The London School of Economics and Political Science

Consumer choice, competition and privatisation in European health and long-term care systems: Subjective well-being effects and equity implications

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Declaration

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Valentina Zigante

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Abstract

Consumer choice has become a key reform trend in the provision of public services in Western European welfare states. Research on the welfare effects of choice reforms – including greater provider choice for the individual and competition between providers – has largely focused on economic evaluations of the extrinsic (outcome) effects of choice, thereby leaving its intrinsic, or procedural, value unexplored. The overarching objective of this thesis is to investigate the welfare effects of choice in the provision of health and long-term care (LTC) and their implications for equity. The thesis utilises the subjective well-being approach – incorporating both procedural and outcome utility from choice – to measure welfare effects based on quantitative analysis of survey data. Welfare effects and equity implications are examined in relation to: competition in health care in the English National Health System (NHS); choice of care package in the German long-term care system; and individual preferences and views of choice as a priority in the provision of health care in three NHS countries. The thesis argues that both service characteristics – extent of competition, information availability, technical complexity – and individual capabilities – ability to process information, capacity to manage transaction costs, availability of private support – influence the benefits that individuals derive from choice. Results suggest that choice policies have an overall positive welfare effect in both health and long-term care. However, while direct evidence of outcome improvements is found, the empirical analysis only finds indirect evidence of procedural utility. Middle class characteristics, primarily income and education, are found to have a positive influence on the benefits of choice, amounting to evidence of inequitable facets of choice policies. The middle class further exhibits preferences for choice over and above other characteristics of health care systems. Overall, this thesis advocates a holistic approach to the analysis of choice, incorporating its procedural value and paying particular attention to the equity implications of the choice situation, information processing and differences in available options as well as preferences for choice.

To my mother, Gull-Britt and in memory of my father, Juraj

Acknowledgments

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List of abbreviations

AMI	Acute myocardial infarction
BHPS	British Household Panel Survey
CCP	'choice, competition, privatisation'
DDD	Difference-in-difference-in-difference
DiD	Difference-in-difference
EU	European Union
GSOEP	German Socio-economic panel
HHI	Hirschman-Herfindahl index (of market concentration)
LA	Local Authority (England)
Land	The German federal states
LTC	Long-term care
LTCI	Long-term care insurance
NHS	National health service
OLS	Ordinary least squares (regression)
OU	Outcome utility
PHI	Private health insurance
PID	Personal identification (BHPS)
PU	Procedural utility
SHI	Social health insurance
SI	Social Insurance
SWB	Subjective well-being
VHI	Voluntary health insurance

Note on the structure of the thesis

This thesis conforms to the requirements of a doctoral thesis from the London School of Economics and Political Science. Guidelines state three papers of publishable standard, joined by an overarching theme in addition to introduction and conclusion which altogether may not exceed 100.000 words. Accordingly this thesis presents three separate papers - chapter 2, 3 and 4 out of which an earlier version of chapter 2 is published in CESifo Economic studies (Zigante 2011). Chapter 4 draws on two papers (Costa-Font and Zigante 2012) and (Costa-Font and Zigante 2013) co-authored with Joan Costa-Font within the RECON project http://www.reconproject.eu/. The papers are drawn upon across the thesis, in particular in the sections discussing European reforms from a comparative perspective.

Chapter 1 Introduction

1.1 Introduction

In many contemporary Western European welfare states, greater individual choice, autonomy and responsibility in the way public services are accessed, together with greater competition between providers and an enhanced role for private actors, form a key reform trend (Jacobs 1998; Leichsenring 2004; Streeck and Thelen 2005; Timonen et al. 2006; Martinsen and Vrangbæk 2008; Pavolini and Ranci 2008). Choice reforms are here broadly understood as policies which imply a shift in responsibility and decision-making rights from the state – or agents and institutions acting on its behalf – to the individual, thereby giving the individual an opportunity to choose certain elements of the service they receive. The reforms often, but not always, include competition between providers and occasionally privatisation of service and financing. The arguments surrounding these reforms, which I discuss as the 'choice agenda'[1], emphasise the expected efficiency and quality gains, but also the greater equitability (Le Grand 2007a), breaking with the traditionally assumed efficiency-equity trade-off of welfare reform (Barr 2001; Schelkle et al. 2010). Also emphasised are findings from the psychology literature predicting individual well-being gains from choice in most situations (Botti 2004; Iyengar 2010). Economic theory not only

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[1] The term choice *agenda* captures the explicit promotion of choice and competition policies on the part of both the EU and national governments of Western European countries and the extent to which choice is spread as a 'buzz word' in welfare reform. Putnam (2002) argues that the developments originated in the USA but is seen in all First World countries. This is "the cultural ideal of the autonomous, mobile individual" made responsible for choices in health care and education as a tool for seeking self-development (Jordan 2006:145). Governments restructure public services following this idea allowing choice between providers. The development includes also social democratic countries such as Sweden (Rothstein 2001).

promotes choice for its potential extrinsic benefits, including greater efficiency and better quality, but also for its intrinsic value – the value of choice – in and of itself (Dowding 1992; Iyengar and Lepper 1999).

The choice agenda in (Western) European welfare states has been analysed from a range of perspectives. The economics literature is mainly concerned with modelling efficiency and quality improvements (Bevan et al. 2010; Cooper et al. 2010; Cooper et al. 2011; Gravelle et al. 2012) and equity effects measured as access and take-up of choice (Dixon and Le Grand 2006; Barr et al. 2008; Robertson and Burge 2011). The sociological and to some extent social policy literature, on the other hand, is mainly concerned with equity implications and how the relationship between citizens and the state changes when the individual is recast as a *consumer* of public services (Long 1999; Clarke 2006; Jones and Needham 2008; Fotaki 2009). Finally, the political science literature on choice has discussed the drivers of choice reform, the implications for accountability and the changing role of politics in relation to the consumerist welfare state (Freeman 1998; Beerman 2000; Pierson 2001; Korpi and Palme 2003; Le Grand 2007b; Cooper and Le Grand 2008; Schelkle et al. 2010).

Fusing approaches from economics, sociology and political science, this thesis investigates the welfare effects and equity implications of the choice agenda in European welfare states. The welfare effects and equity implications are explored empirically in the cases of health care and long-term care in a set of Western European countries[2]. The thesis framework draws on the subjective well-being (SWB) approach and in particular the concept of procedural utility (Frey and Stutzer 2004).

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[2] Chapter 2 and 3 use individual country studies of England and Germany whereas chapter 4 investigates England, Sweden and Ireland. Each of the papers is however set in relation to the broader development in European countries.

In doing so it incorporates the hypothesised dual benefits of choice: the instrumental and the procedural, the extrinsic and the intrinsic. This includes approaching choice as an institution governing the relation between the individual and the state and the individualisation (or privatisation) this signifies. The equity question is further approached from the demand side, questioning the existence of a middle class preference for choice.

The aim of this introductory chapter is twofold: to set out the key assumptions, debates and methodological considerations within the literature as well as the overarching research question that guides the thesis and its three empirical chapters. I will first discuss the meanings and practical varieties of consumer choice and the particularities of consumer choice in European welfare states. The expected welfare effects and interfering aspects are then discussed, on a general level and from an equity perspective. The conceptual framework sets out an approach to measuring welfare which goes beyond traditional rational choice, incorporating a SWB approach motivated by the ideas of procedural utility. The emphasis here is on understanding choice as an institution which is likely to affect individual outcomes and generate procedural benefits. The overarching research question is then set out with a set of sub-questions explored in the respective chapters. Broad case selection and general methodological issues are discussed.

1.2 Motivations and objectives

This thesis is motivated by the role of choice in the changing character of contemporary European welfare states, particularly in light of current cost-

containment pressures[3] (Streeck and Thelen 2005). The introduction of choice and competition has brought about a change in the organisation, management and character of the welfare state. On the one hand this has been debated as an implicit move towards a privatisation of risk (Hacker 2005) and retrenchment of the welfare state; on the other it is something that "represents a change in the organising principle of state welfare" rather than a retreat from the welfare state (Higgs 1998:188). It is in Western Europe[4] where the choice agenda represents a unique change *within* the system – a qualitative transformation of the institutional structure of welfare state design. It is within the universal welfare state that the choice agenda truly matters – where choice represents a break with the traditional 'state orientation' of the provision of welfare services and where responsibility has been firmly located in the public rather than the private sphere. The choice debate signifies a change in the distribution of responsibility – from the state to the citizen – as well as a change in who is accountable. Instead of keeping the politicians responsible, the individual, under the marketised welfare state, take consumerist action to claim his or her rights (Beerman 2000; Burström 2009).

The thesis is further motivated by the dominant approach of economics focusing on outcome effects in the analysis of welfare policy. Despite the acknowledged importance of the intrinsic value of choice (Dowding 1992; Iyengar and Lepper 1999; Ryan and Deci 2000; Dowding and John 2009), empirical studies in economics have focused on its extrinsic effects, particularly quality, efficiency and, when considering

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[3] This is particularly relevant in the European Union (EU) where supra-national treaties constrain the economic room for manoeuvre of the member states, and accentuates the need for cost-containment of welfare services (Jacquot 2008).

[4] A detailed discussion of the special role the choice agenda plays in Western Europe compared to other countries is elaborated in section 1.3.2 and 1.5.1 below. Western Europe is here taken to include European countries which did not belong to the East bloc during the cold war, including continental, southern and northern Europe.

equity analysis, access and take-up of choice. Finally, this thesis is motivated by the debate surrounding the equity implications of choice reforms (Barr et al. 2008; Cooper and Le Grand 2008; Dixon et al. 2003; 2006; Van de Ven and Van Vliet 1992). The empirical analysis is focused on equity effects throughout – testing the argument that it is the well-endowed and capable middle class who benefits more from choice. The analysis also investigates whether the associated hypothesis that the middle class in fact *demands* choice, as found in the sociological literature on consumerism (Clarke 2004; Clarke 2006; Fotaki et al. 2008), can be identified empirically.

The overarching objective of this thesis is to investigate the welfare effects of choice reforms and their equity implications in the cases of health care and long-term care[5] in Western European welfare states. The process used to achieve this objective is illustrated in figure 1. The subjective well-being approach and conceptual overview provide the framework in chapter one. Welfare effects of choice and competition are explored in chapter two (health care) and three (long-term care), both of which include an analysis of equity implications. Chapter four extends the equity analysis to address the hypothesis of a middle class preference for choice, while attempting to distinguish between intrinsic and extrinsic motivations. Common to all chapters is the inclusion of procedural utility next to the conventionally analysed outcome utility and the empirical investigation of equity implications. Chapter five synthesises the preceding chapters and elaborates the implications for policy and further research.

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[5] The case selection of health care and long-term care is discussed in section 1.5.

Figure 1 – Broad thesis outline
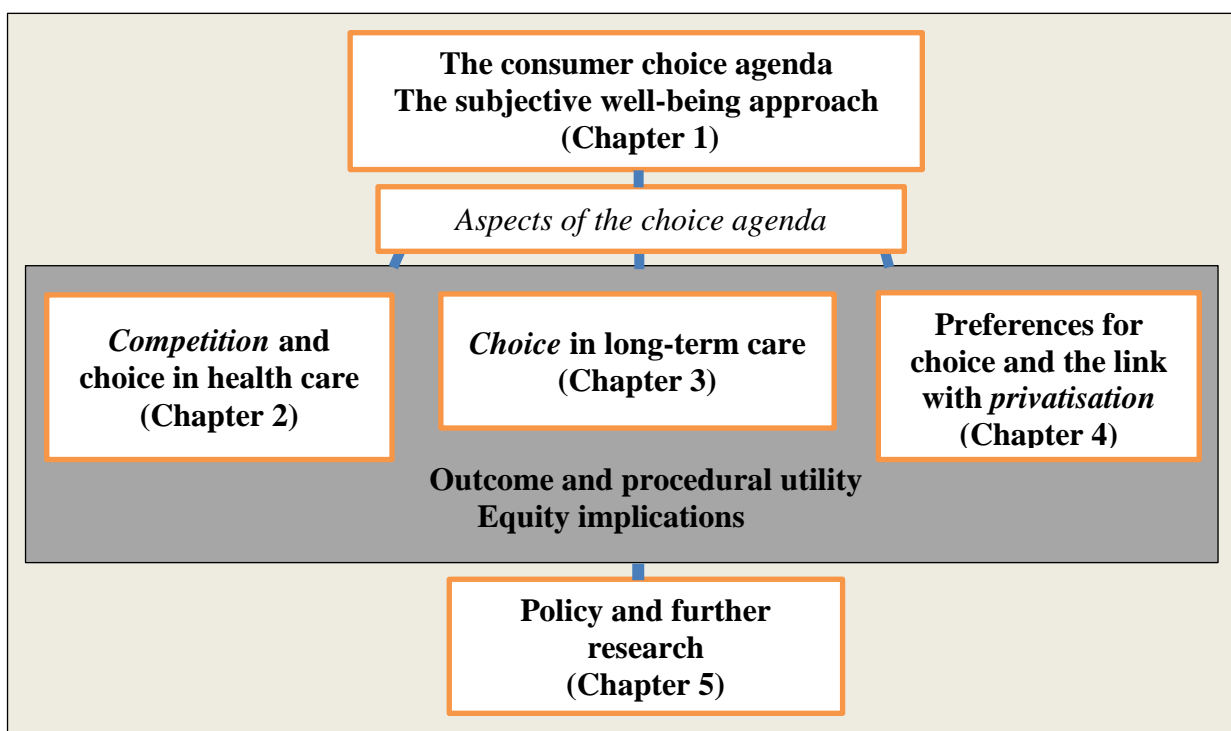
Source: author's own

1.3 The Consumer Choice Agenda

This section discusses the concept of the choice agenda, its relevance in European welfare states, the current state of the literature on welfare effects of choice and the equity debate.

1.3.1 Defining choice[6]

Individual centred approaches to welfare provision have become an important part of the reform agenda in many Western European welfare states during the latter part of the 20th century (Streeck and Thelen 2005). This liberalisation of European welfare states can be understood as an umbrella concept for a range of marketisation

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[6] This section draws on work previously published in Zigante et al. (2012).

processes, including choice for individual users, competition between providers and privatisation of service provision (and potentially financing). This choice agenda is particularly relevant in tax-funded universal welfare states such as egalitarian Scandinavia, certain Anglo-Saxon countries and the Mediterranean countries, where choice marks a qualitative break with how welfare services have traditionally been provided (Esping-Andersen 1990). This stands in contrast with Social Insurance (SI) welfare systems where choice is historically institutionalised, for example through patients' direct access to specialists (Kreisz and Gericke 2010). In tax funded systems choice reform has been focused on expanding the opportunities for choice of provider whereas in SI systems choice reforms have concerned financing: insurance products have recently been subject to increasing choice and competition (Costa Font and Zigante 2013).

The nature of choice in health and long-term care is complex insofar as it is dependent on the institutional structure and traditions of each specific system. Choice is offered at different levels and in various settings; I start here with the broad distinction between choice in the provision and the financing of health and LTC.[7] The thesis is focused mainly on the choice of *provider:* hospital; general (or primary care) practice; care home; care provider; or other medical facilities. It is in a setting where choice between different providers is offered to patients and users that economic theory predicts efficiency and quality improvements (Barr 1993) which are however linked to a set of assumptions of perfect (or managed/quasi) competition (discussed separately below).

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[7] This section follows Le Grand's often cited discussion of the range of choices potentially available to users (2007).

A number of other choices linked to provision are offered. The choice of *professional* - i.e. doctor or informal carer – is constrained by the choice of provider and tends to be limited by geographical and managerial factors to a higher extent than choice of provider. Availability of informal carers is a key issue in LTC and an inherent constraint for LTC reform of both provision and financing. In addition there is the choice of *service*, which in health care often constitutes different forms of medical treatment. In LTC, choice of service includes various components of the care package, such as social activities, which are more often offered to the user or patient in line with a modern approach to care (see discussion in Coulter 1999). The time of treatment can also be a choice, together with the access channel and method of communication with health services[8] (Le Grand 2007a).

Choice of financing – the question of 'who pays' – is in practice mainly an issue in countries with SI type welfare funding. This is generally in terms of choice between insurance funds, either exclusively public or a combination of private and public funds (Thomson et al. 2009). The extension of choice from exclusively provision to include choice of insurance fund constitutes a key reform trend in SI countries (Frank and Lamiraud 2008; Costa-Font and Zigante 2012). In tax funded systems, choice in financing generally involves the option of taking up substitutive or supplementary voluntary private health-, or less commonly, LTC insurance. Voluntary health insurance (VHI) in tax funded systems gives access to certain private institutions, often with a more specialised, more personal service that is often acquired as an employment benefit (Mossialos and Thomson 2002). VHI is argued to be a way for the wealthy to get access to a quality service and withdraw their support from the

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[8] Traditionally taken place face-to-face, but is increasingly being carried out over the phone or through the internet which is hailed as a way for increasing user engagement.

public system, leading to support weakening and the system eroding over time (Costa-Font and Jofre-Bonet 2008). It has further been argued that the choice agenda may lead to an increase in the use of VHI and other varieties of private financing (Blomqvist 2004). Long-term care insurance (LTCI) in tax funded systems is envisioned to play a more prominent role in the future due to the demographic challenge coupled with cost-containment pressures (Pickard et al. 2007).

1.3.2 The European choice agenda

The rise of consumer choice in the global economy and its spill-over into the provision of welfare is a process discernible in many countries all over the world. I argue, however, that the process is particularly pronounced and particularly important to consider in the setting of advanced European welfare states which are denoted by stable institutions, are relatively well-funded and benefit from well-established democratic governance. A certain role can also be attributed to the European Union's spreading of policy across borders.

A liberalised approach to welfare services is not uncommon in developing countries where at times the only available services are privately provided. The default provider is often the family, community or international donor organisations, where responsibility rests with the individuals involved (Zwi et al. 2001). Similarly in the US, although highly formalised, responsibility for ensuring that measures are in place in case of ill health also rest with the individual (Vogel 2002). These approaches mean that a large amount of choice is the 'default', and so complemented by the absence of a paternalistic state with an historical monopoly on decision making. The choice agenda in mature European welfare states on the other hand has brought about

a clear shift in responsibility for decision making from the state to the individual and a real change in the accountability of the political and the role of citizens. Also the countries of Eastern Europe, following transition, have increasingly implemented choice policies, for example in education and health care (Kornai and Eggleston 2001). The recent societal change linked to the transition process has influenced the view of the role of the citizen in the new market economy which has in turn been found to affect individual well-being (Zigante 2008). The choice agenda of Eastern Europe can be seen as a result of policy transfer from West to East, channelled through the EU (Lendvai 2008).

