods over those previously used which are then applied in section 8.3.

Section 8.3 analyses intergenerational transfer behaviour by comparing single level Probit and Tobit analysis of parent-child dyads with multilevel random coefficient Tobit and Probit models. Having established their worth, the multilevel models are examined in more detail and the effect of family size and birth order are independently scrutinised with regards to their effect on transfer behaviour. Section 8.4 offers a discussion of the results and argues that the methodological approach is vindicated and previous bias exposed. The chapter concludes with a brief discussion of implications for the broader thesis, limitations and directions for future research.

## **8.2. Transfers in Multi-Child Families**

This section analyses the existing evidence in section 8.2.1. It then proceeds to outline an extension to the theoretical model in 8.2.2. This includes a discussion of the distinction between birth order and family size that has been prevalent in the family studies literature. This new empirical model is then operationalized and an analytical strategy outlined in section 8.2.3.

### **8.2.1. Existing Evidence**

The existing empirical findings for intergenerational transfer behaviour as outlined in chapter 2 can be separated into two groups; one where the unit of analysis is the parent child dyad and another where the unit of analysis is the parent or family. The analysis of parent child dyads provide inferences from the perspective of the child and largely converge in their conclusions. In the past decade there have been a considerable number of studies, using a large number of datasets, covering more than twenty countries and there has been consistent evidence that with each additional sibling, the probability of receiving a transfer from parents reduces by around 20-22% (Kohli, 1999; Leopold & Schneider, 2010;

McGarry & Schoeni, 1995; Sikora & Peters, 2011; Zissimopoulos & Smith, 2010). Given these estimates, an only child would be twice as likely to receive a transfer as a child in a four child family.

A number of these studies also estimated the effect on transfer size and noted a limited effect. Sikora and Peters (2011) suggest that with each additional sibling a child will receive \$100 less in transfers per annum. McGarry and Schoeni find very similar results from their analysis of the Asset and Health Dynamics Survey of the Oldest Old (AHEAD), finding that the average amount declines by \$47 with each additional sibling (McGarry & Schoeni, 1995). The linearity of the decline is due to the methods used but it does suggest that more siblings lead to less financial support.

Evidence that uses the family or household as the unit of analysis is less conclusive, tending to show that families transfer more with each additional child but that this effect is small and non-linear (Zissimopoulos & Smith, 2010; Albertini, et al., 2006; McGarry, 1997). The effect size tends to vary from 0-10% for the first additional child and decrease thereafter. These results have therefore been used to support the altruistic theory of intergenerational transfers which argues that families transfer less with each additional child due to decreasing marginal returns to utility and that this is reflected in large reductions at a per capita level for the child.

These findings have been appendices in intergenerational research in the past as the literature has focused on more 'fundamental' dynamics such as the effect of income and age on behaviour. This has meant that the existing analysis has paid little attention to accurately modelling the effect of family size and its effect on transfer behaviour. Part of the reason for this has been the difficulty with which additional children can be incorporated into the existing theoretical framework borne out of the economic literature (Cox, 1987; Altonji, Hayashi, & Kotlikoff, 1997). The next section explores this and demonstrates that family size has been ostracised by the theoretical heritage of intergenerational transfers.

### 8.2.2. Extending the Theoretical Model

Much of the existing research on Intergenerational Transfers uses an altruistic model like the one outlined in chapter 3 (McGarry, 1997; Zissimopoulos & Smith, 2010; Altonji, Hayashi, & Kotlikoff, 1997). This suggests that parents transfer money due to the altruistic feelings towards their children. Transfers increase the wellbeing of the child, which in turn increases the wellbeing of the parent. This can be expressed as:

$$1) \quad U_p = u \left( C_p, (V(C_k)) \right)$$

Where the function is constrained by:

$$2) \quad C_p = I_p - T$$

$$3) \quad C_k = I_k + T_k$$

In this model  $C_p$  is the consumption of the parent,  $V$  is the utility of the children and  $C_k$  is the consumption of the children. The first equation shows that the parent's utility is determined by their own level of consumption and the utility of the children. The children's utility is in turn determined by their own consumption levels. Equations 2 and 3 are constraints where  $I_p$  is the Income of the parent and  $I_k$  is the Income of the children.  $T$  is the level of transfer from the parent to the children. In this approach the difference between small families and large families is the increased 'demand' for support and therefore families transfer more.

However this approach is limited in its ability to identify the impact of family size at the individual level of the child. This is particularly important in order to assess how policy affects transfer behaviour which is the primary aim of this thesis. If this is not accounted for, spurious effects could be distorting the estimates of vital coefficients and the role of certain factors overplayed in the absence of more prominent determinants of transfer behaviour (Szydluk, 2008). Furthermore, given that intergenerational transfers represent a study of the family as a welfare providing unit, it is counter intuitive to reduce the structural dimensions of the family down to aggregates (Browning, Ciappori, & Weiss, 2010).

In order to adjust the altruistic model to include more than one child it is possible to simply include a further child within the utility function previously described:

$$1) \quad U_p = u \left( C_p, (V_1(C_{k1}), V_2(C_{k2})) \right)$$

Where the function is constrained by:

$$2) \quad C_p = I_p - (T_1 + T_2)$$

$$3) \quad C_{k1} = I_{k1} + T_{k1}$$

$$4) \quad C_{k2} = I_{k2} + T_{k2}$$

Here the suffixes  $k1$  and  $k2$  represents the first and second child respectively.  $V$  represents the utility function in relation to each individual child from the perspective of the parent but is assumed to be the same for all children. The accuracy of this claim will be considered later in this section.

The main drawback here is that the introduction of additional children erodes the parsimony for which the altruistic model is valued and this is worsened further if we relax the assumption that all children are the same (Becker G. , 1991; Browning, Ciappori, & Weiss, 2010). This messiness may explain the absence of family size in the majority of the existing literature. One aim of this chapter will be to

establish whether such additional complexity is necessary. Such complexity will only be considered necessary if the consideration of variance clustering can be seen to affect our estimates of transfer behaviour.

To identify whether this is the case, multilevel models in which parent child dyads are nested within families will be compared to the single level models traditionally used. If the coefficients for family size are significantly different in the multilevel models it should be concluded that the parsimonious models currently in use are insufficient for understanding transfer behaviour. If family size is a key determinant of transfer behaviour, it suggests that the existing theoretical framework has obstructed a view of a key determinant of transfer behaviour.

### *Incorporating the difficult second child*

The main problem with making theoretical comparisons across different sized families without aggregation is that the effect of an additional child is dependent upon what characteristics that child has. It is difficult to say that a family with one child will transfer more than if they had two children because it is instinctively dependent on what characteristics that child has. One way to circumvent these issues is to assume that the additional child is the same as the existing child. This is a contentious assumption and one that is considered in more detail later. Yet, if this is assumed, then it is clear that transfers should increase and that:

$$5) \quad \sum_{i=j} T_j \geq \sum_{i=j-1} T_{j-1}$$

This simply states that the total amount transferred by the family is more with each additional child given that a parent has altruistic feelings for each child and a subsequent desire to provide for them. Despite this, it should not be expected that transfer behaviour will double when an only child is joined by an identical sibling as though there were a fixed sized payment made to children. Instead the rate of increase is inversely proportional to the marginal returns to additional consumption for the utility of the parent. That is to say as the welfare needs of their children increase with each additional child, a parent's own utility is increasingly impinged upon and negatively effects the extent to which they are willing to transfer additional funds to their children. Therefore aggregate transfer behaviour will increase at a decreasing marginal rate with additional children. The extent to which it does will reflect the elasticity of the parents own utility curve.

This does not imply that a parent's affection for their children is diluted with each additional child but merely that to proportionally increase the total amount transferred would increasingly impinge upon their quality of life. Therefore with each child, *ceteris paribus*, there is a decreasing marginal increase in the family's total transfer budget (Browning, Ciappori, & Weiss, 2010).