The European Union plays a considerable role in the expansion of consumer choice in public services, even though welfare policy is not part of the legislative powers of the union. The impact of the EU on choice as a part of public service provision is often attributed to the horizontal Europeanisation of social policy rather than any outright regulation (Jacquot 2008).[9] Europeanisation is generally defined as the impact of the EU on domestic politics and policies through processes of construction, diffusion and institutionalisation of formal and informal rules, 'ways of doing things'. Radelli argues that it should be thought of as an 'interactive process', where shared beliefs and norms are first defined and consolidated in EU processes and then incorporated into the logic of domestic discourse, identities, political structures and public policies (2003). One of the EU discourses is the focus on the individual. This is reflected in the welfare states and welfare services, which are increasingly denoted by choice

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[9] Vertical Europeanization on the other hand is denoted by impact from regulatory constraints which as discussed below are weak for social policy. Social policy is one of the least developed areas of EU integration, negotiated through the Open Method of Coordination, which does not imply binding agreements between the member states. The OMC identifies common goals, established indicators and benchmarks for assessing progress towards the goals, translates common objectives to national and regional policies taking into account national and regional differences, and engages in monitoring, evaluation and peer review (European Council 2000).

policies of various dimensions; financing, provision and content (European Union 2006; Greer 2008).

> Increase the ability of citizens to take better decisions about their health and consumer interests. This means increasing the opportunities they have to exercise real choice and also equipping them with the knowledge they need
>
> (EU Health and Consumer Protection Strategy and Programme)

Under such approaches, which are closely aligned with the development and policies of the EU, increased emphasis is given to individuals' autonomy, to free choice, to competition in provision and financing and also to the role of private actors (European Union 2006).[10] The EU's goals within the single market, particularly cross-border mobility, have enhanced consumer choice significantly in the member states (Schelkle et al. 2010). This is mainly exemplified through the advancement of cross-border mobility in health care, education and employment. Particularly in the field of health care, Martinsen and Vrangbæk (2008) argue that the EU has had a significant impact. Recent reforms constitute the formation of a new institutional legacy representing an Europeanised health care model – with a new set of stakeholders, principles and structures. Markets, principles of free movement, patient choice and patient rights are becoming institutionalised and safeguarded by the EU (Schelkle et al. 2010).

The development of choice policies in public services also coincides with the 'modernisation' agenda of the EU (Dawson et al. 2004:16), which is argued to be driven by the changing social and economic reality of its member states (Burge et al. 2004). A European social model is emerging which is characterised by softer values and the emphasis on individual choice and autonomy in relation to welfare services (Radaelli 2003; Kvist and Saari 2007; Greer 2008). Leibfried and Pierson argue that

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[10] See for example Communication from the Commission - A renewed commitment to social Europe: Reinforcing the Open Method of Coordination for Social Protection and Social Inclusion, COM/2008/0418 final

European integration has eroded "both the sovereignty and autonomy of member states in the realm of social policy" and that there is a system of shared authority over social policy which constrains member states (2007: 43-44).

1.3.3 Welfare effects of choice – key considerations[11]

The welfare effects of choice depend on a range of factors linked to institutionalisation, implementation and individual capacity and capability to fully benefit from access to choice. Various literatures emphasise the challenges attached to valuing different choice situations, such as whether a higher number of similar options are better than fewer, more diverse options (Botti and Iyengar 2004; 2006). Following this Dowding and John argue that it is highly dependent on the choice situation whether choice is seen as an improvement – and advocate caution in the expansion of choice in public services (2009). Building on these insights, this thesis frames the discussion around three key considerations which influence the relation between choice in the provision of health and LTC and individual welfare: the character of the choice situation, the level of competition and the role of privatisation.

The choice situation and individual constraints

All other things being equal, the traditional welfarist argument holds that individuals are more likely to maximise their welfare and get an optimal consumption bundle if they are allowed to select the items and services they consume (Krugman and Wells 2006). According to Dworkin, choice "increases the probability that they [individuals] will satisfy their desires. People want various things – goods and services, status, affection, power, health, security – and their chances of getting these things are often

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[11] This section draws on Zigante et al. (2012).

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enhanced if they have more options to choose among." (1988:78). These arguments reflect the expected instrumental value of choice and builds on assumptions of the individual's capacity to maximise welfare from available choices.

The character of the choice situation matters for the anticipated welfare effects. Both factors *internal* and *external* to the individual (i.e. we can separate cognitive ability and emotion from information availability and transaction costs) are argued to influence the benefits of choice. While Schwartz (2004) accepts the welfarist argument that more choice is likely to satisfy individual preferences, he argues that too much choice, particularly where the choice is of great importance, may have the opposite effect on individual welfare. Too much choice can cause stress and feelings of regret, increased transaction costs and unnecessary time spent collecting information perceived to be necessary for choosing. Clinical experiments show that it is only under certain conditions that choice actually improves how people feel about themselves. The benefits are generally found to depend on the relative weight of the choice, emotional stress and importance of the choice, i.e. the risk of regret (Botti and Iyengar 2006).

A central external constraint is information availability, where welfare services often are denoted by imperfect and asymmetric information which makes the choice situation more demanding for the individual (Simon 1955; Barr 2001: 52-53). For example, a choice of treatment in health care constitutes a much more knowledge intensive deliberation than choice of social care provision for an elderly individual. The extent to which the choice is challenging depends at least partly on technological intensity and severity of need. For example; choosing a general practitioner (GP) is

likely to be less knowledge intensive than choosing a hospital for surgery. The capacity of the professional providing the service and the quality of that particular service, are more easily assessed when choosing a GP compared to a surgeon. A GP can also be replaced more easily. The severity of need is correlated with the knowledge intensity of treatment which further complicates the choice. This leads us to a further crucial characteristic of choice; whether it is made repeatedly or on one unique occasion and whether the person making the choice has family or friends who have experience of a similar choice. In health care, for example, patients rarely have the same operation twice, unless the patient suffers from a chronic condition. This prevents drawing on previous knowledge when choosing a hospital or a surgeon for the procedure (Schwartz 2004). As follows, GPs, family members, professional advisors and a range of other actors play a mediating role in the decision making. This is a limitation for the research of this thesis; the data has not allowed for systematically incorporating the specific character of the choice situation and the role of agents involved in the choice as experienced by each individual. In what follows the choice situation is discussed on a structural (system or case wide) level rather than an individual specific level.

Competition – outcome effects

A higher rate of competition is hypothesised to lead to improved outcomes in the provision of public services. Outcome effects on an aggregate level include efficiency of delivery, cost containment and improved health status of the population. Incentives fuelled by competition between providers and the ability of clients, customers or patients to 'vote with their feet' and choose the best provider, leads to improved efficiency and quality (Barr 1993). The envisioned end-result is a service of higher

quality, more efficient provided. It is however clear that the calibration of the choice/competition policy mix is highly sensitive and policies have not always generated the desired results (Propper et al. 2006) and also when studies show robust results of improved service (Cooper et al. 2011) debates run high.[12]

As alluded to above, the link between choice and competition is not entirely straightforward. Not all choice policies imply increased competition between providers and it is conceivable, yet unusual, to offer choice between public providers without any financial incentives for the providers to compete. Mounting research indicates that rarely are public services perfect markets and the result is in most cases are various quasi-market[13] solutions (Forder et al. 1996). An example is the English NHS's internal market in the early 1990s which relied on a quasi-market structure. It was found to have improved visible outputs such as length of waiting times, while unmeasured quality (AMI mortality) fell in more competitive areas (Propper and Burgess 2008). It has been found that the benefits of competition are highly dependent on the payment structure and regulations for market entry and exit. It is argued that payment systems where money follows individuals' choices are most conducive for efficiency improvements. One example often cited is payments based on diagnosis related groups (DRG)[14] – also known as 'benchmark' competition – where providers are incentivised to provide a certain treatment cost-efficiently in relation to a fixed price and where any additional treatment time or cost is borne by the provider (Street and Maynard 2007).

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[12] A string of blog posts on the British Politics and Policy at LSE blog debated the Cooper et al. paper in March 2012. See for example Pollock et al. (2012).

[13] See Le Grand and Bartlett (1993) for a discussion of quasi-market structures. Simply put quasi-markets involve a purchaser-provider split, for example in the NHS fund holders purchased care from NHS trusts and District Health Authorities competing for custom.

[14] DRG payment means that hospitals are paid a fixed amount based on the patient's diagnosis, not on their actual cost of treatment.

The role of privatisation

Choice policies, albeit normally coupled with incentives for competition, are however not usually implemented alongside, or followed by, privatisation of the provision of public services. When considered as an institution, however, choice can be argued to represent a privatisation process, shifting responsibility from the state to the individual. The interpretation of choice as an institution is fundamental for the welfare analysis of choice through SWB in this thesis and hence the role of privatisation needs to be further explored.

Privatisation is commonly understood as the transfer of ownership, of property or business, from the state to a privately owned entity. Privatisation is expected to generate increased efficiency following the profit oriented management style of private business. Private provision of welfare services is commonplace even in the most 'state-oriented' systems, for example in Sweden (Blomqvist 2004; Anell 2011) as well as in the financing of services in many European countries (as exemplified by the increased role for out-of-pocket payments (OPP) and supplementary VHI) (Wendt 2009). The benefits of choice and competition are not, however, dependent on privatised provision, and function equally well through inserting market based incentives among public providers. Choice policies and privatisation (of provision) policies however tend to be grouped together in debates in mainstream media and politics alike. It is even argued that increasing choice is likely to be an inherent part of, and even lead to, increased privatisation of provision as well as financing (Blomqvist 2004). This is not necessarily the case, but if we consider consumer choice as an institution that influences the relationship between individuals and the state, then a particular type of privatisation can be said to be taking place.

A stream of literature at the cross-roads of sociology and politics highlights the rise of the 'consumer citizen' and a privatised and marketised relation with public services. Newman and Kuhlman identify a pan-European discourse built around the 'discriminating consumers' and 'accountable professionals' which, they argue, is dominating health reform in present time (2008). This discourse identifies a shift consisting of a normalisation of the 'consumer citizen', where governments pursuing a reduction of the state, rely on individuals to be self-governing social agents who take on much of the work and risk of decision-making. This implies a move away from political accountability to a society of consumerist action (Burström 2009) where a key question is argued to be how to secure accountability and quality control in a quasi-market setting (Newman and Kuhlmann 2007). Based on the shift in the conceptualisation of the citizen as a user of public services Clarke (2004) interprets privatisation as the transfer of responsibility from the state to any type of non-state actor, be it private market based entities or private individuals. Clarke writes about the "double sense of the 'private' (as the market and the domestic) […] 'the two privatisations' in the process of neo-liberal remakings of the public realm" (2004:32). Similarly, privatisation can be understood both as a bi-product of choice and marketisation, and as an overriding process in its own right (Hacker 2005).

For the analysis of (procedural in particular) welfare effects of choice the conceptualisation of privatisation, as a shift between spheres, made by Clarke is paramount[15]. Regardless of financing structure – yet particularly relevant in the

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[15] The idea of increased focus on individual choice has been discussed as 'individualisation', particularly in relation to the policies of 'New Labour' in England (see for example Borghi and Van Berkel 2007). The concept of 'individualisation', and similarly 'personalisation', are ambiguous in the way they are used in various literatures. A common thread however is the focus on practical care arrangements, for example the individual managing care or welfare payments such as 'cash for care' in

universal tax funded welfare states – choice implies a shift in the responsibility for use of service towards the individual, altering the character of the relationship with the state or provider. This changing environment is likely to affect the benefits that are reaped from interaction with public services – positively if we assume empowerment gained and negatively if the individualisation breeds feelings of insecurity and loss of connectedness. Systematic differences in how these aspects of choice affect individuals in different socio-economic groups are likely to give rise to equity implications. This is discussed next.

1.3.4 Equity implications

The debate on the equity effects[16] of the choice agenda stem from a well-established awareness of inequality in health outcomes and a tendency for the well-off to receive a better health service. Hernández-Quevedo et al. (2006) find that for all European Union Member States, long-run indices of income-related inequalities in health are considerable, and the gaps are in fact widening over time. Equity considerations stem from a fundamental tension in publicly funded health care systems; health care provision is often denoted by excess demand, requiring rationing by indicators other than price, often through waiting times resulting in unequal access (Ubel 2001). It is therefore commonly argued that publicly financed health systems, which aim to be comprehensive, suffer from an intrinsic conflict between equity and high quality (Weale 1998).

LTC. The concept is more about the individuals' practical experience than it is the institution governing the interrelation between individual and service.

[16] The concept of equity is one of the core debates of philosophy and economics, relating to concepts such as equality, justice, fairness and the associated normative and practical considerations (Rawls 1972). I will not attempt to cover this great literature at any depth – this section rather lays the ground work for the practical approach to measuring equity implications in the empirical exploration.

From a theoretical perspective, there is considerable disagreement in the health economics literature on what definition of equity, or what principles, should guide equity assessments in relation to health care. Culyer and Wagstaff (1993) mention equality of utilization, distribution according to need, equality of access, and equality of health as possible definitions, derived from a larger pool of principles discussed by Le Grand (1982) and Mooney (1983). Braveman and Gruskin argue in favour of a measure of health equity that has a clear operationalization (2003). They define equity as "the absence of systematic disparities in health" (2003: 254). Various definitions tend to be incompatible, and there is disagreement on what should be the governing principle. For LTC the equity debate is less emphasised, but can be conceptualised in similar ways as for health care. This thesis does not aim to contribute to the conceptualisation of equity in health. The empirical approach applied in both cases is similar to the 'equality of health' principle, but operationalized as equity (or rather interpreted as 'not inequity') of the *change* in outcomes (SWB) following reform. An equitable effect of choice reform would be one where lower socio-economic groups benefit equally, or more, from the reform, compared to higher socio-economic groups. The thesis hence does not consider absolute disparities in health outcomes (which are strongly correlated to SWB).

It is in light of the deeply ingrained health inequalities that choice has been argued to represent an improvement in equity. Choice is said to allow users and patients to influence the care situation *irrespective* of their ability to negotiate with providers, voice their displeasure with care, or somehow manage to 'game' the health care system (Department of Health 2003; Barr et al. 2008). Creating formalised choice mechanisms, it is argued, will give every patient the opportunity to choose

irrespective of their socioeconomic status (Cooper and Le Grand 2008). Le Grand in fact, argues that choice by default tends to produce situations which are inherently equitable (1991). This is referred to throughout as the 'equity argument' for choice.

On the other hand, choice is thought to harm equity in two ways: first, by exacerbating inequalities which stem from differences in users capacity to choose; and second, through the providers' reaction to systematic incentives. Users capacity to choose stems from technical or practical barriers; 'voice' problems such as communication difficulties, language, literacy, assertiveness, articulation, self-confidence and ability to deal with professionals, cultural and health beliefs and behaviour, transport difficulties and travel distance, as well as the time and financial costs of travel, family or work commitments (Dixon et al. 2003; 2006). As discussed above, the knowledge intensity of the choice situation varies considerably between policy areas and types of choices (provider, service, treatment).

Competition and private provision may on its own lead to growing inequalities. Providers are argued to be incentivised to 'cream-skim' – i.e. to avoid treating individuals with more severe health problems, overrepresented in the lower socioeconomic groups (Van de Ven and Van Vliet 1992). 'Cream-skimming' is more likely if providers are paid per episode of care that they deliver and are therefore incentivised to select patients who are cheaper to treat. As well-off patients are generally healthier, the system may lead providers to avoid the treatment of patients from lower socioeconomic groups (Matsaganis and Glennerster 1994). Cream-skimming causes inefficiencies in the health care system and may lead to inequalities stemming from differences in quality of treatment.

The equity debate surrounding the choice agenda are often framed around the advantages of individuals who are relatively well-off. This thesis refers to this group, loosely conceived, as the 'middle class'[17]. This is firstly due to its practical appeal. The middle class group incorporates individuals with medium income and tertiary education or above (operationalised in the respective chapters). This group is thought to benefit more from choice reforms due to higher disposable income and the knowledge processing skills associated with higher education. Individuals from this group rely predominantly on the public system but find ways to use it to their advantage. Their income allows them to travel and fund accommodation away from home and is often correlated with more flexible work arrangements. Higher education tends to enable the individual to better communicate and process information, to gain useful connections and possibly also be more used to the bureaucratic procedures of public services allows for a quicker and higher rate of access to public health care. The group is finally more likely to exit the public system if quality becomes an issue (Costa-Font and Jofre-Bonet 2008).

Secondly, the middle class resembles the group which Blomqvist refers to as the 'well-off', and is placed at the centre of her argument about the self-perpetuating nature of the choice agenda (2004:152). We are also likely to see even more diversified and tailor-made social services if "the logic of stratification (that social groups seek to define themselves by separation from others and continuously invent new ways of doing so) is likely to create ever-increasing demands for more exclusive

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[17] How class is defined is a debate of its own, but class class classifications are often based on income, education and the occupation of the household head. Korpi and Palme see class as defined through 'membership groups with which individuals identify and the specific subcultures and norms of such groups'. This differs somewhat from the definition of class as categories of individuals who share relatively similar positions or situations, for example in employment relations (Goldthorpe 2000). Definitions are not stable across countries as Banerjee and Duflo discusses (2008) and I return to this conceptual and technical issue in chapter 4.

and culturally 'distinct' service alternatives." (Blomqvist 2004: 152). The view of Blomqvist, that the well-off benefits disproportionately as well as demands further choice in public services, is well supported in various literatures and connects with the literature on consumerism (Newman and Kuhlmann 2007) where it is argued that the 'well-off' demand a culturally specific service for which choice in public services is a convenient fit. Several authors have attempted to make sense of this dynamic, its normative appeals and deduce what effect it might have on the role and goals of the welfare state (Clarke 2006; Jones and Needham 2008; Fotaki 2009).

Finally, framing the analysis around a broad concept of the middle class has a further appeal in that it is placed at the centre of welfare reform in general (Esping-Andersen 1990; Hibbard et al. 2005; Donnelly 2010) and choice and privatisation reform in particular. The middle class is said to benefit substantially from universally provided services and benefits – at times even more so than other social groups – due to its ability to 'play' the system (Goodin and Le Grand 1987). Korpi and Palme (2003) have sought to *revive* the role of class when explaining the welfare state in response to Pierson's seminal new politics of the welfare state (Pierson 2001).

1.4 Conceptual framework

The approach taken by this thesis is based on the conception of choice as an *institution* affecting the relation and allocation of responsibility between the (welfare) state and the individual. It is also based on the view of individual welfare as influenced by processes and intangible aspects of life, as well as instrumental outcomes.

1.4.1 Rational choice and beyond

The conception of utility and individual and societal welfare has evolved greatly throughout the history of economic thought. Individual welfare was understood by the early scholars of classical political economy as satisfaction or happiness, a cardinal, fully interpersonally comparable measure that could be aggregated to a societal level of welfare (Bentham 1789; Mill 1863). Individual welfare was later viewed exclusively as utility, assumed to be directly observable through revealed preferences, i.e. the consumption choices of the individual (Samuelson 1982). Individuals were assumed to be self-interested, rational[18] choosers who maximise utility, based on perfect information, subject to the economic constraints they are faced with. This is a key starting point in the political economy literature and follows the position in rational choice theory that, all else being equal, more choice is better (Caporaso and Levine 1992). If we assume individuals to be rational utility maximising actors, they will, provided certain assumptions are met, benefit from having a choice as well as a greater number of non-redundant options.

Choice in public services is however subject to unique characteristics and this thesis argues in favour of a framework that extends beyond the neoclassical rational choice approach. The benefits of choice and competition rely on standard economic assumptions being fulfilled and as it stands, the marketised provision of public services suffers from market failures (Arrow 1963). Providers often compete on quality rather than price – as in tax funded systems prices are generally not seen by the user. However, like in quasi-markets, competition based on quality is potentially constrained by a lack of transparency of actual quality. Users are often unaware of, or

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[18] Technically, rational preferences are assumed to be complete (all can be ranked), transitive (if option a is preferred to b, and b is preferred to c, then a is preferred to c) and based on perfect information.

claim not to understand or be able to access, quality information (Marshall et al. 2000). Provider ratings and other indicators are becoming increasingly available; however, they are still argued to be insufficient due to a low rate of repetition and a high variation in the types of conditions being treated (Hibbard et al. 2005).

Information availability and processing poses a key issue for welfare effects of choice (Simon 1955). Information on illness, the technological treatment tools available and the knowledge, specialty and skills of medical staff at various providers is not readily available to the individual and may be unreliable. In relation to information processing, issues are raised over the individuals' mental capacity to cope with a large number of technically complex choices (Denzau and North 1994). Behavioural economics contributes to the debate here, approaching utility and human behaviour in a setting of *bounded rationality* due to imperfect information, time and cognitive limitations (Thaler 1991). When making decisions under sub-optimal conditions individuals are thought to apply 'short-cuts' (heuristics) in decision making; they simplify the choices in order to apply rational rules for decision making and approach the choices with the purpose of 'satisficing' rather than 'optimising' (Schwartz et al. 2002).[19] Acknowledging these considerations, the libertarian paternalistic literature argues that due to the behavioural difficulties connected with choice, the role of the state is always important. However, this does not exclude possible benefits from choice, and it can be helpful for the state to define a default option to make the choice easier and minimise transaction costs for 'choice averse' individuals (Thaler and Sunstein 2003).

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[19] We can further question what motivates individuals in decision making. Margolis (2007) argues that individuals are not only governed by self-interest, as conventionally assumed in the rational choice literature, arguing that there are other values that determine behaviour, which should be incorporated into economic models.

The neo-classical conception of utility lacks a key component that is inherent to the benefits of choice: intrinsic value. It has been argued that choice on its own has idealistic connotations stemming from liberal ideology, cultural values and an *intrinsic* value of its own (Feldman and Zaller 1992). This would imply that choice is valued above and beyond instrumental welfare gains and that by allowing or increasing choice, patients' preferences for health care are more likely to be satisfied and individual autonomy and control enhanced (Dowding and John 2009). Arguments in favour of the intrinsic value of choice often stem from a view which emphasises the broader benefits of individual autonomy. While choice and autonomy are not analogous, choice is seen as a necessary condition for autonomy because it is through choosing ones' own course (and hence having choices) that an individual expresses his or her autonomy, and because the process of choosing well and effectively expressing ones' autonomy is a learned skill which is acquired only through making various choices throughout ones' life (Dworkin 1988).

1.4.2 A subjective well-being approach

The choice of dependent variable is motivated by the general value of SWB as a measure which complements conventional welfare analyses such as cost-benefit analysis (Mishan 2007), income equivalent estimates (Fleurbaey et al. 2012) and contingent valuation methods (Portney 1994) based on restrictive assumptions linked to underlying conceptions of what amounts to individual welfare (Slesnick 1998).

The SWB approach responds to critique of the neo-classical welfare concept for its exclusive outcome focus. One early critique of the traditional welfare concept came from Sen, who argued that a narrow understanding of welfare limited policy analysis

and that procedural effects should be taken into account (1982). This question of the role of the procedure for individual welfare speaks to the basic character of welfare economics. Sen criticised the consequentialist welfarism applied in standard welfare economics for its reliance on the premise that actions, policies and rules should only be evaluated in terms of their consequences (1987). Behaviour consistent with the consequentialist approach is argued to maximise expected utility, which is one of the core behavioural assumptions of modern economics (Hammond 1988). Applying consequentialism to economics in this way contributes to the narrow outlook on individual behaviour typical in welfare economics (Suzumura 2000) and stands in contrast with the proceduralist approach. The procedural approach can be compared to what is known as procedural fairness in the terminology of Rawls (1972). For Rawls the focus was on the fairness of the procedure and the equality of means and power over the outcome of core values. The approach does not evaluate the outcome against any standard such as understandings of justice or morality; rather, so long as the procedure is fair, the outcome can be anything (Peter 2008).

Welfare economic analysis tends to be focused on weighing costs and benefits, understood as consumer and producer surplus relying on indicators of willingness to pay or the individual's revealed preferences though consumption choices. However, as Portney (1994) points out, an important problem with this approach is that individuals' willingness to pay for public service rarely reflects the actual cost. This is particularly problematic when analysing the welfare effects of institutional processes, to which the conventional approach of welfare economics is not well suited. In valuing intangibles such as how the health care system is organised and how the procedure of receiving care is carried out, revealed preferences are not reliable

estimates of the actual value of the service (Costa-Font and Rovira 2005). Through SWB the welfare effects of intangibles can be valued directly and SWB can be seen as a measure of the consumer surplus.

The subjective well-being approach is favoured by certain scholars as well as governments for its ability to capture certain aspects of individual utility and the individuals' living situation beyond that of conventional utility measures. SWB is increasingly endorsed on grounds of being an intrinsic value – Layard argues that we should focus on happiness as it is the end goal of all human existence (2005). The increased focus on 'non-material' outcomes has gained momentum in recent years – possibly influenced by the financial crisis and the resulting austerity measures in many countries. Instead of directly or indirectly measuring revealed preferences, the focus is shifted to how individuals *feel* about their living situation. The happiness literature developed following Easterlin's seminal paper (Easterlin 1974)[20], which found that income and happiness do not correspond to the extent we would expect from conventional utility theory. The inclusion of happiness, life satisfaction and other types of subjective well-being (SWB) measures in welfare analysis (Layard 1980; Layard 2006) in a range of literatures has blossomed in later years.[21] The broadening of the welfare concept was first proposed by Sen in the 'capabilities approach' and later in formal indexes such as 'the human development index' incorporating life expectancy and education (Sen 1993). Sen's key contribution was to incorporate objective indicators other than income in order to provide a more

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[20] Stevenson (2008) and Veenhoven and Hagerty (2006) among others have attempted to explain and refute Easterlin's empirical anomaly as a result of data structure rather than a consistent economic relationship. The Easterlin paradox however still remains highly cited as one of the founding references of the happiness literature.

[21] See for example Lane (1988), Oswald (1997), Easterlin (2001), Kahneman and Krueger (2006), Veenhoven and Hagerty (2006) and Diener et al.(2008).

inclusive measure of human welfare. This more multidimensional approach to measuring human welfare is also evident in the focus on quality of life, particularly Allardt's 'Having, Loving and Being' approach (Allardt 1993).

When measuring individual welfare there are several varieties of subjective indicators with various levels of specification. SWB is conceptualised as an umbrella concept including measures for happiness, life satisfaction and concepts of domain satisfaction such as health, accommodation or financial satisfaction. Ratings of happiness are distinctive from life satisfaction and the measures only partly correlate – happiness is an affective or emotional measure whereas life satisfaction is more of a cognitively driven evaluation of the individual's global life situation (Ferrer-i-Carbonell 2002). SWB is commonly measured in surveys by simple questions such as 'How happy are you' or 'How satisfied are you with your present life', often measured on a Likert scale (Likert 1932). Subjective indicators are by now well-established and the 'happiness literature' has gone so far as to start identifying genes which explain part of an individuals' rating (De Neve 2011). Subjective measures of welfare are increasingly seen as a useful alternative to the conventional welfare economics approach.

Subjective well-being is measured by letting the individual describe his or her own well-being. In doing so it is assumed that the individual is capable of assessing his or her own situation in relation to the questions posed and that the answers are interpersonally comparable. This requires different individuals to perceive the scale of the question in the same way and hence the only thing determining a difference in position on the scale is their actual subjective welfare (Ferrier-i-Carbonell 2002).

There are many aspects inherent to the measure itself that may bias the SWB-rating. The form of the question, the unit of measurement, the timing and overall context of the interview and the interaction with the interviewer can all affect the outcome. It is worth noting that several variables affecting SWB are hard to observe; for example, there is clear evidence that individual assessments of SWB are affected by temporary changes in mood, such as after getting married or a win of the national football team. These are particularly hard to control for as they also interact with more long-term personality traits. Finally, the impact of culture (Diener and Eunkook 2000; Dorn 2006) and language on SWB is hard to account for, which means that in cross-country comparisons these aspects may bias the outcome, although to what extent is currently unknown.

The literature has found a range of factors and processes interfering with the determinants of SWB and the change over time. Adaptation, or the hedonic treadmill as it has also been called, implies that individual subjective well-being is only raised temporarily through an increase in a variable positive for SWB such as income. After a period the individual gets used to the new level of income (for example) and SWB returns to the original level (Burchardt 2005). As mentioned above, SWB is likely to be affected by personality traits which are more or less observable and constant over time. Moreover, SWB is also affected by relative variables, such as relative income or relative status, in terms of a personal reference group. The diminishing marginal benefit of income and the imperfect correlation with SWB draws attention to the question of relative income instead of absolute income as a determinant of SWB. Relative income is important, not just in terms of relative income against neighbours, region and country, but also over time. Ferrier-i-Carbonell (2002) found a much

higher correlation between the grading of the individuals financial situation in relation to others and SWB than between absolute income and SWB. The relative income of the reference group that the individual feels he or she belongs to provides a mental image of what standard the individual feels entitled to. Economic mobility is important in the sense that a perception of equal economic opportunity and the possibility of reaching the same level as the reference group generate a higher subjective well-being.

The relation of income and SWB also depends on time. If the individual expects rising incomes they will tend to value their present situation in a better way. Similarly, if the individual is expecting an insufficient pension, today's SWB level will be lower. Individuals are thought to adapt to a – positive or negative – shock after which SWB ratings tend to revert to the pre-shock level. This is referred to as the 'set-point' level of SWB (Clark 2008) which is partly determined by personality and even genetics (De Neve 2011). The set-point level of SWB suggests that it is soon after an 'event' that identification of a change in SWB is most likely to be observed. The set-point theory applied to aggregate level 'events' such as a policy change implies that as individuals become accustomed to the new environment any initial benefit may recede.

Subjective indicators of welfare have been used to evaluate institutional structures or policies only in a minor number of studies. The results are relevant to the extent that they illustrate various effects of more 'extensive' institutions compared to the choice policies here analysed. Veenhoven, for example, found no positive effect on SWB of aggregate level of welfare spending (2000), neither in terms of level of SWB nor of

distribution or equity of SWB. Ouweneel confirmed Veenhoven's results (2002) by also using social spending as an indicator of size of welfare state. On the other hand, Radcliff (2001), in a far more elaborate study which focused on the political typologies of welfare states as constructed by Esping-Andersen (1990), found that a more expansive welfare state is better for SWB further confirmed by Radcliff (2005). The studies finding positive results incorporated more institutional factors – which suggest that institutions matter for SWB, at least in the aggregate setting. Finally, Bjornskov et al. have found positive effects of formal institutions in a large cross-section of countries (2008). The studies indicate that there is room for a SWB effect of welfare reform and that system wide change can significantly influence individual SWB.

1.4.3 Procedural utility

The concept of *procedural utility* connects the happiness literature (Easterlin 1974; Oswald 1997; Layard 2006; Stevenson 2008) within economics with the psychological literature on procedural justice (Tyler et al. 1997). Common to both literatures is the use of self-rated subjective indicators of welfare and the view of these measures as an opportunity to better understand the welfare effects of procedures and how they relate to welfare effects from outcomes. Frey et al. (2004) suggest that procedural utility differs from 'conventional' outcome utility due to its hedonic nature as 'utility is understood as well-being, pleasure and pain, positive and negative affect or life satisfaction' (2004: 379). According to Benz, procedural utility can be defined as "the well-being people gain from living and acting under institutionalized processes as they contribute to a positive sense of self, addressing

innate needs of autonomy, competence and relatedness." (Benz 2005: 7). Dolan et al. similarly argue:

> Where procedures generate no intrinsic value, but can be expressed solely in terms of their impact on outcomes, they have no direct importance for assessments of social welfare. In other situations, where procedures are valued either for their impact on non-consequential factors or are viewed as inherently valuable in themselves, then social welfare cannot be assessed without reference to procedure. Currently, there exists little evidence in this regard. (2007: 161)

The idea that the individual gains well-being from procedures is well established in psychological research (Tyler et al. 1997) and has been applied to situations such as market transactions, juridical procedures and bargaining.

Procedural utility is said to stem from three broad categories (Frey 2004); from 'institutionalised processes', from interpersonal relations and non-interpersonal actions that have intrinsic value for the individual. Firstly, procedural utility is derived from institutions, as people have preferences about *how* allocative and redistributive decisions are taken. People may appreciate the market for the freedom of individual choice while democracy is appreciated for the equality it provides in political decision-making. Utility is gained from living and acting under particular institutions over and above outcomes. Secondly, procedural utility stems from (non-interactive) individual behaviour, where people have an intrinsically motivated attitude towards the action or choice process they are involved in. Thirdly, procedural utility is generated though interaction between people, with satisfaction being derived from acting in a fair way or independently of the outcome (Frey 2004). The third category overlaps with what is primarily in the health economics literature referred to as *process utility* (or process quality) (Brouwer et al. 2005). This related concept is essentially focused on the utility derived from the practical process experienced in relation to an interaction with service providers and administration.

However, it is through the role of *institutionalised processes* in welfare analysis, understood here as 'the rules of the game' (North 1990), that the framework of procedural utility can provide new insights into contemporary questions in political economy. When procedural utility and the intrinsic value of choice is discussed in this thesis, it is done so in reference to the procedural utility gained from institutionalised processes – from choice as 'the rules of the game'. The importance of institutionalised processes – what procedural utility is intended to measure – is emphasised by North (1990) and Mantzavinos (2001) who argue that institutionalised processes are present in all activities of exchange and economic relationships in society. Mantzavinos further argues that the wealth of a society depends crucially on how institutions channel the economic process, and institutions are argued to provide the filter through which diverse settings of social coordination and social conflict are transformed into a workable social order (2001: 249).

The role of institutionalised processes in determining individual welfare has been increasingly acknowledged in recent years as economic research has come to recognise that utility is not only derived from outcomes but also from the way outcomes are achieved (Frey 2000; 2002; 2004; Benz 2005). Incorporating procedures into the welfare concept has implications for both our understanding and measurement of individual welfare; it informs not only how the study of welfare economics is approached but also the theoretical understanding of individual and societal utility (Hahn 1982; Sen and Williams 1982). The standard cost-benefit analysis used to assess welfare effects suffers from clear difficulties in valuing non-market and intangible goods as well as public goods that merely generate existence value (Portney 1994). These difficulties also have implications for the valuing of

individual welfare effects with experimental research demonstrating the importance of procedures to individual preferences – something which in turn points towards their importance in generating individual welfare (Dolan et al. 2007; Bjørnskov et al. 2008).

There is an extensive literature on what constitutes procedural justice but far less on understanding the utility that people gain from procedures (Tyler et al. 1997; Dolan et al. 2007). Procedural utility from an *institution* has been identified in relation to direct democracy in Switzerland (Frey et al. 2002) and similarly Benz and Frey found evidence of procedural utility from the autonomy of self-employment (2008). Feld (2002) investigated how the treatment of tax payers influences SWB. Process utility has also been empirically analysed in a number of fields. Webb (2009) finds that in the case of a company needing to enforce a pay cut during a recession, utility can be generated if the pay cut is communicated well and if staff feel included in the decision. Staff may agree to voluntary reductions in work hours or pay to avoid redundancies (Webb 2009).[22] Positive process utility is argued to make people more accepting of a negative outcome (Lind and Tyler 1988). Brouwer et al. (2005) identified process utility among informal caregivers. In health economics, process utility is comparable conceptually to 'process quality' capturing *how* services are delivered: the responsiveness of hospital staff, the waiting times and whether the users felt that they were treated with respect and consideration (Le Grand 2007a).

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[22] In psychology this sits under the 'self-determination theory', which identifies autonomy, competence and relatedness as essential needs. This displays the individual's wish to control the environment, to organise one's own actions and be treated as a member of social groups (Ryan and Deci 2000).

1.5 Methodology and data

This thesis combines a literature review spanning across disciplines (economics, social policy, political economy and sociology) with an analysis of institutional evidence of reform trajectories and institutional change in European countries. The thesis further draws on evidence from the quantitative analysis of well-established socio-economic surveys, including national survey data from the British Household Survey (BHPS) and the German Socio-Economic Panel Survey (GSOEP), and comparative European survey data from the Eurobarometer (72.2).[23] The value of using these surveys lies in their longitudinal structure and the potential to investigate policy changes which took place as long as 20 years ago. Each survey provides a broad variety of household and individual characteristics such as income, employment, education, health and family circumstances. They also offer opportunities to identify individuals who have used services subject to choice (on which the identification strategy is based). The data is presented in each of the chapters and details of variables and sample sizes are available in associated appendices.

As discussed in chapters two and three, choice plays an important role in European health and LTC systems. Although various literatures offer evidence on the welfare effects of this qualitative change in the way services are organised and provided, they rarely integrate the benefits of (improved) outcomes with those of the intrinsic value of choice. However, it is well acknowledged that choice is likely to provide dual

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[23] The British Household Panel Survey (BHPS) were supplied by the ESRC Data Archive, the GSOEP by DIW Berlin and Eurobarometer surveys All Eurobarometer data files are stored at the GESIS - Leibniz Institute for the Social Sciences (Dept. Data Archive for the Social Sciences), available through the CESSDA Database (Council of European Social Science Data Archives). No sampling weights are used in this thesis, following Pfeffermann (1993).

benefits, even though this has to date been difficult to measure empirically. This gives rise to the thesis's central research question:

How does institutional change of consumer choice affect individual welfare – from changing outcomes and institutionalised procedures – and what are the equity implications?