For the original child, who now must share transfers with their sibling, their situation will be worse. This can be shown by the fact that the parent's marginal returns on consumption will be positive and the burden of an additional child will not be met with an increase in transfers to the point where each child's utility is the same as it would be if they were an only child. Therefore the altruistic model suggests that if the number of children in a family increases then the amount received by a child will necessarily be lower than in a family with fewer children, assuming all children are treated equally.

### *Child order and the number of siblings*

Existing intergenerational transfers' research has only considered the role of family structure from a limited perspective by controlling for family size within analysis. At a theoretical level the literature has not fully incorporated the original framework of family economic theory to the extent that other areas of family studies have such as early life and educational investment. This section will draw on this literature to consider the role of contrasting role of birth order which is currently absent from the analysis of intergenerational transfers.

The idea that children of differing birth order are treated equally has been shown to be highly questionable in research on investment in young children (Black, Devereux, & Salvanes, 2005). It has been demonstrated on numerous occasions that it is birth order and not family size that determines the probability that a child will receive financial or emotional investment and that therefore older children receive preferential treatment (Booth & Hiao, 2009). The existing literature on transfers gives no room to considerations of child order which, given that the aforementioned studies found little effect from family size, raises interesting questions about the accuracy of existing research on intergenerational transfers.

Empirically, there are high levels of correlation at the individual level between child order and family size because a large family will have more children from further down the birth order. There are a number of mechanisms that could lead to less investment in children further down the birth order such as; the mother being less engaged in the labour market, earlier children receiving investment prior to the birth of siblings and the traditional and cultural legacy of disproportional investment in the first born (Åslund & Grönqvist, 2010).

There is considerable ambiguity as to whether this birth order effect would carry through to later stages in life. Nevertheless, it could be that the first child benefits from their siblings having yet to exhibit their own demands on the financial resources of the parents (Blake, 1981; Coall, Meier, Hertwig, Wanke, & Hopflinger, Grandparental Investment: The influence of Reproductive Timing and Family Size, 2009). Conversely it could be argued that children further down the birth order will transition to adulthood at a time when the parent's financial resources are more mature in terms of their labour



market and housing position (Barber & East, 2009). There is a need to account for birth order within the theoretical and analytical framework given that, if the probability of receiving a transfer does differ by birth order, it will necessarily influence the perceived effect of family size. At an empirical level the strong correlation between birth order and family size means that specific techniques are needed to distil the results.

### 8.2.3. Data & Methods

#### *Hypotheses*

The reformed altruistic model suggests that the total amount transferred by parents will rise with each additional child because each additional child represents a potential source of unhappiness that the parent maybe exposed to. It is important to note that this increase will not be proportional in that with each additional child, provision of transfers will increasingly encroach upon the personal consumption of the parent. The function by which this occurs is indicative of the shape of the parent's indifference curve and the extent to which they are willing to adjust transfer behaviour in response to the demand placed upon them by their children (Browning, Ciappori, & Weiss, 2010).

This is in line with traditional ideas of family size and investment capacity and therefore is not very controversial. The hypothesis to be tested in this chapter looks at the impact of this behaviour at the individual level:

*The probability of any one individual receiving a transfer as well as the size of any subsequent transfer are negatively affected by the number of siblings that individual has.*

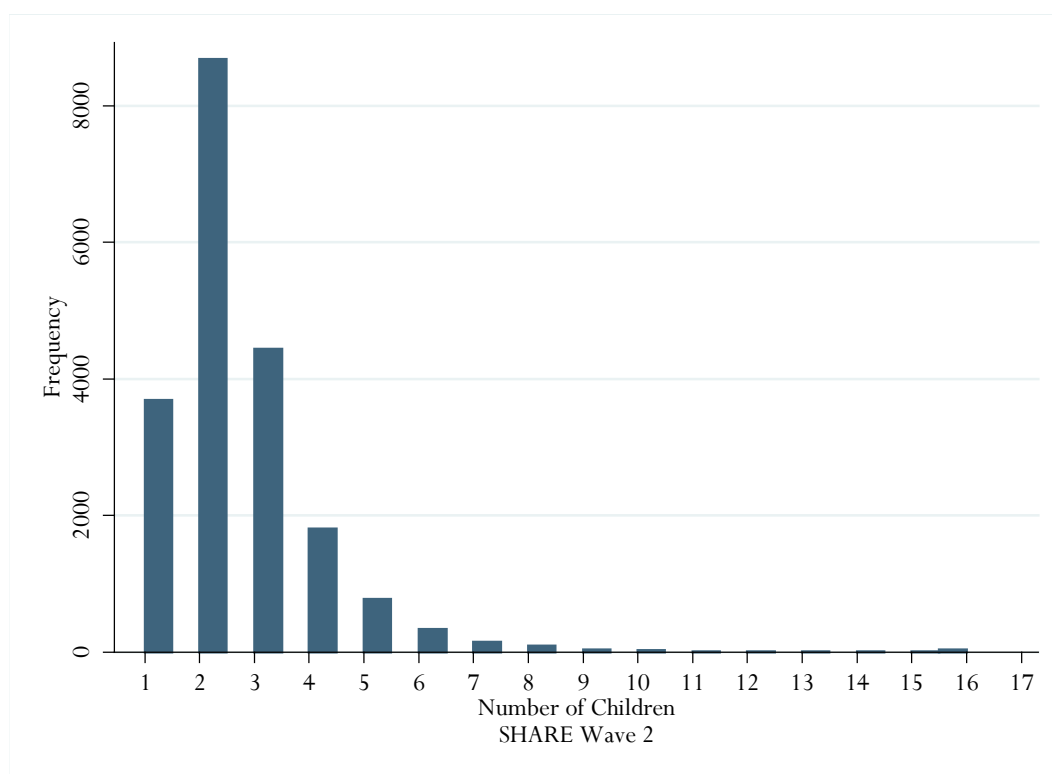
This logically follows from the assertion above because, if the aggregate transfer amount and frequency rise less than proportionally within the family, an individual child's likelihood of receiving a transfer will decline. This is a more complex assertion than it appears, given that the existing literature of related fields suggests that the disproportionality is almost entirely carried by children further down the birth order and that once you control for birth order, the effect of family size disappears (Booth & Hiao, 2009). A positive finding regarding this hypothesis would therefore distinguish intergenerational transfers from the existing literature that has been conducted on transfers earlier in the life of the child in other areas of family studies and suggest that they operate under differing dynamics.

If the effect of family size on the individual likelihood of receiving transfers is evidenced and shown to be of relative importance in relation to established factors such as family income and wealth, it should raise questions about the need to revise and extend the altruistic model and pay closer attention to the clustering of variance and nesting of individual dyads within family groups. If the hypothesis is refuted

however it would support existing research which tends to regard family size as a marginal variable on the fringes of the model and something that ultimately does not greatly affect the design of research on intergenerational transfers.

This analysis will therefore go some way to answering the fourth question posed in chapter 3. In the context of the broader thesis, this answer matters for three reasons. Firstly, the accurate modelling of family structure could greatly alter the estimates of other factors such as income and policy measures. These could be less important than previous research suggested due to an upward bias in the estimation methods. The second reason is that the effect size for family structure variables contextualises the effect size for these variables. Previous research has focused on the role of income and financial considerations but these are rarely contextualised through comparisons with other effects. Finally, this analysis also clarifies the conclusion to the second question in chapter 3. This is because the incorporation of family structures allows for more accurate estimates of country effects, questioning the need for a comparative narrative.

### Descriptives



**Figure 8.1 - The number of children for financial respondents with at least one child**

*Source: Survey of Health, Ageing and Retirement in Europe, Wave 2. Inclusive of step, fostered and adopted children*

The final sample from the second wave of SHARE in 2006 consists of 15,412 households from 14 European Countries where one of the residents is over 50 and has reported that they have living children (SHARE, 2011). The descriptives of the family level variables reflect the survey format where a specific individual has to be identified as the financial respondent and it is the data of this individual which is predominantly used in the analysis. Further details of how both the parental and child datasets are constructed are provided in chapter 4. The descriptive statistics in Table 8.1 are coherent with indicative statistics from Eurostat and the Organisation for Economic Cooperation and Development (OECD).

**Table 8.1 - Family level variables – Variables at the household level for respondents and the Individual level variables for the allocated financial respondent**

	Mean	Std. Dev.	Min	Max
<b>Household</b>				
Made a Transfer	23%	-	-	-
Total Transferred	€ 803	€ 2,795	€ 0	€ 26,846
Children	2.52	1.57	1	16
Children Included in the Survey	2.34	0.96	1	4
Income (Household)	€ 42,717	€ 73,466	€ 0	€ 563,758
Wealth (Household)	€ 175,326	€ 262,893	€ 0	€ 2,227,247
Average Age	65.16	17.14	50	104
Average Years in Education	10.53	4.27	0	25
<i>Financial Respondent</i>				
Gender (ref: female)	46.52%	-	-	-
<b>Marital Status</b>				
Married	63.95%	-	-	-
Partnership	1.28%	-	-	-
Married – Separated	1.86%	-	-	-
Never Married	1.7%	-	-	-
Divorced	9.03%	-	-	-
Widowed	22.17%	-	-	-
<b>Employment Status</b>				
Retired	52.04%	-	-	-
Employed	27.15%	-	-	-
Disabled	3.75%	-	-	-
Unemployed	2.63%	-	-	-
Homemaker	13.54%	-	-	-

Source: Survey of Health, Ageing and Retirement in Europe, Wave 2, Observations = 12,104

Deviations from official statistics on these variables can generally be accounted for by the fact that this refers to individuals who have children. So whilst it is true that a great deal more than 1.7% of the over 50's never got married, this proportion is true only of those who have had at least one child. Income, wealth and transfer statistics reflect the distributions after the exclusion of the top 1% which have been shown to bias estimates in previous studies (Zissimopoulos & Smith, 2010).

At the family level, all financial variables are in Euros taken at purchasing power parity and these values are then logged to approximate a normal distribution. This is inclusive of income, wealth, inheritance and transfers receipts. The ‘wealth’ variable refers to both financial and fixed assets held by the family as indicated by the assets section of the SHARE questionnaire<sup>10</sup>. These values only reflect the financial circumstances of the respondent and their spouse if they have one.

In addition to the financial variables, the time variables “Number of Hours Spent Babysitting for this child”, “Number of Hours Spent Giving Support for this child” and “Number of Hours Spent Receiving Help from this child” were also logged so as to approximate a normal distribution and represent an estimated average per weekly amount. These variables are derived from the section of the survey relating to support receipt and giving<sup>11</sup>.

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<sup>10</sup> This includes variables: *as003e, as007e, as011e, as017e, as021e, as030e, as042e, as051e, as042e, as051e, ho027e*

<sup>11</sup> [*SP003\_ – SP006\_*]

**Table 8.2 - Individual level variables – Variables for the parent-child dyad for respondents**

Variable	Mean	Std.Dev.	Min	Max
Transfer Occurrence	14.27%	0.35	0.00	1.00
Transfer Amount (All children)	€ 318	1490.69	€ 0	€ 26,846
Transfer Amount (Recipients Only)	€ 2,452	3446.38	€ 1	€ 26,846
Birth Order*	2.05	1.27	1	15
Gender (Ref: Female)*	50.90%	-	-	-
Number of Children*	1.08	1.24	0	22
Age*	36.67	11.08	0	87
Parentage				
Child of Respondent Couple	92.17%	-	-	-
Child of Financial Respondent Only	4.63%	-	-	-
Child of Respondents Partner Only	2.64%	-	-	-
Adopted	0.43%	-	-	-
Fostered	0.001%	-	-	-
Child's Education				
Education (Low – ISCED 1-2)	17.54%	-	-	-
Education (Medium – ISCED 3-4)	43.52%	-	-	-
Education (High – ISCED 5-6)	27.15%	-	-	-
Child's Employment Status				
Employed	67.99%	-	-	-
Unemployed	4.49%	-	-	-
Self Employed	6.42%	-	-	-
Part Time Employment	6.88%	-	-	-
In Education	6.42%	-	-	-
Parental Leave	1.07%	-	-	-
Retired	1.88%	-	-	-
Sick or Disabled	1.42%	-	-	-
Home Maker	4.67%	-	-	-
Observations = 24,966				

Source: Survey of Health, Ageing and Retirement in Europe, Wave 2, Observations = 24,966. Variables marked with \* include all children, those without only include those selected for detailed response within the survey.

The descriptives for the parent child dyad are included within Table 8.2. The validation of these values is particularly difficult given that the sample is of children of those who are over 50 rather than directly from the population itself. Details of the issues surrounding indirect sampling are covered in detail in chapter 4 (page 55).

### *Birth order and within family sampling*

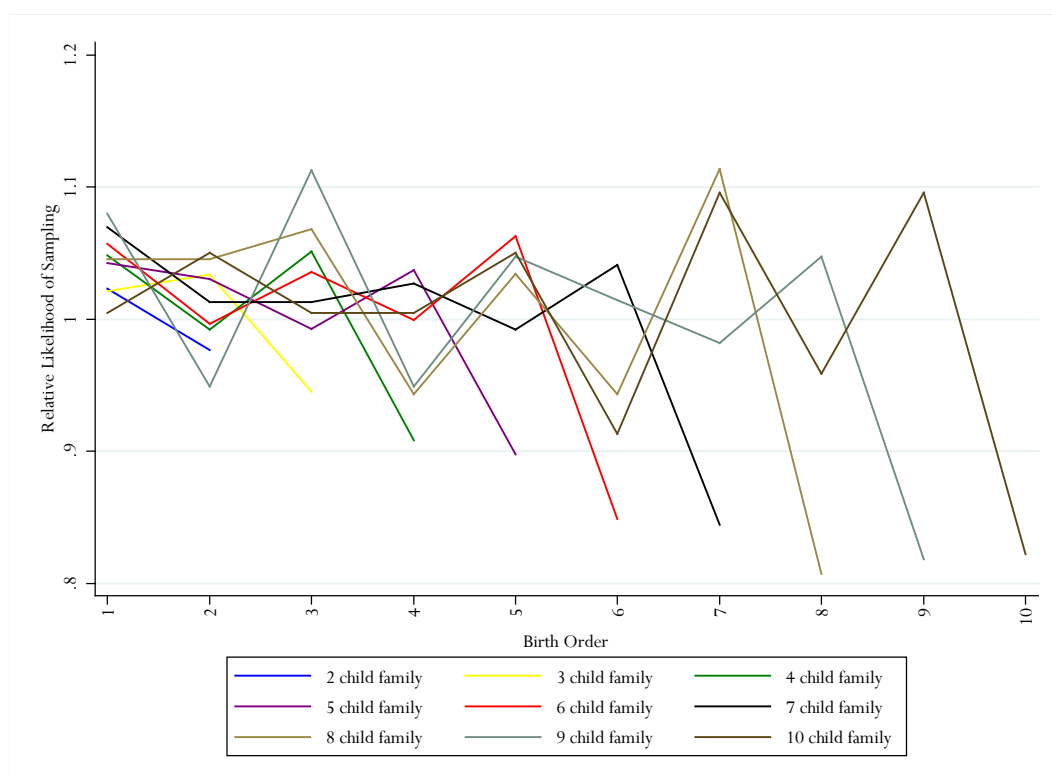
92.8% of families include 4 children or fewer which is important because the survey only includes details about four children. Therefore, the number of individual children which are excluded due to the surveys restriction to 4 detailed child responses should not pose a problem regarding wider inference. The correlation coefficient between birth order and family size is indeed high ( $r = 0.63$ ). Yet, contrary to expectations, the sampling of the four selected children within large families is fairly evenly distributed in spite of the methods employed. For example, the distribution of birth order amongst children from a six child family is as follows:

Birth Position	1 <sup>st</sup>	2 <sup>nd</sup>	3 <sup>rd</sup>	4 <sup>th</sup>	5 <sup>th</sup>	6 <sup>th</sup>
% of Children	19.25	19.35	17.42	17.53	14.52	11.94

Here there is a distinct bias toward the older children within this family size but that this bias is not excessively large. Figure 8.2 demonstrates this tendency graphically by showing the relative likelihood of sampling by birth order for each family size. A value of one reflects the fact that the child is as likely as their siblings to be selected. Any value over one suggests that this birth order position is likely to be oversampled and values under one reflect the opposite. As one can see, divergences from one are not very extreme but do vary by family size and there are some patterns within the data.