Three main questions arise from this central research question. The following section briefly outlines these questions, how they address gaps in the literature, how they fit within the conceptual framework and the main methods, findings and contributions to the literature (an overview of these research questions is found in Appendix 1). Separate introductions, backgrounds, empirical strategies, results, discussions and conclusions are presented in each of the three papers that comprise the thesis (hereafter called chapters two, three and four). The first paper estimates the effects of competition as well as a larger feasible choice set in health care in the UK. The second paper focuses exclusively on the effects of choice and various choice constraints in the case of the German LTC provision. The first two papers contribute to our understanding of the welfare effects of choice and competition and also their consequent equity implications. Paper three approaches the equity question from a different perspective than the two previous papers. This paper investigates social class specific individual preferences for choice rather than welfare effects directly. It further attempts to disentangle the system wide changes brought about by choice as a component of welfare reform in NHS type countries.

The cases, health and LTC, are contrasting yet ultimately interlinked; where LTC essentially forms a 'spring-off' system from the regular health system and relieves some of the costs in the health care sector (such as bed-blocking in hospitals). Health

care systems were established early (the German insurance bill under Bismarck already in 1883) and are traditionally universal and politically highly salient. In contrast, LTC is a 'new' area of public policy (Sweden being one of the earliest countries where LTC was explicitly separated from health care in the 1950s (Fukushima et al. 2010)), and its expansion over the past 20 years has been pushed both by socio-economic changes and a strongly growing demand due to the ageing population over the past decades as even more so in the years to come.[24] Furthermore, despite general pressures to contain welfare spending, long-term care is one of only a few policy areas that are currently expanding. Health care spending meanwhile is being constrained in many countries (Lundsgaard 2005; Comas-Herrera et al. 2010b).

The policy areas vary by technological intensity; that is, in terms of the level of training and skills required from care providers. LTC can be provided by family members (informally) whereas health care is generally only provided in a professional setting. Likewise, the technological intensity or knowledge intensity varies considerably. Health care is denoted by constrained information availability, potentially imposing transaction costs and little opportunity for reversing a choice in case of regret. LTC on the other hand is denoted by accessible and privately held information, relatively low transaction costs and opportunity to make alterations, minor or major, to the choice in case of regret.

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[24] For some countries the increase will be more gradual and reach relatively lower levels. These include Australia, Iceland, Ireland, Luxembourg, Norway and Sweden, where the share of the oldest old is expected to increase by less than 5 percentage points between 2010 and 2050, and reach levels under 9%.

Paper 1: Choice and competition in health care[25]

Chapter two examines the choice of hospital reform introduced to the English National Health Service (NHS) in 2006. Choice became available to all patients referred for elective surgery by a GP, who, supported by the NHS Choices website, advised on the available options. The reforms focused on increasing patient choice and hospital competition and were accompanied by significant institutional changes to support the development of a market for hospital care for NHS-funded patients.

This type of choice reform, with its emphasis on competition induced benefits, should result in an improvement of individual SWB which is equitably distributed. Studies examining the impact of competition are finding consistently strong quality effects (Cooper et al. 2011; Gravelle et al. 2012). No studies have systematically considered individual well-being as an outcome variable, and the analysis of equity effects is constrained to small-scale studies focused on access rather than outcome measures (Dixon and Le Grand 2006).

The paper contributes to the overall thesis through its analysis of a case that is denoted by constrained information availability and noticeable transaction costs. Choice of hospital for elective care is knowledge intensive and has a low rate of repetition. This is a case where choice is less likely to generate individual utility from the procedure of choosing, while earlier findings indicate an OU effect from quality improvements. The framework poses to the following research questions:

- Does choice and competition in health care improve individual well-being?

- Are benefits equitably distributed according to socio-economic status?

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[25] Chapters two, three and four are presented as independent papers with individual literature reviews and sections outlining method and data.

- Does choice and competition improve patient satisfaction with health?

The chapter uses a set of difference-in-difference (DiD) econometric models with treatment and control groups defined by the intensity of local competition, measured through a Herfindahl–Hirschman Index (HHI) of market concentration. The main sample consists of individuals who were in hospital for elective surgery in the previous year. To control for area effects a second DiD model comparing patients to non-patients identifies any difference in local area trends in SWB. Finally, sub-groups, defined by income and education level to broadly capture the 'middle class', are used to account for any differences in the SWB effects which could inform an equity assessment. A set of robustness checks, including alternative dependent variables and lags in implementation, are used to establish the validity of the analysis.

The results suggest an overall positive SWB effect, particularly among the 'middle class', which has been operationalized as groups with higher (than median) income and education. The effects cannot be explained by area effects or implementation rates, patient age or general health status. There is no evidence of procedural utility but rather evidence of improved objective outcomes through a positive effect on health status (measured as satisfaction with health).

Paper 2: Choice in long-term care provision

The third chapter estimates the welfare effects of user choice in the German LTC system introduced in 1994 (internationally one of the most extensive LTC choice schemes). The introduction of long-term care insurance (LTCI) meant that individuals, who are covered by the public system and eligible, can choose to receive either a cash benefit or professional care services. Care homes are a third option

although access is limited by need and local regulation. Quantitative studies of the well-being effects of policy changes in LTC are sparse; even rarer are ones which disentangle the effects of choice and the role of non-redundant options.

Paper 2 contributes to the overall thesis through its analysis of a case that is denoted by accessible and privately held information, relatively low transaction costs and the possibility to repeat the choice in case of regret (as the choice of care structure is revised yearly or more frequently if needed). The case is likely to generate individual utility and the potential role for procedural utility is likely to be high. The framework leads to the following research questions:

- Does choice in long-term care improve individual well-being?
    o Are benefits equitably distributed according to socio-economic status?
    o Are benefits equitably distributed according to the availability of meaningful options (such as informal carers)?

The chapter uses survey data from the German Socio-Economic Panel and estimates a set of difference-in-difference models. The DiD approach allows for the identification of SWB effects of the LTCI while controlling for the availability of informal care providers, regional diversity and competition. Equity implications are analysed through sub-sample analysis. Robustness checks including alternative time periods and alternative dependent variables confirm the reliability of the DiD models. The DiD model, which accounts for the effect of the new LTC system, is complemented by a DDD model in which the system effect is controlled for. This leaves the effect of choice as a characteristic of the LTCI system.

The results show a robust and strong welfare effect following the introduction of the LTC based system and its choice component (robust to various samples and identification strategies). The welfare effects are however stronger among individuals with higher income and education – a finding which suggests that resources facilitate the benefits gained from choice. The inequitable SWB effects are generally linked to instrumental rather than procedural benefits. Procedural benefits, on the other hand, are stronger among low income groups and are linked to the availability of informal carers.

Paper 3: Preferences for consumer choice and privatisation

The fourth chapter approaches the equity question from a different perspective – argued to be instrumental for the hypothesised benefits. The chapter examines the proposition by Blomqvist (2004) that the 'well-off' (the middle class as conceptualised throughout) both benefits disproportionately from, and hold special preferences for, choice and privatisation in public services. The chapter draws on theoretical arguments which view the middle class as a key constituency for welfare reform (Goodin and Le Grand 1987; Loayza et al. 2012) with distinct preferences for consumer choice (Fotaki 2009). The importance of the question is supported by empirical evidence of SWB effects of choice among the middle class (as discussed in chapters 2 and 3). The aim of the chapter is to identify preferences for choice in health care among the middle class and further to investigate the relation with instrumental benefits, or outcomes, of choice.

The chapter contributes to the analysis of equity effects of choice and to the identification of procedural benefits by contrasting preferences for choice (in and of

itself) with instrumental system characteristics. Based on the conceptual framework the following research questions are pursued:

- Is there a middle class preference for choice in NHS type health care systems?

    o Are middle class preferences linked to choice in and of itself or is there a role for outcomes produced by choice schemes?

    o Are there complementarities in the provision systems under consumer choice compared to under privatised financing?

The chapter reviews health care systems in three NHS countries – England, Sweden and Ireland – and focuses on identifying system characteristics and reform trajectories. The quantitative analysis of survey data (Eurobarometer 72.2) uses regression analysis of preferences for choice and other criteria for a quality health care system. The chapter finds that the middle class have a preference in favour of choice compared to a range of criteria for a quality health care system. The middle class also exhibits preferences for quick access. This can be interpreted in terms of a dual nature of preferences for choice; firstly, for choice in and of itself (the procedural) and secondly, for an outcome linked to choice (quick access). The preference sets are similar across the three countries – highlighting that the ways in which choice is accessed; through private insurance or through choice of provider in a public system – does not seem to influence the preferences of the middle class as a key constituency for choice policies.

Chapter 2   Competition

Choice and competition in health care: estimating individual subjective well-being effects of the 2006 English NHS reforms[26]

Abstract

Choice and competition are popular reform strategies in European health care systems. Although much debated, the reforms are argued to bring greater efficiency, better quality and increased equity. This chapter uses individual subjective well-being (SWB) to assess the individual welfare effects of the 2006 'choice of hospital' reform in the English NHS. Market concentration indexes are used to measure not only geographical competition but also the size of the individual's feasible choice set. A set of difference-in-difference models reveals positive SWB effects of higher competition on a sample of individuals with recent experience of in-patient hospital stays. Sub-sample analysis demonstrates that the positive effect is located among the relatively well-off in terms of income and education. The results confirm the quality improvements previously identified in the literature but however suggest that the benefits of choice are not equitably distributed.

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[26] This chapter is based upon a paper published in CESifo Economic Studies: "Subjective Well-being as a Measure of Welfare and Equity: The Case of Choice Policies in Health Care." Zigante, V. (2011).

2.1 Introduction

Choice policies, often coupled with quasi-market and managed competition, have become increasingly popular reform strategies across diverse European models of health care provision and financing. In the English National Health Service (NHS), choice and competition have been incrementally introduced since the early 1990s, some would argue even earlier (Greener 2009), and have over the years been heatedly debated. In particular, the potential realisations of expected welfare effects from efficiency and quality improvements, as well as the equitability of the benefits and utilisation of choice, have been topics of controversy (Dixon et al. 2003; Propper et al. 2006; Le Grand 2007a). This chapter contributes to the debate by providing an alternative approach to analysing individual welfare effects of choice and competition in the English NHS through empirical measures of subjective well-being (SWB)[27]. This approach allows for the dual assessment of welfare effects; from improved outcomes following quality improvements brought about by increased competition, as argued in Cooper et al. (2011), and from the procedure or the intrinsic value attached to having a choice, as argued in Frey and Stutzer (2000). The approach also allows for the analysis of any potential gradient of SWB effects depending on socio-economic group which offers a contribution to the equity debate).

An expansive literature in economics promotes choice and competition measures in health care as efficiency and quality enhancing. Choice is also often referred to as *intrinsically* valuable (Iyengar and Lepper 1999). Current evidence on efficiency and

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[27] Well-being research is receiving increasing popular recognition in the UK. In November 2010 the UK Prime Minister David Cameron launched a new government survey to measure well-being aimed at increased recognition and insights into the formation of well-being and ensuing policy implications (see http://www.ons.gov.uk/ons/guide-method/user-guidance/well-being/index.html).

quality effects is mainly based on technical indicators such as mortality or morbidity (see Cooper et al. 2011) and these provide important insights into the possible changes in health outcomes resulting from choice and competition policies. The use of SWB provides an opportunity for a broader assessment of welfare effects, based on the understanding that human welfare does not only depend on outcomes (here health outcomes), but also on perceptions of processes (how the individuals' interaction with the health care system is perceived) and procedural values (intrinsic value attached to the opportunity to choose). This paper takes as its point of departure the argument that SWB incorporates welfare effects of improved *outcomes* through increased quality (and to some extent efficiency) as well as the procedural utility (Frey and Stutzer 2004) gained from the procedure of choosing and any *intrinsic* values of choice (as discussed in Dowding and John 2009). The use of SWB as a measure of welfare further provides a novel approach to assessing the equitability of choice policies. The current literature on equity employs various indicators such as take-up rates (Burge et al. 2004) and waiting times (Dawson et al. 2004).[28]

The chapter is guided by the following research questions:

- Does choice and competition in health care improve individual well-being?

- Are benefits equitably distributed according to socio-economic status?

- Does choice and competition improve patient satisfaction with health?

The chapter contributes to the overall framework of the thesis by focusing on a case that is characterised by high *information* requirements and potentially noticeable *transaction costs*. The amount of information needed to make an informed choice of hospital can be considerable and difficult to process and understand. The quality of

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[28] For an overview see Williams and Rossiter (2004).

information has at times been found to be unreliable and unhelpful for patients (Trigg 2013). Transaction costs may stem from the process of choosing (time spent searching and understanding information on options) and from taking up choices far from home (transport costs and longer time spent away from work). The character of the choice has implications not only for the expected benefits but also for the equitability, if capacity to cope with the information requirements and transaction costs are inequitably distributed in the population.

The character of the choice situation further constrains the predicted procedural utility (more specifically process utility) gains from the reform. According to Frey et al. procedural utility can stem from both a process which the individual accepts as fair and from the intrinsic value of choice as an institution (2004). The former is comparable conceptually to 'process quality' which captures *how* services are delivered: waiting times, the responsiveness of hospital staff and whether the users felt they were treated with respect and consideration (Le Grand 2007a).[29] The present analysis is based on the assumption that choice may have both effects – captured by the primary dependent variable, SWB. The data does not fully accommodate a separation of the types of procedural utility nor does it provide a definitive distinction from outcome effects. This limitation of the present analysis; is alleviated by the incorporation of health satisfaction as the second dependent variable. Health satisfaction has been found to be closely linked to actual health status (Mossey and Shapiro 1982; Idler and Benyamini 1997) and hence provides an evidence of outcome effects.

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[29] 'Outcome quality' on the other hand captures whether the health services improved health outcomes and readmissions were low and safety of services high (Saltman 1994; Rico et al. 2003; Donnelly 2010).

Choice and competition policies in health care are common across Europe, and the UK case was selected not only due to the richness of empirical data, particularly the availability of Cooper et al's. competition index (2011), but also because the UK case is often presented as a role model for other European countries in reforming health care policy (Cabiedes and Guilleen 2001:1215). The UK can be seen as a 'most likely case' − a relatively consumerist society yet with a strong consumer influence on providers (Environics International 2002). In this setting we would consider consumerist relations between the state and the public to be beneficial. However, the NHS undoubtedly has a special role in the UK welfare state and society which renders the following analysis particularly salient. Furthermore, the UK is a mature health care system with a recent history of competition reforms which may have resulted in both providers and patients becoming accustomed to the associated institutional structure. As discussed below, the UK exemplifies a trend in health system development that is common among Beveridgean[30] type health care systems, including the Scandinavian countries and Spain, where user choice has been continuously extended since the early 1990s.

The chapter proceeds with an outline of the English NHS and European health care systems before moving onto a discussion of existing evidence of competition effects and equity implications. The empirical analysis, using the BHPS, estimates the effects of increased competition on individual subjective well-being (SWB) in a set of difference-in-difference models. Section five concludes with a discussion of the results and implications for further research.

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[30] The term Beveridgean health care system is used widely and includes what is also often referred to as National Health Service (NHS) type system. Denoting features are tax funding and centralised provision, often free (or subject to a small fee) at the point of use while access to specialists is limited through (GP) gatekeeping (Wendt 2009). The term 'NHS system' and 'Beveridgean system' are used interchangeably throughout this thesis.

2.2 Background

In this section I discuss a range of issues related to the economic evaluation of choice and competition in health care. I also clarify why we can expect choice and competition to affect individual welfare and how these questions have been approached in the existing literature on choice in public services. Finally, the debate on the equity implications of choice in health care is highlighted.

2.2.1 The English National Health Service

> We are backing investment with reform around four key principles: First, high national standards and full accountability. Second, devolution to the front-line to encourage diversity and local creativity. Third, flexibility of employment so that staff are better able to deliver modern public services. Fourth, the promotion of alternative providers and greater choice. All four principles have one goal - to put the consumer first. We are making the public services user-led; not producer or bureaucracy led, allowing far greater freedom and incentives for services to develop as users want (Blair 2001).

The focus on choice and consumerism in the UK is evident from the speech by former Prime Minister Tony Blair in 2001 and it was under New Labour that the choice-competition nexus became truly prominent in British[31] public services. The impetus for the trend can however be linked back to the Thatcher governments (1979-1990) and incremental growth in the marketization of the health care sector during the succeeding Conservative governments in the 1990s (Greener 2003). The most notable feature of the internal market was that it separated the providers of health care from the purchasers of health care (Propper et al. 2004). Newly formed local bodies would consider the needs of their patient population and establish annual contracts to purchase a fixed number of surgical interventions from local hospitals (Le Grand et al. 1999). The hope was that these new purchasers would purchase wisely and maximize

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[31] As a general rule, this paper considers the developments in the *English* NHS. Due to the devolved nature of governance in the countries of the United Kingdom noticeable differences between the health care systems has arisen (Donnelly 2010).

quality for the lowest price, since both the price and quality of the services purchased was variable.

The internal market remained in operation until 1997, when the newly elected Labour party dismantled most elements of it, but retained the separation between purchasers and providers. From January 2006 (see figure 2) patients requiring a referral to a specialist were to be offered a choice of four or five providers and since April 2008 patients in England being referred to a non-urgent hospital appointment by their GP can choose to be treated at any hospital listed in a national directory of services, including NHS acute trusts, foundation trusts and independent sector providers – so-called 'free choice' of provider. In 2009 the NHS Constitution made this a right for patients (Department of Health 2009).[32]

Figure 2 – Timeline for the market-based reforms in the English NHS (2001-2006)
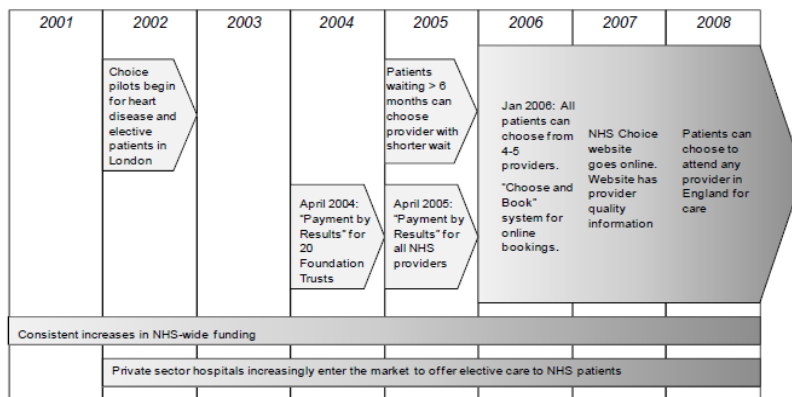
Source: Cooper et al. (2010)

Along with choice of secondary care provider the government also introduced a new information system that enabled paperless referrals and appointment bookings joint with making available information on quality to help patients make more informed choices. The paperless referral and appointment system, known as 'Choose and

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[32] From 2003-2005, certain patients in London and Manchester who experienced long waiting times were allowed to choose to receive care at alternative facilities which had shorter waiting times (Coulter et al. 2005).