For families with less than 7 children, the picture is relatively clear in that the relative likelihood does tail off towards the lower birth orders. This is probably due to birth order representing a tiebreaker in SHARE's child selection process. This pattern is particularly pronounced in families of more than 5 children. For larger families the sampling appears to be much more erratic with the youngest child particularly under sampled regardless of family size

Nevertheless, the correlation between family size and birth order needs to be held in consideration within this model as multi-collinearity between family size and birth order is likely to distort the coefficient estimates of individual predictors and thus complicate the hypothesis testing. In order to establish the effect of multi-collinearity the models was re-run for individual birth order groups. The estimates remained stable and so the effect is attributable to family size and not the distorting effects of birth order.



**Figure 8.2 - Relative Probability of Sampling amongst siblings by birth order amongst children of respondents**

*Source: Survey of Health, Ageing and Retirement in Europe, Wave 2*

### *Methods*

In order to test the hypotheses, the data was analysed using four separate statistical models. In order to capture two dimensions of ‘transfer behaviour’, the models tested both the likelihood that a transfer will occur and estimate the size of subsequent transfers. To do this a probit regression model was used to assess the likelihood that a transfer takes place and this was then followed by a Tobit analysis which was used to estimate the size of subsequent transfers. A tobit model is one which estimates transfer size but does so dependent on whether a transfer was made at all. This approach is superior to previous analysis which relied on ordinary least square estimates for the estimation of the transfer size. This has been shown to systematically produce underestimates of coefficients and affect size given zero inflation (Voorpostel & Blieszner, 2008; Hox, 2010; Brandt, Haberkern, & Szydluk, 2009). Other distributions such as negative binomial and poisson distributions were considered but these added little to the explanatory power of the analysis and as the results demonstrate, this is also true of the tobit analysis.

The probit model was used to model the likelihood that a transfer will take place. The tobit model was used to estimate the size of transfers based on the notion that the transfers are left censored at €250 as



stated in the SHARE questionnaire (logged this produces a value of 5.5214) (Albertini & Radl, 2012). In constructing the model, a stepwise approach was taken with the exception of the key independent variables; number of children and birth order. The completed model was then compared to a model that included the number of children and the coefficient estimates as well as model fit statistics were used to determine whether the effect was significantly different from zero from a statistical and substantive perspective.

In addition to family level and individual level variables, dummy variables were included to capture differences between countries. The country level effects are controls and do not reflect a test of the relevant hypothesis. It could be argued that these effects themselves are miss-specified in that they are not described as a third level of fixed effects. This would provide a good topic for further research but given the complexity of the estimation process involved and the deviation from the question at hand, it was not considered necessary for this analysis. Instead the country fixed effects are examined in order to examine whether country level variation is reduced by the model including family structure.

In order to establish whether a multilevel framework was necessary, two random effect multilevel models, one Probit and one Tobit, were used (Rabe-Hesketh & Skrondal, 2012). These were then compared with single level versions of these models which are most commonly used in the literature. The Akaike Information Criterion (AIC) and the Bayesian Information Criterion (BIC) are used in order to compare the models and establish the extent to which the clustering of observations by family improved the model fit. It should be noted that the AIC and BIC cannot be compared across Probit and Tobit models.

The main hypothesis was examined by looking at three aspects of the analysis. The first is the coefficients standard error and the statistical significance of the estimate. The second was the effect size of the 'family size' variable and how this compares with other variables. Particular attention was also given to the comparison with the effect of birth order. These two effects operate at two levels of analysis, yet this model design will allow for comparisons across these levels and will thus provide superior estimates and interpretations to previous research. Thirdly, the maximum effects of family size will be assessed and compared to important variables of a differing metric such as Income. This will be done by examining the maximum effects across the credible range of these variables.

### 8.3. Analysis

#### 8.3.1. Is a multilevel model necessary?

**Table 8.3 – Model fit Statistics for Single and Multilevel Tobit and Logit Models**

	(1) Probit	(2) Multi-Level Probit	(3) Tobit	(4) Multi-Level Tobit
Log Likelihood	-10242	-8836	-14959	-13707
AIC	20583.5	17773.9	30019.6	27518.2
BIC	20994.5	18193	30438.7	27945.6
Number of Groups	-	12,014	-	12,014
Observations	24,966	24,966	24,966	24,966

Source: Survey of Health, Ageing and Retirement in Europe, Wave 2; Note: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses.

**Table 8.4 - Estimates of Child Level Coefficients for Single and Multilevel Tobit and Logit Models**

	Model 1 Probit	Model 2 Multi-Level Probit	Model 3 Tobit	Model 4 Multi-Level Tobit
Child Level				
Birth Order	-0.037 ** (0.013)	-0.037 ** (0.014)	-0.066 (0.037)	-0.098 ** (0.032)
Gender (#Ref: Male)	0.061 ** (0.019)	0.05 * (0.021)	0.121 * (0.053)	0.139 ** (0.046)
Number of Children	0.013 (0.010)	0.017 (0.011)	0.062 * (0.028)	0.054 * (0.027)
Childs Lineage, (#Ref: Child of Both)	-0.13 ** (0.041)	-0.134 ** (0.049)	-0.298 ** (0.113)	-0.249 * (0.120)
Financial Respondents Child				
Non-Financial Respondents Child	-0.154 ** (0.052)	-0.162 ** (0.061)	-0.436 ** (0.144)	-0.4 ** (0.144)
Child is Adopted	0.262 * (0.113)	0.215 (0.113)	0.587 * (0.113)	0.338 (0.113)

	<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>		<b>Model 4</b>	
	<b>Probit</b>		<b>Multi-Level Probit</b>		<b>Tobit</b>		<b>Multi-Level Tobit</b>	
	(0.104)		(0.126)		(0.273)		(0.281)	
Age	0.038 ***		0.006		0.083 ***		0.075 ***	
	(0.005)		(0.005)		(0.015)		(0.015)	
Age Squared	-0.001 ***		0 *		-0.001 ***		-0.001 ***	
	(0.000)		(0.000)		(0.000)		(0.000)	
Marital Status, (#Ref: Married)	0.202 ***		0.193 ***		0.536 ***		0.586 ***	
Divorced or Separated	(0.035)		(0.039)		(0.099)		(0.089)	
Never Married	0.178 ***		0.151 ***		0.537 ***		0.426 ***	
	(0.024)		(0.027)		(0.067)		(0.061)	
Widow	0.188		0.192		0.781 **		0.893 ***	
	(0.105)		(0.113)		(0.289)		(0.264)	
Employment Status, (#Ref: Full Time) – Unemployed	0.24 ***		0.23 ***		0.547 ***		0.554 ***	
Self Employed	(0.040)		(0.044)		(0.112)		(0.101)	
	0.014		0.021		0.126		0.104	
	(0.035)		(0.040)		(0.099)		(0.091)	
Part Time	0.043		0.049		0.12		0.163	
	(0.035)		(0.039)		(0.096)		(0.085)	
Student	0.344 ***		0.283 ***		0.925 ***		0.795 ***	
	(0.031)		(0.035)		(0.085)		(0.076)	
Parental Leave	0.101		0.068		0.411 *		0.312	
	(0.069)		(0.077)		(0.191)		(0.167)	
Retired	0.257 **		0.178		0.494		0.613 *	
	(0.087)		(0.096)		(0.257)		(0.246)	
Sick or Disabled	0.025		0.004		-0.013		-0.012	
	(0.080)		(0.089)		(0.230)		(0.205)	
Homemaker	0.027		0.025		0.055		0.018	
	(0.046)		(0.051)		(0.131)		(0.120)	

Source: Survey of Health, Ageing and Retirement in Europe, Wave 2; Note: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses.