Book', allowed patients to book hospital appointments online with their general practitioner (GP) or, if they preferred, by telephone (Department of health 2007). The booking interface gives the person booking the appointment the ability to search for hospitals based on geographic distance. It also allows them to see estimates of each hospital's waiting times based on the last 20 appointments at each hospital. In 2007 the government also created a website designed to provide additional quality information to inform patients' choices. The hope was that providing additional quality information would create an environment where hospitals competed on quality and not price. The website currently includes information collected by the national hospital accreditation bodies, including risk-adjusted mortality rates and detailed information on waiting times, infection rates and hospital activity rates for particular procedures (Department of Health 2012). The website also includes patient comments and more detailed information on hospital accessibility, general visiting hours and parking arrangements.

Both the reforms and the NHS as an institution have enjoyed broad and increasing public support during the process of implementation of the internal market and the choice at referral policy. Data from the British Social Attitudes Survey in table 1 shows that individuals report increasing satisfaction with the NHS overall: rising from 44% being 'very' or 'quite' satisfied in 2004 to 51% in 2007. Moreover, the view on how much choice should be given to NHS patients has increased by 13% in the same period (when considering the categories 'great deal' and 'quite a lot'). Overall, there

is strong support with just over 75% of respondents stating that NHS patients should have 'quite a lot' of choice or more.[33]

Table 1 – Satisfaction with the NHS and demand for choice, percentages

How satisfied are you with NHS?	2004	2007
Very satisfied	7.72	10.88
Quite satisfied	36.67	40.68
Neither satisfied nor dissatisfied	19.04	18.39
Quite dissatisfied	22.51	20.21
Very dissatisfied	13.75	9.32
Don't know	0.28	0.52
NHS patient should have hospital choice?	**2004**	**2007**
A great deal	21.82	30.73
Quite a lot	41.11	45.29
A little	27.23	19.36
None at all	8.85	3.96
Don't know	0.94	0.65
Nr of observations		4124

Source: British Social Attitudes survey 2004 and 2007.

Even though respondents may be unlikely to base their answer on a balanced analysis of the relative costs and benefits of offering choice, it is clear that very few feel that no choice at all is the optimal situation. The upwards shift between 2004 and 2007 indicates increased support for choice, which is to some extent expected following greater public awareness that choice may be a desirable situation.[34]

2.2.2 Choice and competition in European health care systems[35]

The case of the English NHS represents a development common to most, and in a broader sense, all, Western European countries. Moreover, free competition and choice are broadly promoted by the EU. For example, the 'Council Conclusions on

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[33] The simple structure of the BSA survey questions in table 1 constrains the interpretation. The questions are asked in isolation; hence no implicit or explicit trade-off is incorporated in the answers. This exemplifies a basic form of eliciting preferences which can be critiqued for ignoring systematic differences in individual trade-offs which may bias the results (Dolan et al. 2003). As mentioned the increase found between 2004 and 2007 can be explained by other factors than a change in preferences. The implications of this type of measurements are further discussed in chapter 4.

[34] Also this reasoning is followed up in chapter 4 where the 'self-perpetuating' nature of choice policies (Blomqvist 2004), essentially choice feeding demand for more choice, is further discussed.

[35] This section draws on Costa-Font and Zigante (2013).

Common values and principles in European Union Health Systems' (European Union 2006) highlighted the aim to increase patient participation and choice as well as competition in health care, with particular emphasis on the option of receiving health care in another member state, known as cross-border mobility. In practice, choice and competition are widespread features of European health care systems, albeit with clearly dispersed reform trajectories depending on the underlying model of health care. The UK, along with the Scandinavian countries, Spain, Italy and Ireland, all of which have tax funded health care systems, have more recently introduced choice, whereas the Bismarckian (or social insurance (SI) funded) countries, for example Germany, France and the Netherlands, have a long tradition of choice and have recently introduced soft gatekeeping mechanisms for cost-containment reasons (Or et al. 2010).

Table 2 illustrates the different reform trajectories. The Bismarckian countries are denoted by higher expenditure and higher reliance on private insurance. This has sparked the need for cost containment, alongside heavy fragmentation and a traditional emphasis on insurance choice. In contrast, a single payer model financed by national taxation denotes the Beveridgean (or tax and integrated care model) countries with a National Health Service consisting of generally publicly financed hospitals, often also publicly owned. Access to hospital specialists is typically by referral via a general practitioner (GP) and limited choice has been offered to patients while relying on GP's as gatekeepers, guides and coordinators of health care (Saltman 1994; Rico et al. 2003). Recently there has been a clear emphasis on increasing choice of hospital for elective care and the opportunities for choice more generally in the Beveridge type systems (Bevan and Van De Ven 2010). In the Bismarck model

countries the reform trajectory is moving in the opposite direction, with free choice being constricted as a result of cost-containment pressures and the focus shifted to introducing competition in financing for the same reason (Costa-Font and Zigante 2012). This comparative outlook illustrates why choice and competition in NHS type systems is promising as a way of increasing user involvement without increasing costs.

As the discussion above illustrates, the EU choice agenda is currently very topical in the Beveridge model countries, which are continuously expanding user choice and introducing managed competition. Analysing choice policy in the UK is particularly valuable in terms of lessons for other countries as it is argued to be a role model for Southern European countries such as Italy and Spain when debating health care reform (Cabiedes and Guilleen 2001). The choice of the UK is an important one as Cabiedes and Guillen point out. The UK has become a role model partly due to the policy-making style, including producing white papers setting out the direction of policy and the overall design. This approach facilitates policy diffusion, which is further facilitated by the English language having become a 'lingua franca'. It is further argued that Southern European countries in particular tend to look to more advanced EU member states for inspiration rather than other, more similar, Southern European countries (2001). Beyond the status of the UK as a possible source of policy learning, the structure of the health care system is similar to that of the other Beveridgean health systems, which implies that the results may be of relevance also in those countries.

Table 2 – Overview of health care systems in European countries

	Reform trajectory	Expenditure % of GDP	Public expenditure	Private expenditure	Private insurance	% satisfied with national health care system
Bismarckian type health care systems(SHI)						
Belgium	Traditional choice. Introduced competition in 1990s	11.1	66.8	25.3	4.3	88
Germany	Traditional choice. Introduced competition in 1990s	10.5	76.8	23.2	9.2	54
France	Traditional choice. Little competition	11.2	77.8	22.2	13.2	83
The Netherlands	Traditional choice. 2006 competition in financing	9.9	75.3	16.5	17.7	77
Beveridgean type health care systems(NHS)						
UK	Choice introduced in 1990s. Choice of hospital 2006	8.7	82.6	17.4	1.4	73
Denmark	Choice in 1990s. Choice of hospital 1992.	9.7	84.5	15.5	1.6	77
Spain	Choice of GP, pilot areas with hospital choice (Madrid 2006)	9.0	72.5	27.5	5.9	77
Sweden	Choice in 1990s. Choice of hospital 1991.	9.4	81.9	18.1	0.1	79

All data from 2008, except for Denmark from 2007. Unless otherwise stated, expenditure is as % of total expenditure on health (THE).
Sources: OECD Health Data 2010 Version: October 2010, and Gallup World Poll (% satisfied with national health care system).

2.2.3 Competition in health care – theory and evidence

Traditional microeconomic theory predicts that competition will lead to more improved welfare outcomes. The type and extent of choice and competition, both on the supply and demand side of health care provision[36], determines the expected welfare effects (Barr 1993). Generally choice policies are argued to exert an influence on the way services are run, primarily through incentives for improved performance, crucial for which is the presence of a complementing structure of financial incentives[37], i.e. money following the patients' choices, inducing some type of competition (Propper et al. 2008).

Efficiency and cost-containment are expected benefits of competition (Gerdtham et al. 1999; Cooper et al. 2010) yet have been historically debated (Maynard 1994). *Efficiency* effects of choice and competition are often operationalised as patients' average length of stay (LOS) due to the inadequacy of cost data (Jha et al. 2007; Shekelle et al. 2008). Interpreted as is conventional in the literature, improved efficiency is not likely to directly affect individual well-being. However, following the argument of Krutilla, the overall efficiency of the system may generate indirect effects on welfare, through the *existence value* of a well-functioning health care system (2004). Individuals perceiving that the health system is cost-efficient, i.e. makes the most of the taxpayers money, can possibly draw welfare/benefit in terms of well-being from this conviction. Apart from

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[36] This paper is exclusively focused on the provision of health care. In countries such as Germany and the Netherlands choice has been introduced in financing, but this is less relevant for the UK where the only alternative is private insurance which only covers 1.4% of health expenditure.
[37] We can distinguish structures along two dimensions; whom the agent making the choice is; a public authority mediating between patients and providers or the patient individually choosing between a range or providers (private and public or only public), and whom the entities allowed to compete are; only public or private and public providers.

the indirect effects on welfare, efficiency arguments are less important for individual welfare.

Quality improvements prompted by choice and competition policies on the other hand are argued to be brought about by the opportunity the policy gives to patients to 'exit' rather than 'voice' feedback to providers (Hirschman 1970). The traditional idea that patients would influence services through complaints, either to the health care provider or responsible officials, thereby relying on patient 'voice' alone, may not be enough to raise quality. 'Voice' in itself could also be a source of inequity between more or less forceful and communicative individuals (further discussed below). Instead, the opportunity to 'exit' a poor service is thought to put pressure on providers to raise their performance, as well as be equally available across social groups (Le Grand 1984).

Quality improvements have been found to depend on the payments structure in a quasi-market for health care provision. In the English NHS, the system has maintained a provider-purchaser split as part of the internal market reforms of the 1990s, in which initially buyers negotiated both price and quality of health care providers (Le Grand et al. 1999). The current system is based on centrally set prices for each treatment type, based on the average cost of such treatment across all hospitals (Cooper et al. 2011). The idea is that providers will compete on quality rather than price, which is facilitated by an increased the availability of quality information (Department of Health 2012). Evidence for the US accordingly indicates that it matters whether prices are fixed or variable, and hence, whether providers are competing only on quality or also on price. US evidence indicates better outcomes with fixed prices (Shen 2003), and that with

variable prices there are risks of negative impacts on quality, unless coupled with the appropriate reimbursement rates (Gowrisankaran and Town 2003).

The latest wave of reforms (in the 2000s) was envisioned to increase the efficiency and quality of the health care system by introducing schemes that clearly emphasised patient choice combined with centrally set prices. The evidence from this phase of reform is generally positive: Bloom et al. found that hospital competition fostered higher management quality, and that higher management quality was associated with lower mortality from AMI[38] (2010). Cooper et al. found that competition increased hospital efficiency without compromising patient outcomes (2010). Cooper et al. (2011) also investigated quality effects using AMI mortality as a quality indicator and found that mortality fell more quickly (i.e. quality improved) for patients living in more competitive markets after the introduction of hospital competition in the English NHS in 2006. The results suggest that hospital competition in markets with fixed prices can lead to improvements in clinical quality. Gaynor et al. (2010) in a similar approach to Cooper et al. moved beyond AMI mortality to a broader concept of quality. They found that patients in hospitals in more competitive markets had lower all-cause mortality and shorter length of stay. The hospitals still maintained overall expenditure. Similar results were found (however estimated on cross-sectional data only identifying a correlation) by Gravelle et al. (2012) on a selection of quality indicators. As a result, we expect that after 2005, clinical quality should improve more in spatial areas with more competitive hospital markets in England.

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[38] Acute myocardial infarction, AMI mortality is a conventionally used indicator. It is useful as it is easily clinically identifiable and is not subject to gaming like many elective surgery procedures. For patients with AMI there is a clear link between appropriate treatment and clinical outcomes (Jha et al. 2007) as discussed in Cooper et al. (2011).

Improvements to choice and competition of the type found in the English NHS partly rely on patients actively choosing providers according to quality. It signals to poorly performing providers to improve in order to maintain business. However, Dixon et al. found no evidence that the choice policy was resulting in significant changes for the patient or to patient's pathways, which suggests that it was not driving improvements in quality in the way that was expected (2010). Data supporting Dixon's (2008) findings from the National Patient Choice Survey in figure 3 shows what factors patients mention as important when choosing a hospital.

Figure 3 – Factors reported as important when choosing a hospital for elective surgery (2007)
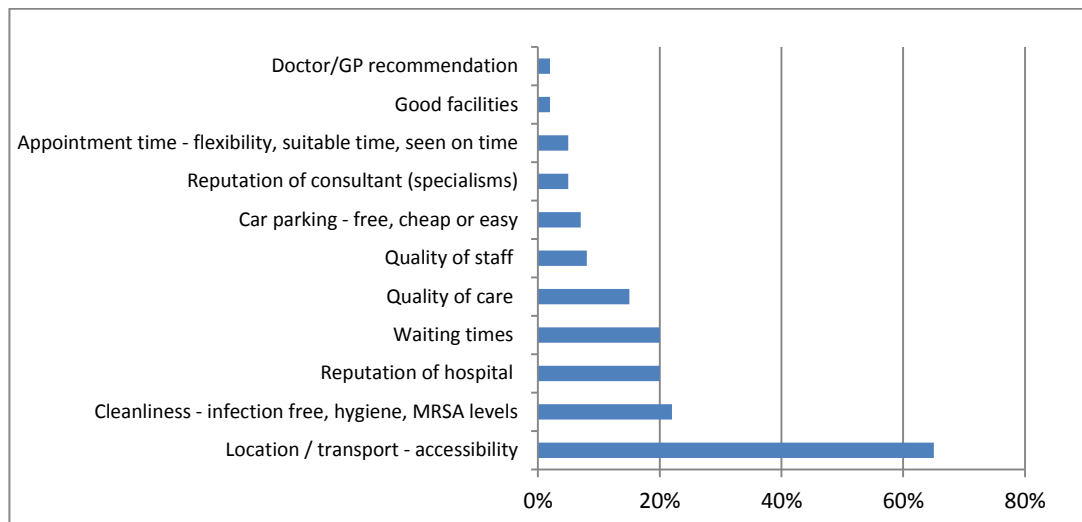
Source: National Patient Choice Survey 2007. Question 5: Which three factors, if any, would be most important to you when choosing a hospital?

Interestingly, and to a certain extent against the assumptions of the literature on choice, the highest rated consideration is the location/transport and accessibility of the hospital. 65% of individuals mentioned location and transport possibilities as a consideration when choosing a hospital. Reputation of hospital is mentioned as a consideration by 20% of patients in the survey, but whether this implies an effect on hospitals is questionable. However, it has been argued that this does not prohibit positive effects of quality. Two papers surveying mainly the US literature on quality ratings and outcomes (Marshall et al. 2000; Shekelle et al. 2008) found studies showing that hospitals are very

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responsive to ratings (in the US) but that the driver is not necessarily that the patients care about rankings. Hospitals reported that concern for public image was a key motivator for their quality improvement efforts (Hibbard et al. 2005). Further, hospitals in competitive markets were twice as likely to implement changes as those with monopolies. Longo et al. found in a quasi-experimental study of hospital behaviour in Missouri, US, that several clinical outcome indicators improved after publication (1997). Marshall et al. and Shekelle et al. (2000; 2008) emphasise the scant empirical literature on using publicly-reported performance data to improve health outcomes. Particularly limited is the assessment of the possibilities for public quality data to improving patient safety and patient-centeredness.

As the literature suggests and in line with recent evidence it appears that quality improving signals are influencing hospitals' behaviour for the better. This means we can expect quality improvements despite the limited evidence of consumer activity in choosing hospitals. More relevant for the empirical analysis of this chapter, however, is that individuals seem to resort to using heuristics to reach a decision without bearing the strain of dealing with 'actual information' in relation to their choice of hospital, as predicted in Longo et al. (1997) and Marmot and Wilkinson (2006). Furthermore, studies in health care conclude that there is a need to be selective with information in order to reduce the burden on consumers and to support them in making better decisions (Finucane et al. 2002; Peters et al. 2007). In addition, age-related changes in cognitive ability and decision-making processes reinforce the need to plan the content and quantity of information with care (Mata et al. 2007).

2.2.4 Equity implications

Choice has been promoted by governments and academics as something that is inherently (more) equitable. To have a choice, regardless of the individual's social status or economic wealth, can be seen as a basic criterion for equity (Le Grand 1991). The following speech by John Reid, former Health Secretary of the Labour government highlights the centrality of equity:

> These choices will be there for everybody… not just for a few who know their way around the system. Not just for those who know someone 'in the loop' – but for everybody with every referral. That's why our approach to increasing choice and increasing equity go hand in hand. We can only improve equity by equalising as far as possible the information and capacity to choose (Reid 2003).

The idea put forward by the Labour government was that in the system where the 'money follows the patient', patients are enabled to exit and switch providers, and, as a result, incentives for providers to treat all patients well, irrespective of a patient's ability to negotiate with their provider, voice their displeasure with their care, or somehow manage to game the health care system (Department of Health 2003). Further, it was argued that that in systems without formalised choice mechanisms, choice still exists for the middle and upper classes that have the ability to negotiate with their providers for better care or pay to enter the private sector. Creating formalized choice mechanisms would give every patient the ability to choose irrespective of their socioeconomic status (Cooper and Le Grand 2008).

However, extending patient choice may leave unchanged inequity due to differences in health beliefs (because choice does not affect these directly), due to unequal resources (because patients may have to travel further) and due to differences in capabilities such as 'voice' and communications (Dixon et al. 2003). Information availability and accessibility is a key concern for choice in health care overall but particularly for the

equity debate. Information is crucial for enabling patients to make choices based on quality but is constrained because health care is a highly individualised service and useful quality indicators are difficult to produce (Giuffrida et al. 1999). Information differentials between social groups may account for a considerable part of the differences in equity-indicators. There may however remain barriers for certain groups which threaten equity of access to care; 'voice' problems such as communication difficulties, language, literacy, assertiveness, articulation, self-confidence and ability to deal with professionals, cultural and health beliefs and behaviour, transport difficulties and travel distance, as well as the time and financial costs of travel, family or work commitments (Dixon et al. 2003; 2006). Flexibility and mobility is a key difference, which is enforced by the differing proportions of income spent, for example, on travelling costs (Appleby et al. 2003).