**Table 8.5 - Estimates of Parent Level Coefficients for Single and Multilevel Tobit and Logit Models**

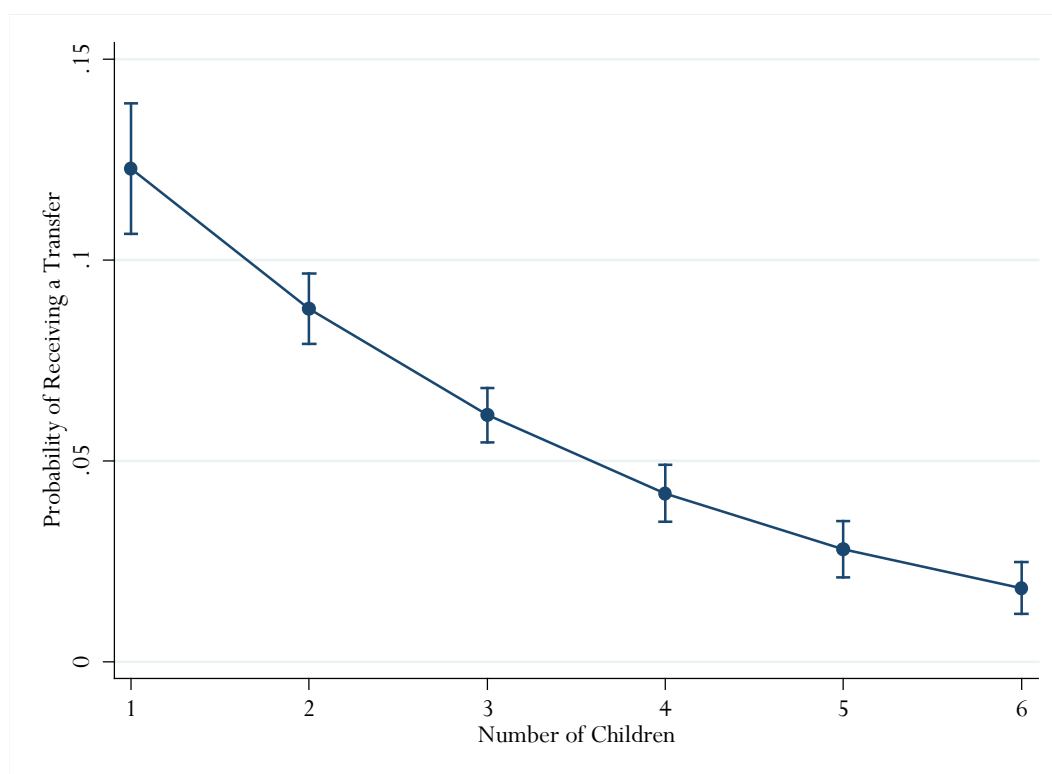
	Model 1		Model 2		Model 3		Model 4	
	Probit		Multi-Level Probit		Tobit		Multi-Level Tobit	
Age of the Parents (Average)	0.001		-0.015	***	0.002		0.005	
	(0.002)		(0.002)		(0.006)		(0.008)	
Parents Income (Log, Euro)	0.074	***	0.016		0.234	***	0.239	***
	(0.011)		(0.012)		(0.031)		(0.041)	
Parents Wealth (Log, Euro)	0.076	***	0.058	***	0.272	***	0.281	***
	(0.006)		(0.007)		(0.016)		(0.021)	
Employment Status, (#Ref: Retired) - Employed or Self-employed	0.122	***	-0.016		0.247	**	0.282	**
	(0.028)		(0.034)		(0.077)		(0.102)	
Unemployed	-0.029		-0.208	**	0.113		0.089	
	(0.061)		(0.077)		(0.168)		(0.221)	
Permanently Sick or Disabled	-0.053		-0.191	**	-0.103		-0.045	
	(0.052)		(0.065)		(0.149)		(0.195)	
Homemaker	-0.158	***	-0.227	***	-0.463	***	-0.44	***
	(0.034)		(0.042)		(0.096)		(0.127)	
Years in Education (Average)	0.03	***	0.028	***	0.079	***	0.085	***
	(0.003)		(0.004)		(0.008)		(0.010)	
Total number of Grandchildren	0		0.01		-0.002		-0.006	
	(0.005)		(0.006)		(0.013)		(0.017)	
Parents Household, (#Ref: Couple) – Single	-0.08	*	-0.097	*	-0.045		0.012	
	(0.033)		(0.042)		(0.095)		(0.123)	
Number of residents other than respondent or spouse	-0.1	***	-0.116	***	-0.306	***	-0.342	***
	(0.018)		(0.023)		(0.049)		(0.065)	
Transfers Received (Log, Euro)	0.065	***	0.061	***	0.152	***	0.156	***
	(0.004)		(0.006)		(0.011)		(0.016)	
Inheritance Received (Log, Euro)	0.029	***	0.03	***	0.085	***	0.087	***

	<b>Model 1</b>		<b>Model 2</b>		<b>Model 3</b>		<b>Model 4</b>	
	<b>Probit</b>		<b>Multi-Level Probit</b>		<b>Tobit</b>		<b>Multi-Level Tobit</b>	
	(0.003)		(0.004)		(0.008)		(0.011)	
Total Number of Children	-0.133 ***		-0.148 ***		-0.347 ***		-0.292 ***	
	(0.011)		(0.014)		(0.032)		(0.039)	
Number of Hours Spent Babysitting for this child's children(log)	0.024 ***		0.024 ***		0.064 ***		0.05 ***	
	(0.004)		(0.004)		(0.010)		(0.009)	
Number of Hours Spent Giving Support for this child(log)	0.022 **		0.035 ***		0.052 *		0.046 *	
	(0.007)		(0.008)		(0.020)		(0.020)	
Number of Hours Spent Receiving Help from this child(log)	0.07 ***		0.072 ***		0.141 ***		0.107 ***	
	(0.006)		(0.007)		(0.018)		(0.017)	

Source: Survey of Health, Ageing and Retirement in Europe, Wave 2; Note: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses.

Table 8.4 shows the traditional model used in the analysis in that it adopts a probit model of transfer behaviour to predict whether or not a transfer has occurred. Many of the variables used in this analysis are widely used in the literature and the estimates are broadly, though not statistically, comparable. The likelihood statistics in Table 8.3 demonstrate a significant and dramatic improvement in the model fit between this model and model 2, the random effects model. This is strong evidence that the multilevel approach is an improvement on the analysis of intergenerational transfers and allows for more appropriate between family comparisons that are the focus of the majority of intergenerational transfers. This finding is supported by the comparison of model 3 and model 4 which are a single level and multilevel tobit analyses of transfer size respectively.

### 8.3.2. Transfer occurrence on the parent child dyad



**Figure 8.3 - Probability of receiving a transfer by number of children as estimated by model 2 at mean values**

*Source: Survey of Health, Ageing and Retirement in Europe, Wave 2*

The parent-child dyad random effects models offer an opportunity to place results in the context of the child. Model 2 in table 8.5 demonstrates that the size of the family someone is in has a significant and large effect on the probability of receiving a transfer. The coefficient implies that individuals who are an only child are more than 5 times as likely to receive a transfer as those in a family of four (5.42 times as likely). This would seem to indicate that the size of an individual's family plays a large role in determining whether or not an individual receives financial assistance from their family. When we place this in the context of family income, the size of this effect becomes apparent. Someone from a family with an income in the top 10% is not even twice as likely to receive a transfer as an individual in the bottom 10% (1.85 times as likely). This suggests that the maximum effect of family size is larger than that of income and that family size has thus been underestimated in its impact. Both coefficients are strongly significant at more than the 99.9% level.

Underestimates of family size have been in part due to no control for birth order. It also has a large and significant effect on the likelihood of receiving a transfer. The results suggest that within a family of four, the child who is oldest is almost twice (1.82) as likely to receive a transfer as the fourth child.