The operationalisation of equity is focused on indicators of socio-economic status which are informed by the key constraints of equity improvements as discussed in the choice literature. More specifically; income indicators are used to account for the ability to cope with transaction costs such as travel and the added costs of taking up choice of hospital while education differentials are incorporated to account for communication and information processing as key facilitators of beneficially choosing a hospital. Further, prior to the introduction of the broad choice in health care policies of the 2000s, income was a strong determinant of the availability of choice, with only the relatively wealthy in a position to choose private care (Propper 1993).[39] The choice policies have therefore been described as equitable since they extend choice to all income groups. This should in this case be evident in that lower income groups should gain at least the

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[39] Propper however also found that health believes (any concerns over health status) and captivity mattered for the take-up of private insurance among the wealthy (1993).

same as higher income groups, or, relatively more as we assume that higher income groups already had a degree of choice. Level of education, meanwhile, is argued to play an important role in the propensity to use and appreciate choice in health care as individuals with higher education are more likely to be IT literate, better able to grasp the presented choice set, more capable of making informed choices and more confident in their discussions with doctors (Dixon et al. 2003). Hence it is likely that individuals with a higher level of education will enjoy relatively more well-being from being offered a choice of hospital.

2.3 Empirical Strategy

The policy here used for the empirical assessment of welfare effects is the choice of hospital reform ('choice at referral') in the English NHS, introduced in 2006 (Greener 2003). The reforms focused on increasing patient choice and hospital competition and were accompanied by significant institutional changes to support a market for hospital care for NHS-funded patients. On January 1, 2006, every patient in England became eligible to choose their secondary care provider as well as where to receive surgical care.[40] In reality however, the choice faced by patients varies considerably depending on geographical location; number of options to choose from and the intensity of competition faced by providers. The hypothesis tested is that in more competitive markets, two processes are at play which should lead to an overall increase in SWB among patients: firstly, better quality resulting from providers' improvements; and secondly, a higher number of choices – more likely to satisfy patients' preferences (and

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[40] Excluded patient groups are those in need of emergency and urgent services, patients with cancer, maternity care and mental health services. The groups were both included and excluded from the below empirical analysis as even though they are not offered a choice, they are likely to benefit from overall quality improvements brought about by competition.

potentially generate procedural utility from the institution of choice). A set of difference-in-difference models capture the effect of competition and choice in life satisfaction and health satisfaction.

2.3.1 Data and Method

The main source of data comes from individual questionnaires collected through the British Household Panel Survey (BHPS)[41] for the years 2002 to 2008. As the 'choice of hospital' policy was introduced on January 1st 2006, the pre-policy data is garnered from 2002 to 2005 and the post-policy data is from 2007 and 2008. The main sample consists of individuals who were in hospital (funded by the NHS) for elective surgery in the previous year. BHPS fieldwork begins on the 1st of September each year, ensuring that all individuals included in the key sample in the post-policy period had been in the hospital *after* the policy had been implemented (Taylor et al. 2010). The use of individuals who were hospital in-patients in the previous year maximises the probability that we will in fact see an effect on SWB. It has been shown that it is in the first few years after an adverse, or favourable, event that individuals report a change in SWB which then tends to revert to close to a 'set-point' level of SWB for the individual (Lucas 2004; Clark 2008). The character of the BHPS data focuses on individuals who experienced a recent in-patient hospital stay which means that each year of data includes a new sample of individuals (repeated cross-sections). As follows time invariant individual characteristics, essentially personality, are not incorporated into the models. The following analysis incorporates both cross-sectional models, difference-in-

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[41] This work was based on data from the British Household Panel Survey, Waves 9-18, 1991-2009: Secure Data Service Access, National Grid Reference (Easting, Northing, OSGRDIND), produced by the Institute for Social and Economic Research (ISER) at the University of Essex, sponsored by the Economic and Social Research Council (ESRC), and supplied by the Secure Data Service at the UK Data Archive. Local authority indicators were granted access under a Special Licence/Conditional Access agreement with the UK Data Archive.

difference models and alternative dependent variables with a broad set off socio-economic covariates to attempt to control for any biases the unobserved individual fixed effects may produce.

Dependent variable

The main dependent variable is self-reported life satisfaction (henceforth 'SWB'). The data was collected for the BHPS through the question "*How dissatisfied or satisfied are you with your life overall?*" using a seven point scale where one equals "not satisfied at all" and seven "completely satisfied". The second dependent variable, selected to more closely capture well-being effects gained from the in-patient hospital episode, is self-rated satisfaction with health. Health satisfaction is a domain satisfaction (Ferrer-i-Carbonell 2002), argued to reflect objective health status of the individual. Health status complements the main SWB variable in the sense that it more closely reflects the objective benefits (essentially health status) which are expected outcomes of the hospital in-patient stint. Life satisfaction (SWB), on the other hand, forms a broader measure of the individual's well-being which is more likely to capture any procedural utility gained.

There is a certain disagreement in the literature whether to treat this type of interval variable as a continuous or a categorical variable.[42] Here z-score transformed SWB variables are used throughout, as the z-score conveys the underlying information in just

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[42] OLS regressions build on assuming the SWB measure to be cardinal, implying that the SWB can be estimated as a continuous variable rather than a categorical variable. The cardinality assumption is common in psychological research, whereas in economics it is common to only assume ordinality. The categorical nature of the 1-7 scale violates the assumptions making OLS the most efficient estimator (Agresti 2012) but in practice SWB regressions tend to generate similar results when estimated with OLS, ordered probit and ordered logit (Ferrer-i-Carbonell and Frijters 2004). Ferrer-i-Carbonell and Frijters further argue in favour of a fixed effect (conditional logit or ordinary least squares regression) to account for personality fixed effects (2004).

one parameter which facilitates analysis and interpretation. The approach is common in labour economics, where it is often applied to job satisfaction indicators. The transformation includes rescaling the ordinal SWB variable into a continuous variable, in the shape of a unit normal distribution, by subtracting the mean of the variable from any given response and dividing this by the standard deviation (Freeman, 1978). In table 3 ordered probit, OLS using the 'raw' SWB variable and OLS using the z-score transformed variable are reported, illustrating the similar results which are obtained from the various specifications throughout. In the following tables I show only OLS specifications using the z-score transformed dependent variables.

Independent variable

In order to estimate the well-being effects of a larger feasible choice set and of competition, I use a measure of hospital market concentration created by Cooper et al. (2011).[43] The measure is based on a range of market areas calibration, many of which are used in the analysis below, and an HHI (Hirschman-Herfindahl index of market concentration) measures the degree of market concentration. I use the negative natural logarithm of the HHI based on hospitals' patient shares, which is convenient because it increases with competition, with zero corresponding to monopoly and infinity to perfect competition.

For given market area j, the competition index is given by:

$$nlhhi_j = -\ln \sum_{k=1}^{N} \left(\frac{n_k}{N_j} \right)^2 \qquad [\mathbf{1}]$$

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[43] Cooper et al. extensively discuss the challenges in measuring market structure including the possible endogenous relation between hospital quality and market structure (2011). Measures of market structure may reflect urban population density rather than the choice sets available to NHS users. Cooper et al. employ a range of measures of market structure to illustrate the robustness of the HHI results.

Here, nk is the number of procedures carried out at hospital site k within market area j and Nj is the total number of procedures carried out in market area j. The measure is centred on hospitals and based on their relative share in the activity in a particular market.[44] This process was repeated for hips, knee replacements, arthroscopies and hernia repairs and the HHI for each hospital was based on its average HHI for all four procedures.

As the HHI measure is centred on individual hospitals it was manually matched onto BHPS data at local authority level, so that each individual was assigned a HHI capturing the competition faced by hospitals in the local authority of residence (see appendix 4 – detailed data available upon request from the author). Cooper's data is based on actual patient flows to 227 hospital sites providing care for AMI for patients. The basic hospital competition index, before the negative log transformation, is a number between 0 and 1 for each hospital. Many local authorities have more than one hospital and, in most of the cases with more than one hospital, the competition index was very similar between the hospitals due to spatial closeness and being part of the same local market. 15% of the LAs had more than one hospital and a difference in the HHI for each hospital that was larger than 0.1. In those cases the minimum, mean and maximum HHI for each LA was alternated in the analysis without any substantial changes in results. For the ambivalent cases the size of the local authority and the localisation of the hospitals in relation to other hospitals in the area were cross-checked to assess whether the approximate competition level for the local authority seemed appropriate. A few cases where the difference in HHI was particularly large were excluded from the analysis with maintained results.

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[44] Only hospitals which perform more than 25 procedures per year were included in the measure.

2.3.2 Models

In order to identify the effect of competition and a larger feasible choice-set, difference-in-difference (DiD) models provide the most similar environment to a randomised control trial on a 'natural experiment' (Lee 2005). This paper employs a set of DiD models with the aim of controlling for time and area fixed effects.

The estimation strategy is therefore built on two steps:

- Cross-sectional: examining whether there is a relationship with market concentration at any point in time after the reform of 2006.

Here OLS regressions are estimated in accordance with the following equation:

$$SWB_i = \alpha + \beta_1 nlhhi_j + \beta_2 X_i + \varepsilon_i \qquad [2]$$

Where $nlhhi_j$ represents the competition index (0=monopoly, $\rightarrow \infty$ perfect competition) and X_{i_t} is a vector of demographic determinants of SWB: *sex, age marital status, employment status, income, level of education and household size.* Further controls are also included: a set of *health* variables (which are especially important for the analysis) and a set of local authority level variables (see appendix 3) are included into the specifications to control for local characteristics which may interact with competition.

- Difference-in-difference models: examining whether there has been more of an improvement in SWB among hospital in-patients in more competitive hospital markets compared to less competitive.

DiD models are widely used in a non-experimental setting as a way of capturing effect of policy reform (Abadie 2005; Angrist and Pischke 2008).The basic approach in a DiD is to compare two groups over two time periods where one treatment group is exposed to a policy-change in the second period and the second control group is not exposed to

the policy in either period. Simply illustrated, the DiD coefficient is equal to the difference in means between the groups and the difference in the difference in means before and after:

Control group (SWBpost - SWBpre) - Treatment group (SWBpost - SWBpre)

The NHS reform does not naturally lend itself to a standard DiD as the reform was implemented across England at once, leaving a lack of a clear treatment and control group.[45] The main approach of this chapter is to use the 'actual' choice faced by NHS patients, which had a varying intensity according to the geographical configuration of homes, GPs and hospital sites leaving certain options less feasible.

$$SWB_i = \beta_0 + \beta_1 G_j + \beta_2 T_t + \beta_3 G_j \times T_t + \beta_4 X_i + \varepsilon_i \qquad \text{[3]}$$

The baseline DiD model based on equation 3 where G_j equals 1 for the treatment group: high (>median) competition compared to the control group (G_j equals 0) of low (<median) competition areas of residency. The intensity of competition used to create the high/low competition groups was further varied, exploring the effects of monopoly markets and 'London effects', i.e. extremely high competition. The intuition is that in some places, market structure permits choice to a larger extent than others, i.e. where there are several accessible neighbouring hospitals, with similar capacity, offering comparable procedures. In other English areas, hospitals operated in de facto monopoly markets where there is only one hospital offering a certain procedure within a

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[45] An alternative approach, with additional challenges, is to use the other countries of the UK (Wales, Scotland and Northern Ireland) as control groups as these did not implement the choice at referral policy simultaneously. The country comparison raise concerns over the comparability of the treatment and control groups as unobservable differences in the formation of SWB, economic and social conditions are difficult to control for (Lee 2005). The main concern is difference in trends in the dependent variable and the difficulty to control for coincidental exogenous shocks in any of the countries (Bertrand et al. 2000). Running the DiD on this set-up generated insignificant results which may be caused by unobservable differences not possible to control for in the econometric models and not surprising considering the weak theoretical underpinnings.

reasonable travel distance. A similar approach was used (Propper and Burgess 2008) to study the 1990s internal market NHS reforms.

2.4 Results

2.4.1 Descriptive data

The distribution of the dependent variable, SWB, tends to be skewed to the left and this also applies to the samples of individuals used in this chapter. Figure 4 compares the distribution for individuals who were hospital in-patients in the previous year to the general population; both distributions are, as expected, skewed to the left. The general population's SWB ratings are concentrated around 5 and 6 on the 1-7 scale whereas the distribution of the SWB ratings for individuals who were hospital in-patients the distribution is somewhat more similar to a normal distribution. The distribution is as follows mirrored when considering the standardised SWB scores.

Figure 4 – Distribution of SWB, samples: hospital patients (yes) and general population (no)

Source: BHPS, 2007

The distribution of the second dependent variable is shown in table 4. The figure compares the distribution of satisfaction with health for individuals who were hospital in-patients in the previous year (after 1st September 2006) to the general population. The general population's satisfaction with health is skewed to the left with a mean of 4.87 (rating on a scale from 1-7). The distribution of health satisfaction ratings for individuals who were hospital in-patients is more similar to a normal distribution with an average of 3.83 but somewhat skewed to the right. The distribution of health satisfaction differs more between recent hospital in-patients and the general population and more closely correlated to objective health status.

Figure 5 – Distribution of health satisfaction, samples: hospital patients and general population
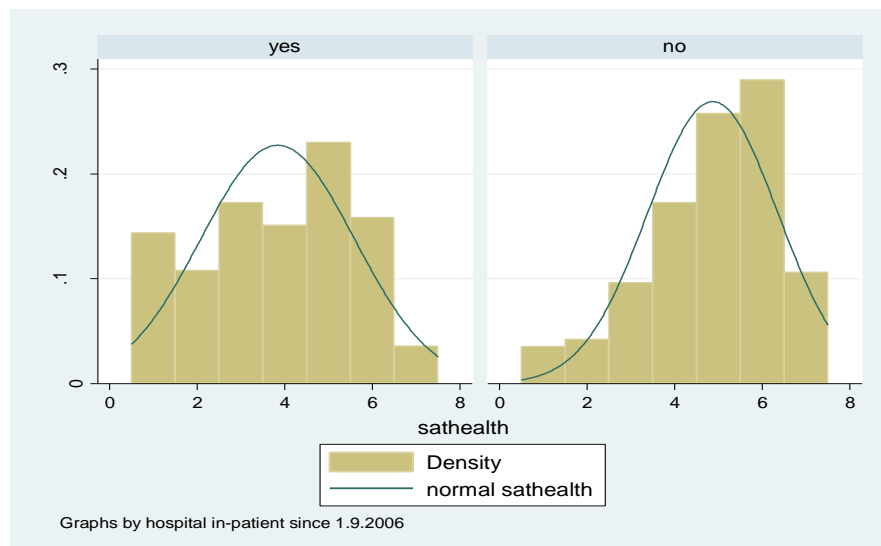
Source: BHPS, 2007

The independent variable, the HHI or the average competition index varies as expect between the English regions as shown in figure 6. The figure illustrates the diversity of competition in England, with inner and outer London having the highest levels; followed by the Greater Manchester area. The least competition is found in west Yorkshire where the market is a virtual monopoly.

Figure 6 – Average competition (HHI index) by English region (2007)
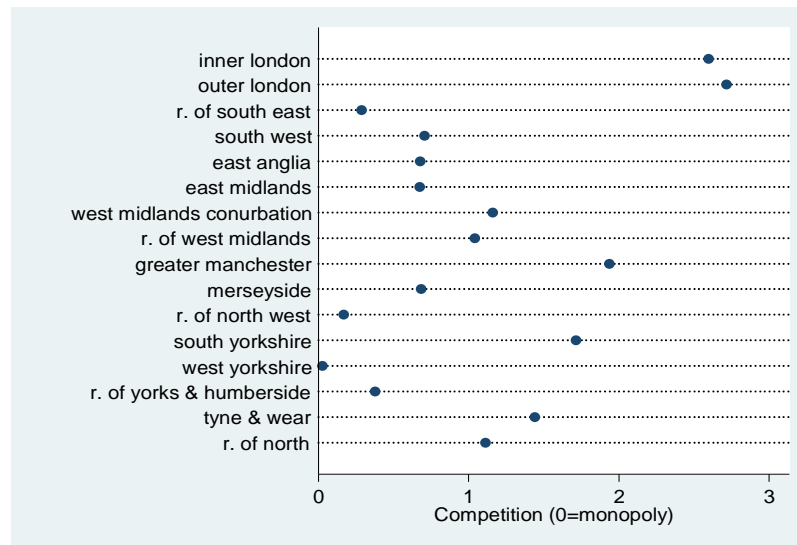
Source: Cooper et al. 2011 merged onto BHPS year 2007

A set of cross-sectional regression specifications (on year 2007 data) as shown in table 3, further explore the determinants of SWB in the hospital sample. Demographic and socio-economic covariates of SWB, by now well-known from the happiness literature, are included as well as the competition measure (HHI). In table 3, across the three estimation techniques (OLS on z-score SWB variable, OLS on the ordinal raw SWB variable and an ordered probit), the determinants behave similar to what is usually found in the happiness literature. Some discrepancies are worth noting: income is normally a strongly significant determinant of SWB (Easterlin 2001; Fleurbaey et al. 2012), but for this particular sample income is insignificant across the specifications. Instead, more 'soft' socio-economic characteristics dominate; health status, employment status and health status are key determinants. Unemployment is strongly negative – being employed or self-employed improves SWB to the same magnitude as going from 'very poor' to 'very good' health status. Unemployment is also well known to influence long-term health status. Marital status 'married' is only significantly better than 'divorced' in this sample, while widowhood (which normally tends to be negative) is insignificantly different from the reference category 'married'.

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Table 3 – Cross-sectional OLS (z-score SWB), OLS and probit (ordinal variable SWB), sample: hospital patients

		OLS z score		OLS ordinal variable	Ordered probit
Competition index (20.000 metres radius)			0.209**	0.292**	0.229**
Sex	Male			Reference category	
	Female	0.121	0.129	0.181	0.150
Age		-0.005	-0.003	-0.004	-0.010
Age2		0.000	0.000	0.000	0.000
Health status	Excellent			Reference category	
	Good	-0.177	-0.180	-0.251	-0.202
	Fair	-0.426***	-0.426***	-0.597***	-0.536***
	Poor	-0.695***	-0.694***	-0.972***	-0.815***
	Very poor	-1.078***	-1.076***	-1.507***	-1.208***
Marital status	Married			Reference category	
	Couple	0.055	0.053	0.074	0.021
	Widowed	0.072	0.062	0.086	-0.007
	Divorced	-0.674***	-0.674***	-0.944***	-0.796***
	Separated	-0.822	-0.788	-1.102	-0.711
	Never married	-0.115	-0.119	-0.166	-0.214
Job status	Self- employed	1.109***	1.097***	1.536***	1.270***
	Employed	0.811***	0.778**	1.089**	0.815***
	Unemployed			Reference category	
	Retired	0.609*	0.596*	0.834*	0.617*
	Maternity leave	1.161***	1.126***	1.576***	1.271***
	Family care	0.957***	0.946***	1.324***	1.014***
	In school	0.599	0.619	0.866	0.661*
	Sick, disabled	0.310	0.280	0.392	0.315
	Gvt. training	0.709	0.669	0.937	0.862
	Other	2.174***	2.185***	3.059***	2.760**
Education	Further degree	0.1276	0.1367	0.2245	0.1679
	A-levels	0.1297	0.1352	0.1943	0.1525
	Secondary school	0.607**	0.586**	0.665**	0.667**
	Apprenticeship/other	0.019	0.044	0.199	0.058
	No qualification			Reference category	
	Still at school	0.008	0.004	-0.230	0.072
Monthly income (log)		0.018	0.031	0.043	0.036
Household size 1				Reference category	
	2	0.082	0.058	0.081	0.016
	3	-0.155	-0.181	-0.253	-0.271
	4	-0.151	-0.197	-0.276	-0.315
	5	-0.308	-0.330	-0.462	-0.468
	6 or more	-0.306	-0.345	-0.483	-0.476
Constant		-0.646	-0.866	3.689***	
Nr observations		400	400	400	400
R-square (adjusted/pseudo)		0.189	0.192	0.192	0.086
/cut1					-1.531*
/cut2					-1.049
/cut3					-0.506
/cut4					0.209
/cut5					1.103
/cut6					2.189**

*** 1%, ** 5%, * 10% significance level.   Standard errors clustered by PID.

Source: BHPS for 2007, individuals in hospital after 1st September 2006.

(a) The coefficients in an ordered probit model are not directly interpretable as in OLS models. Marginal effects can be generated for each category of the dependent variable.

The competition index is positive and significant, implying that areas with higher competition have a higher level of SWB (in 2007). When varying the specifications (see appendix 5) the competition index is positive and significant throughout the four OLS regression specifications (on the z-score SWB variable), controlling for demographic covariates, individual income, health covariates (health status and disability), local authority (LA) characteristics (see appendix 3); average house price (adjusted for inflation), unemployment rate, deprivation index and implementation rate in the LA (what percentage can recall being offered a choice of hospital by GP). Noteworthy is that the introduction of health status into the equations increases the r-square considerably, and a higher self-rated health status is strongly positive. When the health variables are excluded in the second and third specification the coefficient of the competition index increases marginally compared to without health variables. Similarly, the effect of the competition index increases notably when introducing the set of local authority controls in the third specification. The importance of health variables for the individual SWB highlights the likelihood that differences in health care provision would influence individual welfare assessed through SWB.

The effect of LA characteristics (to some extent capturing local prosperity) is in line with expectation. House prices are consistently insignificant, which is probably due to the inverse collinear relation with deprivation. Interestingly, the implementation rate was also insignificant, implying that SWB is unrelated to local propensity to offer a choice of hospital. The control variable has been kept throughout due to its theoretical relevance. The insignificance suggests that the benefit of the choice at referral reform may be linked to provider incentives (from competition) rather than individual choice. The coefficient of the deprivation index is positive, implying that lower deprivation is

linked to higher SWB, which is also in line with the literature. Finally, the overall explanatory power of the models, the r-square, ranges between 0.05 and 0.20 which is consistent with what is to be expected from SWB models. Full models with observable covariates of SWB explain between 8 and 20% of the variation, the rest is explained by unobservable variables such as personality traits and individual conditions influencing the SWB rating (Ferrer-i-Carbonell and Frijters 2004).

The analysis revealed a *correlation* between a higher local competition (and a larger feasible choice-set) and individual SWB. In an effort to separate the effect of competition from that of choice, an indicator for 'no choice' (monopoly market areas) was entered into the model. The results were insignificant, which indicates that there is no negative effect of a 'no-choice' situation as would be expected if choice drives the positive relation between HHI and SWB. Thus, it is conceivable that the positive effect of competition on SWB is more closely linked to competition effects, mainly quality, rather than the number of choices available. However, a competing explanation, which cannot be controlled for in the present empirical setting, is that people in monopoly markets are willing to travel further and hence has a larger perceived choice set compared to individuals in densely populated areas. The positive relation, albeit indicating that competition matters, does not capture a causal relationship, which the next section further explores in a set of DiD models.

2.4.2 Difference-in-difference models

This section reports the results of the difference in difference analysis on both the dependent variables. The general DiD on the SWB variable and equity analysis of SWB

is followed by identical analysis carried out on the second dependent variable, satisfaction with health.

Dependent variable: life satisfaction (SWB)

The first DiD model compares individuals in high competition areas to low competition areas, where high competition areas were selected if above median competition, 0.374. 'Treated' in table 4 is a dummy which is '1' for individuals living in a high competition area. As follows, the 'treatment group (after)' indicates that 'treated' is 1 and the year is 2007 or later. Table 4 is focused on the DiD results, while each of the specifications include the set of covariates as shown in appendix 6. As identified above health status is a key determinant of SWB, and the middle column of table 4, shows how the competition effect remains positive and significant when health is excluded from the equation. Similarly the results are maintained when age and age squared are excluded. Age and health capture similar effects – where elderly individuals are more likely to be frail and are also more likely to be in hospital. The results are also robust to the inclusion of local authority covariates as shown in appendix 6. In fact, the effect is strengthened when introducing the local authority controls (deprivation index and unemployment rate) and year dummies to account for any time fixed effects beyond 'before-after'. The weak yet positive relation between SWB and LA unemployment rate found in the cross-sectional regressions is not upheld in the DiD model. The overall positive relation between more competitive areas before and after the introduction of the choice at referral policy indicates an overall efficiency gain.

Table 4 – DiD summary table (OLS z-score SWB) sample: hospital patients

	Full model	Excluded health covariates	Excluded age and age squared
Treatment group (after)	0.242** (0.151)	0.194** (0.150)	0.235** (0.146)
After	-0.230** (0.151)	-0.188** (0.153)	-0.217** (0.145)
Treated	-0.063 (0.085)	-0.072 (0.100)	-0.062 (0.096)
Individual controls	Yes	Yes	Yes
Local authority controls	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes
Constant	0.268 (0.681)	-0.055 (0.696)	0.032 (0.513)
Number of observations	885	885	885
Pseudo R square	0.192	0.150	0.190

*** 1%, ** 5%, * 10% significance level   Clustered standard errors by PID in brackets
Source: BHPS 2003-2008
Sample: English individuals who had been in hospital in the year prior to being surveyed

The second purpose of this chapter is to analyse whether this effect is equitable. In order to find whether any subgroups benefit more from choice the analysis was repeated on a set of subsamples; consisting of various calibrations of social groups. The groups are based on income and education level, corresponding to the theoretical argument that these are the key determinants of the gradient of choice benefits. As discussed above, income enables the individual to take up choice to a higher extent and education enables efficient decision making and proficiency in coping with the information required. The sub-group analysis is carried out both in a setting of cross-sectional OLS regression and in the DiD setting with comparable results.

In terms of social class indicators, several imputed social group variables are available in the BHPS such as Goldthorpe's class schema, but the pre-calibrated variables imputed from other questions in the BHPS have the problematic drawback of reducing the sample size reducing the efficiency of the regression models. Conversely the level of skill in profession can be used – which here generated insignificant results. The

advantage of using income and education as the social class denominators is their theoretical foundation as well as consistent reporting.

The results are reported in table 5 with all controls included (the regressions have also been run with the controls excluded, without any relevant changes on the competition index). The effect of competition is only positive and significant for individuals with above median income and high education whereas the sub-samples of below median income earners and low education are insignificant. Individuals with higher than median income, and individuals with high education (defined as further education beyond A-levels) are the only groups that significantly benefited from the higher competition and larger feasible choice set in their local authority.[46]

Table 5 – DiD OLS (z-score SWB), sample: hospital patients, by income and education
Dependent variable: life satisfaction (scale 1-7)

Social group indicator	Above median income	Below median income	High education	Low education
Treatment group (after)	0.340** (0.194)	-0.066 (0.234)	0.379** (0.280)	0.119 (0.170)
After	-0.209** (0.127)	0.197 (0.159)	-0.332** (0.191)	0.115 (0.106)
Treated	-0.265 (0.205)	-0.134 (0.242)	-0.327 (0.286)	-0.188 (0.176)
Demographic covariates	Yes	Yes	Yes	Yes
Local authority characteristics LA)	Yes	Yes	Yes	Yes
Implementation rate in LA	Yes	Yes	Yes	Yes
Constant	1.552* (0.883)	-0.367 (1.421)	0.774 (1.763)	0.086 (0.661)
Observations	372	360	481	251
R-square	0.216	0.245	0.273	0.215

*** 1%, ** 5%, * 10% significance level   Clustered standard errors by PID
Source: BHPS for 2003-2008
Sample: English individuals who had been in hospital in the year prior to being surveyed

The results are consistent with the argument that choice policies are not primarily equitable. The results imply that a higher level of education and more capability to

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[46] The differences between the HHI coefficients for high compared to low income and high compared to low education are estimated to be significantly different through simultaneous estimation and classic test of equality of coefficients.

make use of the choice in a way that generates welfare speaks in favour of the argument that an important aspect of choice policies is to understand the capability on the part of the individual to actually make the choice.

Dependent variable: satisfaction with health status

The second dependent variable, satisfaction with health status, is here incorporated to shed light on possible procedural utility effect of the increased choice for hospital in-patients. Identifying procedural utility conclusively is a challenge with the present data. Approaches in the literature include those where outcomes are either rendered insignificant (for voting in referenda such as in Frey and Stutzer (Frey and Stutzer 2004)) or where any outcome-improvement can be controlled for. The approach here resembles the latter, in replicating the above DiD models on a more outcome oriented dependent variable. Running the regressions as above on the satisfaction with health dependent variable[47] generates positive, significant and considerably stronger results as seen in table 6. This firstly supports the overall hypothesis of a positive impact of hospital choice and competition on the welfare of individuals, but secondly provides a test of the hypothesis that there is a role for procedural utility from the choice. The effect on satisfaction with health is considerably stronger (of the treatment group (after) variable); 0.40 compared to 0.20 in the SWB model above. The results do not speak in favour of a strong role for procedural utility. The positive effect of the choice policy is then more likely attributed to a positive impact on health status overall and hence to a higher extent an *outcome indicator* compared to SWB. The result conforms to Cooper et al.'s (2011) results of a positive impact on quality of care and health outcomes.

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[47] Objective health status, such as the BHPS health rating (health status over last 12 months), which would have offered a more objective quality measure, is unfeasible as the recording period overlaps with the time the individual was in hospital. It is not possible to derive from the data whether the individual considers health before, after or an average of before and after the hospital in-patient stay.

Table 6 – DiD OLS (z-score health satisfaction) sample: hospital patients

		All covariates	Excluding health status	Excluding age and age squared
Treatment group (after)		0.426***	0.334***	0.424***
After		-0.138**	-0.067**	-0.144**
Treated		-0.144	-0.164	-0.137
Sex	Male		reference category	
	Female	-0.034	-0.002	-0.03
Age		-0.016	-0.045***	
Age2		0.000	0.000***	
Health status	Excellent		reference category	
	Good	-0.560***		-0.572***
	Fair	-1.076***		-1.092***
	Poor	-1.598***		-1.617***
	Very poor	-2.009***		-2.048***
Marital status	Married		reference category	
	Living as couple	-0.042	-0.03	-0.009
	Widowed	-0.019	-0.043	0.013
	Divorced	-0.042	0.057	-0.052
	Separated	-0.471	-0.706***	-0.464*
	Never married	-0.064	0.038	-0.005
Job status	Self-employed	0.809***	0.991***	0.766**
	Employed	0.724***	0.796**	0.693**
	Unemployed		reference category	
	Retired	0.442*	0.280	0.422
	Maternity leave	1.112***	1.359***	1.118***
	Family care	0.437*	0.475	0.414
	In school	0.990***	0.969***	1.048***
	Sick, disabled	0.011	-0.300	-0.033
	Government training	1.116	1.215*	1.165**
	Other	0.445	0.575	0.437
Education	Further degree	0.103	0.227	0.107
	A-levels	-0.051	0.3	-0.048
	Secondary school	-0.118	0.119	-0.118
	Apprenticeship, other	-0.752	-0.869***	-0.763***
	No qualification		reference category	
	Still at school	1.157*	0.629	1.231
Monthly income (log)		-0.060	-0.050	-0.060
Household size	1		reference category	
	2	-0.132	-0.087	-0.119
	3	-0.124	-0.074	-0.092
	4	-0.06	0.036	-0.031
	5	-0.022	0.107	0.021
	6 or more	-0.230	-0.101	-0.199
Implementation (% being offered choice)		0.003	0.003	0.003
House prices		0.004	0.006	0.003
Deprivation index (LA)		-0.020*	-0.024*	-0.022*
Unemployment rate (LA)		-0.022**	-0.012**	-0.021**
Time dummies		Yes	Yes	Yes
Constant		0.970*	0.300	0.566
Observations		731	731	731
R-square (adjusted)		0.371	0.183	0.370

*** 1%, ** 5%, * 10% significance level   Clustered standard errors by PID in brackets

Source: BHPS years 2003-2008

Sample: English individuals who had been in hospital in the year prior to being surveyed

Following the same strategy as above, sub-sample analysis was implemented to analyse any equity effect, i.e. differences between socio-economic groups. The results differ from the SWB analysis in table 5, in that the effect sizes are larger and the difference between education levels has disappeared. The results suggest that income is a stronger determinant of inequalities in health status than education where both 'low' (below A-levels) and 'high' education have a positive and significant effect of living in an area with higher competition. The coefficients for the income groups are significantly different while the coefficients for the education groups are not.

Table 7 – DiD OLS (z-score health satisfaction), sample: hospital patients by income and education

Dependent variable: satisfaction with health (scale 1-7)

Social group indicator	Above median income	Below median income	High education	Low education
Treatment group (after)	0.676*** (0.188)	0.134 (0.176)	0.374** (0.146)	0.430** (0.270)
After	-0.168 (0.110)	-0.152 (0.132)	-0.099 (0.088)	-0.103 (0.178)
Treated	-0.518** (0.211)	0.276 (0.190)	-0.032 (0.149)	-0.385 (0.288)
Demographic covariates	Yes	Yes	Yes	Yes
Local authority characteristics (LA)	Yes	Yes	Yes	Yes
Implementation rate in LA	Yes	Yes	Yes	Yes
Constant	1.666** (0.676)	1.201 (1.118)	0.839 (0.546)	0.283 (1.430)
Observations	372	360	481	251
R-square (adjusted)	0.376	0.453	0.438	0.346

*** 1%, ** 5%, * 10% significance level.   Clustered standard errors by PID in brackets
Source: BHPS for 2003-2008
Sample: English individuals who had been in hospital in the year prior to being surveyed

The results overall conform to the literature on health inequalities (Dixon and Le Grand 2006) but the difference between the first and second dependent varible requires further attention. The effects of competition on health satisfaction, the variable more closely linked to outcomes, is different between income groups only, while the effects on SWB differ both by income and education groups. Assuming that SWB captures procedural choice benefits to a higher degree, this can be interpreted as support for the argument that education is a key determinant of the ability to cope with complex choice situations.

2.4.3 Robustness checks

Area effects – additional control group

A possible caveat of the analysis above is the possibility of something unrelated to hospital care driving the change in SWB in the high competition areas. Intense hospital markets are highly correlated with densely populated urban and hence the measure may pick up basic urban-rural differences and are not specific hospital competition differences. Table 8 shows results of the baseline DiD specification, but where the 'treated' group is calibrated as individuals who had been in hospital in the previous year compared to 'control' which is the general population. The sample only includes individuals living in high competition areas (defined as above median of the 20.000metre radius competition measure) and if the choice at referral policy had real effect beyond a general positive trend in high competition areas (for any other reason) we should see, as in table 8 a positive effect on the 'Treatment group (after)' coefficient.

Table 8 – DiD OLS, (z-score SWB), sample: general population in high competition areas

	I	II
Treatment group (after)	0.064** (0.010)	0.052** (0.071)
After	-0.037 (0.038)	-0.048 (0.038)
Treated	0.055 (0.070)	-0.135* (0.071)
Individual controls	Yes	Yes, excluding health covariates
Local authority controls	Yes	Yes
Year dummies	Yes	Yes
Constant	0.934***	0.488
Number of observations	4744	4744
R square	0.166	0.102

*** 1%, ** 5%, * 10% significance level   Clustered standard errors by PID in brackets
Source: BHPS 2003-2008
High competition: HHI index higher than 0.374

The DiD coefficient is however only positive when including the full set of controls (time fixed effects and individuals controls). The difference (i.e. the difference between hospital patients and the general population in terms of difference in means before and

after the reform) was small but in favour of hospital patients subject to individual and LA level controls. This implies that the positive effect on SWB in high competition areas is not simply evidence of a general increase in prosperity in these areas.

Delays and differences in implementation

An aspect not captured by the data is the character of the choice experience for each individual. The actual interaction with the health service and whether this process is perceived as fair is also linked to the implementation issue. The analysis here presented did not directly engage with the process of choosing a hospital. However, other evidence indicates the process quality is good. For example, data from the National Patient Choice Survey, 79% claims to be "very satisfied" or "fairly satisfied" with the process of choosing (Dixon 2008). Further, awareness of the policy and possible differences in who actually gets offered a choice by the GP is a confounder for the above analysis

On an individual level, it can be hypothesised that who gets offered or is aware of the choice a priori is dependent on social class and this effect is explored in the equity analysis. However, systematic differences between local authorities may distort the results in more problematic ways. The National Patient Choice Survey provides evidence indicative of the real implementation of choice of hospital having been slow. A large proportion, as much as 50% in the first year after the introduction of the policy, of patients do not recall being offered a choice. Early reports indicated a lag in GPs learning how to use the new referral software and become accustomed to providing patients with the opportunity to choose a secondary care provider (Rosen et al. 2007; Audit Commission 2008). Data from the National Patient Choice Survey was

introduced as a control into the all specifications above with consistent results. The control variable was insignificant throughout – which indicates that any systematic difference in implementation across local authority does not affect SWB or confound the competition effect. Further, London local authorities were excluded to assess whether the particular density of hospitals drives the positive competition effect, without any change in the competition – SWB relation.