This suggests that there are in fact birth order effects on transfer behaviour and these will have biased previous findings regarding the effect of family size on transfer behaviour.

### 8.3.3. Transfer amount on the parent child dyad

The multilevel tobit model also shows a significant effect of family size on the amount an individual receives, adding further evidence to the notion that children in larger families are disadvantaged in terms of transfers. Similarly they show that there is a separate and independent effect of birth order that has been missing in previous analysis.

These results indicate that when we consider the size of transfers in the context of the likelihood of a transfer, larger families make transfers of a substantially greater size. The coefficient in table 8.5 suggests that with each additional child the size of a transfer decreases by 32.95%, so that an only child will on average receive nearly 5 times that of someone in a four child family (4.95).

We can place this in the context of the effect of parental income. In table 8.5 we can see that the estimated amount received by a child from a family in the tenth percentile of income will be just 66.72% larger than the amount estimated for a child from a family in the first percentile. If we take these to be reasonable maximum effects, then the impact of family size appears to be approximately 3 times that of parental income ( $4.95/1.67 = 2.96$ ).

With regards to birth order, the model in table 8.4 suggests that the estimated size of a transfer to the oldest child in a four child family is 36.68% more than that of the youngest child. This suggests that the effect of birth order, whilst considerable, is less than that of family size and it is also only significant at the 95% level. This implies that unlike with early life investments, there is a distinct effect from family size independent of that implied by birth order alone.

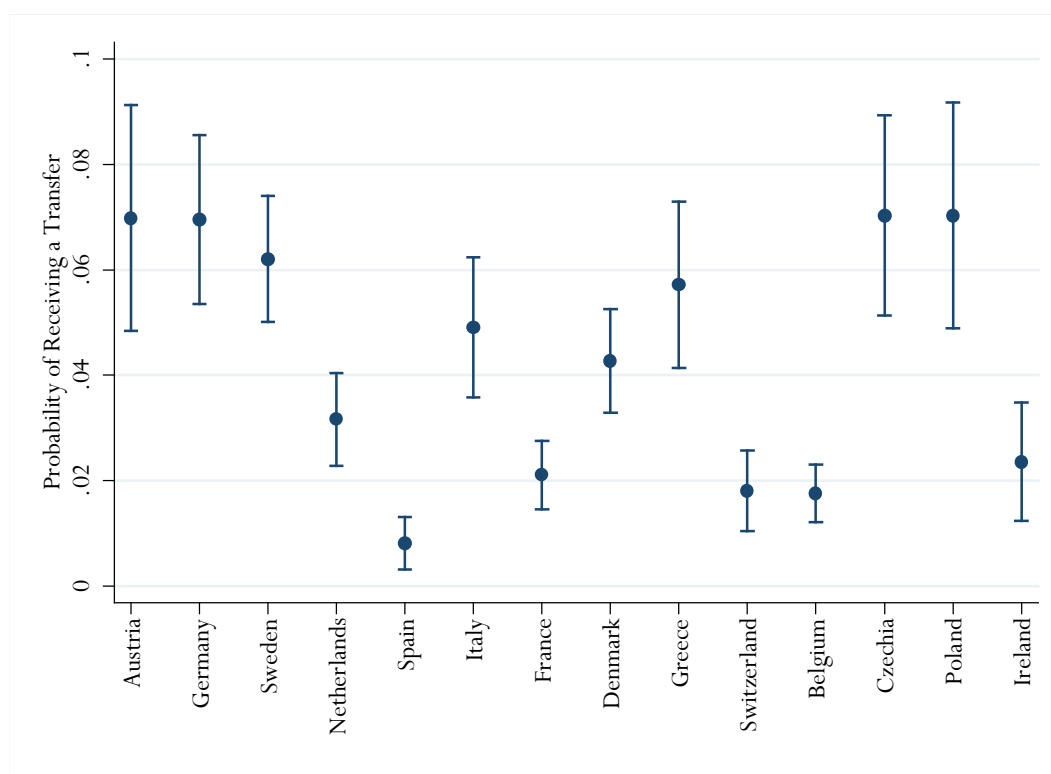


## 8.3.4. Country Level Variation

Table 8.6 - Estimates of Country Level Coefficients for Single and Multilevel Tobit and Logit Models

	-1		-2		-3		-4	
	Probit		Multi-Level Probit		Tobit		Multi-Level Tobit	
Country (#Ref: Austria)								
- Germany	-0.049 (0.054)		-0.144 * (0.068)		-0.083 (0.145)		-0.101 (0.191)	
Sweden	0.029 (0.049)		-0.062 (0.064)		-0.125 (0.135)		-0.31 (0.180)	
Netherlands	-0.19 *** (0.053)		-0.298 *** (0.067)		-0.502 *** (0.144)		-0.756 *** (0.192)	
Spain	-0.473 *** (0.069)		-0.593 *** (0.085)		-1.486 *** (0.197)		-1.822 *** (0.261)	
Italy	-0.113 * (0.054)		-0.199 ** (0.068)		-0.334 * (0.147)		-0.471 * (0.192)	
France	-0.29 *** (0.053)		-0.429 *** (0.067)		-0.932 *** (0.147)		-1.144 *** (0.194)	
Denmark	-0.152 ** (0.052)		-0.227 *** (0.067)		-0.378 ** (0.141)		-0.534 ** (0.188)	
Greece	-0.048 (0.055)		-0.2 ** (0.070)		-0.09 (0.151)		-0.161 (0.197)	
Switzerland	-0.404 *** (0.063)		-0.489 *** (0.080)		-0.973 *** (0.171)		-1.165 *** (0.226)	
Belgium	-0.294 *** (0.052)		-0.418 *** (0.066)		-1.006 *** (0.145)		-1.262 *** (0.192)	
Czechia	0.03 (0.057)		-0.211 ** (0.070)		-1.096 *** (0.169)		-1.235 *** (0.218)	
Poland	0.005 (0.059)		-0.254 *** (0.072)		-0.639 *** (0.175)		-0.79 *** (0.227)	
Ireland	-0.303 *** (0.069)		-0.385 *** (0.089)		-0.892 *** (0.189)		-1.011 *** (0.256)	

Source: Survey of Health, Ageing and Retirement in Europe, Wave 2; Note: \*\*\*  $p < 0.001$  \*\*  $< 0.01$  \*  $< 0.05$ . Standard Errors are in Parentheses.



Source: *Survey of Health, Ageing and Retirement in Europe, Wave 2*

The marginal effects estimated for each country indicate very little in the way of regime patterning as described in some areas of the literature (Albertini & Kohli, 2012). There are differences between countries but these do not conform to traditional typologies. Amongst those with below average levels of transfers are a southern country (Spain), a liberal country (Ireland), and three ‘central’ countries (Switzerland, France and Belgium). Italy and Greece are indistinguishable from Eastern Europe (Poland and Czech Republic) as well as Denmark & Sweden in Scandinavia. Any comparative narrative operating at the macro level would be risking data fitting. Such a narrative would offer little extra explanation to the micro considerations discussed here. Typological, regime based approaches have been widely used in the comparative social sciences and particularly in social policy due to their capacity to concisely summarise systematic differences and describe the differing dynamics in a variety of countries. However, as the effect of parental and child resources identified in earlier chapters, the dynamics of intergenerational transfers do not differ systematically across countries, rendering such an approach largely redundant.

## 8.4. Summary

### *Empirical Findings*

The results of the parent child dyad models demonstrate that children in larger families get less financial assistance. This is supported by existing evidence and theory (Sikora & Peters, 2011; Leopold & Schneider, 2010; McGarry & Schoeni, 1995). What is surprising is the relative size of this effect which previous studies had consistently estimated as being around 20-22% less for each additional child. The results from this analysis suggest that the effect on the likelihood of a transfer could be at least twice as much as that.

In terms of maximum effect, previous estimates from the literature suggested that an only child is almost three times as likely to receive a transfer as a child in a four child family. This analysis concludes that they are more than five times as likely. This discrepancy may be due to the ability to fully and adequately control for family size within a multilevel structure in this analysis. That is to say that family size is at a different analytical level to parent child dyad variables. The resulting models are therefore more accurately specified to account for this, as well as the confounding effect of birth order.

This bias is also likely to explain larger coefficient estimates for the multilevel tobit analysis where it was shown that the maximum effect of family size was 3 times that of parental income. In addition to the downward bias generated by the use of single level models in previous studies, there is also likely to be a significant downward bias with regards to the use of ordinary least square models. Due to this underestimation, existing theories and evidence have tended to over emphasise the effect of income and downplay the role of family size. The findings here go some way to correcting this and revealing the effect of family size on transfer behaviour.

Together the results of these models do suggest that accounting for the nesting of parent child dyads within families is of great importance. They highlight the need for appropriate techniques and analytical approaches in assessing transfers from the recipient's perspective. The inclusion of birth order, the nesting of dyads within family contexts and the use of appropriate estimating techniques uncover a miss-direction within existing research on transfer behaviour. The substantive implications of this field lie largely in assessing behaviour at the level of the parent child dyad. Adequately modelling this is therefore essential in distilling the substantive issues relating to intergenerational transfers.

The analysis provided here is limited by the data currently available. Multiple waves of data will allow for three level models with more clinical distinctions between parent-child and family effects. This will

also allow for a full and adequate testing of the role of events such as child births, graduations, marriages and divorces in the cause of financial transfers. Only when this longitudinal element of transfers is considered will a full and substantively useful picture emerge. Yet this research does suggest that such behaviour will further dilute the fixation on income effects.

### *Theoretical Implications*

This chapter has demonstrated that the altruistic model not only ignores an important determinant of transfer behaviour but also leads to bias and misleading empirical analysis. It demonstrates that the size of an individual's family does affect their transfer receipts and, more significantly, that correctly specifying and modelling the nature and structure of the family is a prerequisite to understanding transfer behaviour more generally.

Existing research has modelled data on transfers at a single level, regardless of whether the parent child dyad or parental household has been the unit of analysis. This has led to significant distortions in the estimates produced. Given the high degree of variance between families evident within the data, it is likely that this would have led to misleading findings both empirically and theoretically. In addition to this, the modelling of transfer size using ordinary least square estimates has also persistently led to bias estimates. The use of tobits has corrected for this here by estimating transfer size conditionally on the occurrence of a transfer and thus negating the impact of zero inflation.

In conclusion, this analysis suggests that theories of intergenerational transfers need to incorporate the context of transfer behaviour in a more compelling and meaningful way. This chapter included attempts to incorporate multiple children into the altruistic model. Other theories should be similarly mindful of the need to incorporate family structure within their description of transfer behaviour. With regards to the wider thesis, this chapter illustrates that the conceptual framework in chapter 3 should be viewed as one in which 'family structures' are seen as a meaningful and prominent sculptor of transfer behaviour. Once nested within families, the coefficients for parental income and wealth that have been the focus of research here and elsewhere are seen to be secondary.

Chapter 5 concluded that the effect of policies in crowding in transfers was less than that of income generally. This implied that the role of policy in stimulating transfers was secondary to that of income. This chapter relegates the crowding in effect of policy further. If policy is to be more meaningfully understood in the context of intergenerational transfers, it would therefore be advisable to consider the interaction between family structures and policy. This lies outside of the scope of this analysis but would certainly be an area of potential interest in understanding the interaction between policies and behaviour.

As an abstract topic of questionable importance, the analysis of intergenerational transfers should aim to make a substantive contribution. The topic lends itself to discussions of social mobility, youth transitions and many other outcomes of the recipient. The analysis offered here looks to support that. In doing so there are few topics of greater substantive importance to policy makers than social mobility (European Commission, 2011). If intergenerational transfers can offer a genuine contribution to this literature and illuminate underlying processes, then it will have vindicated the academic attention it has attracted. Much of the research in this area has focused on the direct transmission of wealth through transfers and ignored the role of family size and other between family differences. This analysis represents a small step towards incorporating such effects.

Demographic arguments in development have often argued that lower fertility rates encourage investment in children and subsequent productivity growth (Szreter, 1996; Becker & Tomes, 1976). Many of these arguments have suggested that fertility declines have led to large productivity gains and industrial revolutions. Others have suggested that they preserve existing social strata. They all argue that family size is correlated with the child's outcomes in terms of social and economic advancement. This analysis has begun to argue the same using intergenerational transfers as its point of departure. The evidence offered here suggests a great deal of heterogeneity in transfer behaviour that could imply a great deal of heterogeneity in the access to sources of welfare.

### *Future Research*

Existing social policy designs rarely account for the presence of an extended family and the heterogeneity of the strength of such a network. What's more, the extent to which extended family members are able to assist an individual has been seen to be determined by the amount of money a family has. This is often based on research similar to that seen in chapter 5 & 6. However, the results of this analysis indicate that this is only half the story and that a predictor of equal and often greater validity is the size of that extended family.

The impact of transfers upon outcomes for individuals will therefore be dependent not just upon the financial position of the family but also its size and the relative position of the individual within it. The policy implications of this are vast. In modern welfare states children of all ages are targeted due to their family's financial background. This analysis supports the idea that this should only be one trigger of welfare. By incorporating family size into such targeting practices, welfare states will become more effective in reaching those who need additional support and welfare provision.

In addition to this, the differentials due to family size and birth order are indicative of whether an individual receives financial support. It is therefore possible that processes supporting meritocratic

social mobility could be developed out of a better understanding of family support dynamics such as those evidenced within this chapter.

This model can also be stretched further and is capable of exploring many of the dynamics involving multi-child families such as; how the welfare of siblings affects the likelihood that someone will receive financial support, the role of step-families within family dynamics, the effects of birth spacing and prolonged cohabitation and sandwich generation effects. These are topics that are of great importance in family economics and sociology and carry practical policy implications. Yet they were not the focus of this analysis which instead merely focused on how family size should be considered within the context of intergenerational transfers.

## 9. Conclusions

### 9.1. Empirical Findings

This research project set out with the primary aim of understanding whether policy affected the intergenerational transfers of families in Europe. The analysis in the preceding four chapters demonstrated that there is strong evidence to suggest that policies do affect transfer behaviour. Chapter 5 demonstrated that higher public pensions lead to parents giving more to their adult children. Whilst this is a narrow conception of social policies, public pensions are by far the biggest component of public transfers from the working to the non-working population and are at the centre of debates of intergenerational justice. This finding therefore implies that these public transfers are ‘overshooting’ and that in some families this is then passed onto younger generations.

The findings of chapter 7 also indicated an effect of policy in that those in receipt of public benefits were also the most likely to be receiving private financial transfers. This goes against the crowding out hypothesis in that one would expect that those who receive more from the state get less from the family. The crowding in effect that was found was reasonably robust across a number of different policy groupings including child benefit, education benefits and housing benefits as well as across various welfare regimes within Europe. Again this measure of policy was constrained to financial receipts rather than including access to services or rights based policy indicators. Nevertheless, from a financial perspective it would appear that downward, private financial transfers are associated with the receipt of public financial assistance.

These results should however be held in a full empirical context. This can be achieved by first considering how important these factors are in determining transfers. This was achieved in chapters 6 & 8 of this thesis. In chapter 6 it was illustrated that the household’s material needs played a considerable role in determining whether a household received transfers or not. Yet this effect was itself secondary to the underlying tendency that a household would receive a transfer. This underlying tendency suggests that there are those who receive transfers and there are those that do not and that the recipient’s circumstances have little to do with it. This points to parental circumstances being more important than a child’s circumstances in determining whether a transfer is made. In order to test this it would be necessary to simultaneously measure parental and child income which is notoriously difficult (Kalmijn & Liefbroer, 2010).

In addition to parental circumstances, chapter 8 indicated that there were also other factors which were constant over time that could explain the underlying tendency of some households to receive transfers. Family size and birth order were shown to affect the probability of receiving a transfer far more than parental income which has dominated the literature to date. These factors appear to dictate who

receives financial assistance more than the particular circumstances of either the parent or child. The results of chapter 7 therefore put the effect of policy in context. The significant effect that was observed was far smaller in magnitude than the material circumstances of the household and certainly less than the underlying tendency of the household to receive a transfer. In short, the crowding in effect may have been observed but with regards to predicting who receives financial assistance, it is of relatively little importance. The maximum effects of policy were never large or indicative of a full crowding in or out effect where one euro increase in public transfers lead to a one euro increase in private transfers.

In addition to only observing a small policy affect at the individual level, the analysis within these four chapters also consistently demonstrated large reductions in the country level variations. The estimated marginal effects at the country level changed considerably once the parent and child's circumstances had been included within the model. This suggests that the cross national differences observed are primarily due to compositional effects rather than an underlying tendency for the Swedish or Germans to make more transfers than the Italians or Spanish. In contrast the fixed effects were not sensitive to the inclusion or exclusion of the policy indicators used in this analysis. Once again it should be stressed that the indicators used here in no way represent a comprehensive list and other policies may have a larger effect. Nevertheless this research did include what would be widely considered the prime suspects. The empirical evidence from this thesis regarding country level fixed effects is therefore limited and at best points to exceptions such as Spain rather than an observable regime typology.

Therefore the observed policy effects identified within this thesis should be qualified with the conclusion that policies, at least in financial terms are not the primary direct determinant of transfers despite the literature's focus on this aspect of intergenerational relations.

## **9.2. Theoretical Interpretations**

Chapter 3 outlined a theoretical framework which guided the analysis and is now to be used to place the empirical findings in a wider context. This was a model based on the notion of altruism. This agent based modelling of transfers assumes rational actors who give financial assistance to others given that their well-being is dependent on the welfare of others. In analysing the results there was mixed evidence supporting this theoretical position. As with previous research, factors such as the child's well-being and the parents resources were found to correlate with transfers in the manner depicted by the theory of altruism. Richer parents made transfers and poorer children received them.

This theoretical approach was extended to incorporate multi-child families and reveal the important role that family structure plays in determining who receives financial transfers. Children in larger families receive fewer and smaller financial transfers from their parents. Furthermore, children lower



down the birth order also receive fewer and smaller transfers. This was possible due to the dexterity of the altruistic theory and can help explain unexplained variance on the parental-child dyad in terms of transfer receipt. This dexterity is a necessity for further theoretical developments to be made as there is still a considerable amount of empirical variation that is unexplained by any of the theories concerning financial transfers. Existing theories of altruism, exchange or of the life course have all failed to fully explain transfer behaviour. Empirically this is reflected in a focus on the significance levels and effect size and not on the predictive power of models. Such models in the literature and here, are poor predictors of transfers.

In chapter 6, 7 and 8 it was shown that there remained a large 'family effect'. This has been described here as a 'tendency' for households to receive transfers but to be precise it reflects a part of family behaviour that is unexplained. Chapter 8 went some way to explaining some of this but there remains a great deal to be explored. Altruistic theory is a sound theory in this respect given that it is a flexible theory that enables more complex dynamics of intergenerational dependencies to be explored. Exchange based theories are not widely applicable in that they primarily refer to the financially rich who are constrained in some other way. Life course theories are also inadequate as they are unable to describe empirical results in the detail that altruism has been shown to here. Yet altruism must be developed further if the question of 'who receives financial transfers?' is to be fully answered.

The final theoretical consideration of this thesis was the contrast between the universalism of altruism and the socio-cultural contextual factors that have most commonly referred to policy variations. This literature has described how the varying assumptions of welfare states and the distinct logics of the resulting systems lead to cross country variations in transfer behaviour. Such a theoretical approach is considerably more complex than the altruistic theory advanced here as each typology requires its own logic to be extrapolated. Empirically there was little evidence to support such a theory. Most of the cross national differences dissipated after compositional factors were considered, thus subsuming a cross national narrative to an altruistic one.

It was argued in this thesis that the policy effects that cross country differences in transfer behaviour were attributed to could be measured at the individual level and thus more robustly test policy theories and negate ecological fallacies. This effect was shown to exist but at a very small level with little effect on the estimated country fixed effects. This suggests that even if empirical evidence is identified regarding cross country variations in transfer behaviour, such as with Spain in this thesis, the primary consideration in this regard should not be policy. Furthermore, micro level theories of any form should not be advanced to explain such variation unless they can be empirically supported at the micro level.

Comparative theory is predisposed to theory at the macro level and this has been justified empirically by an absence of micro data and an abundance of macro data. Yet comparative theory should adequately

describe the micro processes and measure them at a micro level. This thesis attempted this by measuring policy at the individual level and describing it using an individual level model of altruism. This allowed policy effects to be contextualised, compositional effects to be given due attention and alternative explanations of cross country variation considered (i.e. family size).

From a theoretical perspective the main conclusion is therefore that theory should detach itself from fixed effects, whether they are at the family or country level. Empirically they are only unit specific residuals aggregated over a group and therefore the best way to describe them is as unexplained variance. This thesis has attempted to explain such variance but the theory of altruism needs to be developed further before more can be accounted for.

### **9.3. Substantive Implications**

It may appear to the reader that this thesis has come to the conclusion that policy does not matter. This is not the case. Intergenerational transfers tend not to respond to marginal changes in the level of financial assistance provided for in public transfers. The first substantive conclusion must therefore be that arguments of crowding out have little empirical foundation in this respect. This is an important point to be made at a time of economic crisis. Arguments of crowding out have often been made to stem the development of the welfare state, now they are advanced to support its retrenchment. This logic suggests that the state need not do what the family can do instead. However the empirical evidence from this analysis indicates that the withdrawal of financial assistance to financially vulnerable households will not be met with additional assistance from their support network.

Yet the conclusions go further still. In the discourse on the relationship between public and private provision of support, the two welfare providers of the state and the family are often depicted as equal forces. When one moves, the other moves in mirror image given that they are of equal mass and size, filling the same role. This is the underlying mechanics of crowding out. With regards to financial transfers however, this notion is wholly misleading. The financial support of the state is incomparable to that provided by the extended family. In Germany 57% of those over 50 receive a public pension, the average size of which is €10,000 a year. In comparison 20% of the children of these individuals received a financial transfer of an average of just €477.

Even at the recipient end, public assistance dwarfs private assistance. In the European Union, the average amount received per year in private financial assistance by a household is just €221. The average amount received in public transfers is €12,341. Therefore the metaphor that would be more accurate would be that of a dinghy in the wake of an oil tanker. Private transfers are small and behave erratically and unpredictably despite the best effort to model them as the result of rational behaviour. The aggregated effect of public transfers on private transfers is very small but this is most likely due to

private transfers being a rarely used means of support to begin with. Public and other sources of financial support are far more likely to be utilised.

Contemporary European societies are ones in which social policies are the primary means of redistribution and tool for alleviating poverty. They are very effective at doing so when compared to private financial transfers. Like a tanker they are big and clearly directed. In contrast, this analysis identified the receipt of intergenerational transfers as being predominantly determined by an underlying tendency within a particular family. In substantive terms this means that it is effectively the luck of the draw. Chapter 8 also noted how family size affects how much someone will receive and chapter 5 noted the importance of their parent's income. These are not desirable factors to determine who receives financial assistance. Given that private transfers are so small and distributed along such lines, it is not surprising that public transfers do not affect private transfers.

Therefore it is public transfers and social policy that is important and not private transfers. In our ageing societies there is an ongoing discourse regarding intergenerational relationships in terms of solidarity and justice. In this respect, the conclusion of this thesis is that the most prominent and binding intergenerational relationship is that through the welfare state. Even though this thesis only looked at financial transfers, the reasoning behind this conclusion can be extended to other areas of intergenerational support. For example grandparental childcare and care provision for older members of a family are far rarer, more intermittent, less effective and sporadic than their public equivalents. Societal ageing is one of the key challenges in contemporary society, it requires a public solution as this thesis has illustrated that private provision is poorly targeted, small and irrelevant in comparison to public means of provision.

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