2.5 Discussion

Subjective well-being, measured through individual statements of SWB, has provided insights into the welfare effects of choice in health care. The effect of a larger feasible choice set and more intense local competition faced by providers on individual welfare is overall positive and the results provide a strong indication in favour of choice and competition being welfare improving. This regardless of whether the explanation is improved quality or efficiency, or welfare gains from the procedure of choosing. The results are consistent with those of previous studies, on quality and efficiency (Cooper et al. 2010; 2011), which indicates that at least part of the positive SWB effect is due to quality improvements in hospitals facing higher competition. The positive and stronger effect of competition on health satisfaction, compared to the effect on SWB, indicates that outcome utility is an important component of the total welfare effect. Health satisfaction, as a domain satisfaction, is more closely linked with actual health status (Van Praag et al. 2003) which favours an 'outcome oriented' interpretation of the results. However, it has been shown that greater autonomy and sense of self-determination can improve health, in and of itself (Ryan and Deci 2000), which is a possible explanation for the positive effect overall. The current data however offers

little insight into the more refined analysis of procedural utility. It can neither be refuted nor causally evidenced. Noteworthy is also the particular influence of common determinants of SWB among the sample of recent hospital in-patients. Income did not significantly influence SWB whereas 'softer' determinants mattered more; employment, family and so forth. Many of the 'softer' indicators are known to contribute to an overall social support for the individual. This can be particularly important for individual wellbeing during stressful times, such as here, an in-patient stay in the hospital.

The analysis of equity effects suggests that more choice and competition benefit the already well off (primarily individuals with high education and above median income). Key explanations tied to the education and income effect is firstly information processing skills and information availability which are well known to be found more prominently among individuals primarily with higher education and white collar professions. The effect of income may link with a better ability to take-up on the variety of choices offered, in terms of funding travel and stays further away from area of residence (Robertson and Burge 2011)). Travel to hospitals is generally not funded on the NHS which, combined with the huge favouring of proximity as a key choice parameter and criteria for a quality health care system (see chapter 4, table 23), indicates travel as a key constraint on choice. The results indicate that the equitability of choice and competition policies is questionable. Qualitative research and quantitative evidence from more detailed survey data can help understand these effects better and identify cost-effective measures to support choice.

A competing explanation of the equity effect is that better-off individuals are more likely to have a good communication with their GP, and hold a more trusting relationship. However, in general patients did not rely on GP's advice to a large extent when selecting a hospital (see figure 3). The role of the GP in the last wave of reforms has been strengthened, and a key component of a GP's role is to serve explicitly as an agent choosing secondary care for their patients. The perception of quality on the part of the individual is elsewhere argued to be weak or ill-founded (Marshall et al. 2000; Shekelle et al. 2008). GPs have a key role as they serve as agents for different patients for the same set of conditions and hence are well positioned to advice patients based on experiences of past patients and 'quality ex post'. Patient may rarely attend hospitals for the same procedures twice while however GP's make the same referral decisions repeatedly.

The current data does not allow controlling for how the choice situation of each individual is experienced which is a clear limitation to the analysis and particularly to the part seeking to examine procedural (process) utility. The literature emphasises the character of the choice situation, but also the number of options offered and the level of knowledge held by the actor making the choice (generally the patient and/or patient's family) are key determinants of welfare effects. The literature on individual choice emphasises these issues (Schwartz 2004) and it is clear from the evidence on the choice situation that the choice situation is often far from optimal. A directed survey, similar to the National Patient Choice Survey but with additional socio-economic indicators would provide opportunity to explore this area further.

Beyond the status of the UK as a possible source of policy learning, the structure of the health care system is similar to that of the other Beveridgean health systems discussed which implies a relevance of the results also in those countries. The positive well-being effects which have here been dominantly linked to competition and improved outcomes are possibly to be expected in other European NHS type systems, however, the particularly geographical character of England, in which we see the greatest gains in densely populated areas, may be less likely to be replicated in countries such as Sweden with a low concentration of specialist providers and extensive geographical distances.

2.6 Conclusions

The chapter finds an overall positive welfare effect of choice and competition of the choice at referral policy in the English NHS. However, the benefits are inequitably distributed – patients groups with higher income and education benefit significantly more than low income and education groups. The empirical analysis finds no evidence of procedural utility gained from the process of choosing. The effects of satisfaction with health are stronger compared to the SWB effects which suggests that it is outcome effects – i.e. improved health which drives the overall positive welfare effect. The role of information as an explanation for the lack of procedural utility is supported by the capability gradient identified through analysis of socio-economic groups.

Chapter 3   Choice

Does choice improve subjective well-being? The case of German Long-term Care Provision

Abstract

Long-term care (LTC) policies are increasingly oriented towards user choice, which, primarily through various 'cash-for-care' schemes, reflects the emergence of a model of care focused on autonomy and personalisation. The anticipated benefits of choice in LTC are twofold: positive effects on individual welfare stemming from better-tailored care provision and cost-containment from the emphasis on less expensive home care. This paper estimates the welfare effects of user choice as part of the German LTC insurance system introduced in 1994 – internationally one of the most extensive LTC choice schemes. Difference-in-difference (DiD) models are estimated using survey data from the German Socio-Economic Panel. The dependent variable, subjective well-being, captures effects of improved service (outcome utility) as well as intrinsic benefits of choice (procedural utility). The results indicate a strong welfare effect of the introduction of the LTCI system, however stronger among individuals with higher income and education. The positive welfare effect of the choice component is equitably distributed, however influenced by the availability of informal carers.

3.1 Introduction

Long-term care as a distinct social service is a recent addition to the welfare provision in many European countries and remains under constant reform pressure to meet increasing demands for care in an ageing society (Pickard et al. 2007). Ageing populations joint with changing social realities, constrained by cost-containment pressures, amount to a challenging reform environment (Fernandez et al. 2009). In this setting user choice schemes have become a popular reform solution. The schemes combine cost-containing properties (incentivising less expensive home care over institutionalised care) while increased autonomy and fulfilment of preferences is argued to improve user satisfaction. User choice in LTC is often offered in the shape of cash benefits or 'cash-for-care' (also called 'direct payments' in the UK). The 'choice situation' does not fit neatly within the categories discussed in chapter 1 (see Le Grand 2007a) as it results in a care package including choice of provider, choice of service and choice of treatment. For example, choosing family carers (informal care) limits the range of services available but still allows for selecting additional services and treatments. These can be self-provided, such as taking part in social activities. This chapter argues that this holistic approach to the choice situation is crucial for modelling the hypothesised welfare effects.

This paper seeks to contribute to the growing literature on choice in long-term care (Ungerson 2004; Glendinning and Kemp 2006; Timonen et al. 2006; Ungerson and Yeandle 2007) by using a novel approach to welfare effects on a systematic scale, in capturing the effects of choice as a new institution in the interplay between the state, the market and the family. The literature on the 'personalisation agenda' predicts benefits of user choice as it brings increased autonomy and tends to result in a care solution which

better meets individual preferences (Glendinning and Kemp 2006). Choice of LTC services is denoted by ample privately held information, opportunity to reverse choices and low risk of an overwhelming number of options. These are conditions argued to lead to an improvement in individual satisfaction and well-being compared to a no-choice situation (Schwartz et al. 2002). For health care positive quality and efficiency improvements have been found following choice and competition between professional care providers (Cooper et al. 2010; 2011). There is however less of a literature on competition effects in LTC, mainly generated from the US, and with variable results (Bishop 1988; Zinn 1994).[48]

The analysis of outcomes, or welfare accrued, from long-term care policy interventions is currently developing and the challenges are numerous (Clark 2007; Mor 2007). Similarly to in the case of quality indicators in health care, confusion tend to arise between performance indicators and health outcomes (Giuffrida et al. 1999). A more holistic quality of life approach has been advocated and increasingly applied aligning with the increased user-orientation of the care agenda (Kane 2001). Importantly, welfare effects of choice, if ignoring the 'how' or the procedural utility, leave out a key aspect of the dynamics of individual autonomy whereby individuals are found to benefit from the intrinsic value of choice – from the act of choosing (Iyengar and Lepper 1999). This is a key contribution of the chapter, whereby any 'outcome-only' measure such as care hours, health status or morbidity will capture mainly, if not uniquely, the effects of the more appropriate care allocation and the effects this might have on health. Undoubtedly

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[48] It should be noted that competition between providers does not necessarily imply the availability of private (formal) providers. Important is also that the possible effects competition in LTC provision is secondary to choice effects as the bulk of provision is carried out by family and relatives, i.e. informal providers.

the procedural utility of choice will also have (indirect) effects on health status, as it is likely that mental well-being influences objective health outcomes.

The second aspect to the choice – welfare relation is the equitability of any welfare effect generated. Choice in public services has been argued to be inherently equitable as it allows poor individuals, previously restricted in their options, to choose in the same way as more well off individuals generally can (Austin 2011). On the other hand choice is thought to benefit educated and well-off individuals more due to their superior access to information and ability to make beneficial choices (Barr et al. 2008). There is however a lack of systematic empirical evidence on the welfare effects of choice and the equitability of choice policies, albeit intensely discussed in theory. This paper offers evidence of the impacts of choice on individuals' welfare, as well as the equitability of the distribution of any benefits in the case of LTC in Germany.

The introduction of the choice-led LTC insurance in Germany offers a natural experiment allowing for the analysis of welfare effects with causal interpretations through difference-in-difference (DiD) models. LTCI in Germany offers a significant emphasis on choice for the individual, in arranging a preferred care solution suitable to the individual's needs and constraints. The 1994 legislation on mandatory national long-term care insurance (see figure 7), without age limits for receiving benefits, came into action in April of 1995 when the two home based options were available to all, whereas nursing home care became available from July 1996 (Rothgang 2010). A few years following the formal introduction of the policy, in stages over 1995 and 1996, 88 % of the population was covered by the public LTC insurance plans, either as contributing members (51 million) or as covered family members (21 million) (Geraedts et al.

2000:379). The scheme, once an individual has been deemed eligible, offer a choice between cash benefits to fund informal carers or professional carers and benefits in kind – care provided by publicly employed professional carers. Institutional care is also offered as part of the scheme, but this does not constitute a real choice for the individual as nursing home care is allocated only in cases of severe need and lack of informal support (Heinicke and Thomsen 2010).

The questions this paper seeks to answer in relation to the German LTCI's choice of provision component are the following:

- Does choice in long-term care improve individual well-being?

- Are benefits equitably distributed according to socio-economic status?

- Are benefits equitably distributed according to the availability of meaningful options (primarily informal carers)?

The chapter proceeds as follows: the next section outlines the case background, followed by methods and descriptive statistics of the determinants of SWB among LTC users. The results section reports results of variations of the DiD and DDD models, identification strategies and samples. Finally, the discussion section draws conclusions and discusses potential constraints.

3.2 Background

In this section, I discuss the evolution of the German system and why choice became an inherent aspect of LTC provision. The considerable differences between the German 'lander' (federal states) are discussed, both in terms of geographical characteristics but also economic situation and approach to care provision. The German case is compared

to European LTC systems highlighting generalisability in spite of considerable differences in reform trajectories.

3.2.1 The German long-term care insurance

The Long- Term Care Insurance Act of 1994 became the fifth building block of the German social insurance system, which began with Bismarck's Health Insurance Act of 1883 and subsequently added statutory accident, pension, and unemployment insurance (Geraedts et al. 2000). Before the inception of the new LTC insurance system in Germany, 80 % of elderly Germans living in nursing homes could not afford to pay the full fees and charges (Heinicke and Thomsen 2010) and 69 (88) % of frail elderly persons living in nursing homes in Western (Eastern) Germany claimed public assistance transfers (Arntz et al. 2007). These nursing-home residents depended on public assistance and received payments from the social welfare system, which was funded by the German federal states and communities. A key driver of reform was the escalating deficits in communities resulting from extensive payments to nursing homes. The universality of the LTCI stems from the basic German social insurance concept: the 'solidarity principle,' which stipulates that members of society are responsible for providing adequately for one another's well-being through collective action. Everyone whose income falls below the threshold 'income limit for mandatory health and LTC insurance' (in 1999, this amount was €43,466 gross income per year in Western and €36,818 in eastern German states) must belong to the mandatory public system and contribute to it and those with higher incomes have the option either to join the public insurance system or to buy private insurance (Schneider 1999).

Figure 7 illustrates the development of LTC coverage in the German system. The LTC coverage prior to the 1994 reform was close to non-existent. Individuals in need of care had to use own funds or apply for social benefits for LTC. The social benefits were means-tested, and households did not only have to spend down assets before receiving any help, using social benefits was also stigmatised. From 1988, restricted to cases of severe dependency and only to home care, a forerunner to the 1994 LTCI system was in operation. Restrictions on claims where severe − claimants under this system had to have been insured with the sickness funds for more than 15 years and still the sickness funds were reluctant to grant benefits for LTC. The 1988 law also experimented with a cash option, which was later included in the 1994 legislation on mandatory national long-term care insurance. With the start of compulsory dependency insurance in April 1995, about 700,000 beneficiaries who had already been receiving a long-term care allowance from their sickness funds became eligible under the provisions of the new care funds. The two home based options were available to all from 1995 and nursing home care was available from July 1996. Between January 1, 1994, and April 1, 1995 the contribution rate was 1 per cent. During this time no transfers were paid through the LTC insurance. The contribution rate since April 1, 1995 has been 1.7 per cent. Benefits for home care were granted from April 1, 1995 onwards, whereas those for nursing home care entered into effect on July 1, 1996.

Figure 7 – Reform timeline the German LTC insurance

MINOR COVERAGE INTRODUCED → **POLICY ON** → **IMPLEMENTATION** → **REFORMING THE LTCI**

1994 "Dependency insurance act"

Early 1980s: Private LTCI became available (low uptake 300.000 contracts vs 8 million private health contracts)

1988 Gesundheits-Reform-Gesetz (Healthcare Reform Act) health insurance paid in-kind transfers for prof home care for people with serious handicaps, or lump-sum for private caregivers.

1995 Benefits for home care through Social Dependency Insurance (SDI) 90% covered

July 1996 Benefits for nursing home care (amendment: extended to non-elderly with disability)

2001 Removed limits to federal states subsidising new care homes (start-up investment) Increased competition (before entry barrier to new private providers)

2008 Pflegereform expanded coverage and benefits (added care level 0= 20.000 new users. Introducing care support centres (Pflegestützpunkt)

COMPETITION

COVERAGE & SUPPORT

A few years following the formal introduction of the policy, in stages over 1995 and 1996, 88 % of the population was covered by the public LTC insurance plans, either as contributing members (51 million) or as covered family members (21 million). Around 10 per cent of the population exempt from the compulsory social insurance because of high incomes and private health insurance are instead obliged by law to buy private LTC insurance (Geraedts et al. 2000). Some individuals who are legally entitled to join private LTC insurance plans instead opt into the public insurance system. Often this decision is due to the public system covers all family members of an insured head of family, in contrast to a private insurance plan, which is entitled to charge a premium for each family member. There is no age limit and in order to claim benefits from the compulsory long-term care insurance scheme an insured person must be defined as 'frail'. The Social Security Code (SGB, Sozialgesetzbuch XI) defines a frail person as "a person who requires for a minimum period of approximately six months, permanent, frequent or extensive help in performing a special number of 'Activities of Daily Life' (ADL) and 'Instrumental Activities of Daily Life' (IADL) due to physical, mental or psychological illness or disability" (Holdenrieder 2003). Such a person is dependent on assistance with personal care, nutrition, mobility and housekeeping.

Table 9 illustrates the level of benefit payments for each of the care levels in 2004. Payments have been increased in line with inflation since the introduction of the LTCI (Colombo 2011:220). The benefit levels illustrate the *partial* support that the LTCI provides; for example a level III LTC user needs extensive, most likely around the clock care for which Euro 665 does not equate the real cost. Also the in-kind transfer to the value of Euro 1400 will need to be supplemented by additional private funding in order to cover the full care needs (Arntz et al. 2007).

Table 9 – German LTCI benefit levels by care types (in euro) 2004

Type of assistance	Level I	Level II	Level III	Hardship cases
In-kind transfers/month	384	921	1432	1918
Lump-sum transfers/month	205	410	665	-
Respite care/year	1432	1432	1432	-
Day/Night care/month	384	921	1432	-
Short-term care/year	1432	1432	1432	-
Nursing home care/month	1023	1279	1432	1688

Source: Adapted from (Arntz et al. 2007), data from Bundesministerium für Gesundheit und soziale Sicherun (Ministry of Health and Social Security).

As part of the fore-runner to the 1994 LTCI insurance from 1988, the health insurance scheme has paid in-kind transfers of up to 750 DM (383 euros) (or 25 visits) per month for professional home care for people with serious handicaps, or up to 400 DM (205 euros) per month of lump-sum transfers for private caregivers. Home care of up to four weeks a year was subsidised with 1,800 DM (920 euros) to enable informal care providers to take a vacation and to pay for temporary professional respite provision (Alber 1996).

The German system has continued to be under debate, and in 2008 a variety of proposals for reforming long-term care insurance was channelled into a new reform package (Pegeweiterentwicklungsgesetz) which changed a number of important aspects of the LTCI. Two key changes were; an adjustment of the benefits and the reduction of the required contribution period for eligibility of benefit receipt, from five to two years. With regard to respite care, the minimum duration until entitlement was reduced from 12 to six months. Finally, it is worth noting that the federal states are responsible for the administration of the LTCI and investment in LTC facilities. Table 10 illustrates the diversity of the German federal states in terms of LTC provision and usage.

Table 10 – German LTCI, care provision and usage by federal state

	Nursing homes	Individuals per nursing home (averages)	Nursing home per 10.000 needing	Home-care services	Home-care services per 10.000 needing	In nursing home %	At home %	Home-care services %	Cash Benefits %
Baden–Württemberg	956	220.54	45.34	845	40.08	31.1	68.9	20.1	48.8
Bayern	1,262	233.20	42.88	1,591	54.06	28	72	19.3	52.7
Bremen	71	241.45	41.42	126	73.50	27.2	72.8	26.5	46.3
Hamburg	164	256.10	39.05	343	81.66	32.2	67.8	27.3	40
Hessen	614	236.88	42.22	860	59.13	25.7	74.3	20.3	54
Nirdersachsen	1,163	179.93	55.58	926	44.25	29.3	70.7	19.3	51.4
Nordrhein–Westfalen	1,872	248.85	40.18	2,205	47.33	28.6	71.4	20.2	51.2
Rheinland–Pfalz	390	236.77	42.24	411	44.51	27.4	72.6	19	53.5
Saarland	110	247.22	40.45	153	56.26	27.4	72.6	19.3	53.3
Schleswig–Holstein	579	131.25	76.19	439	57.77	36.2	63.8	18.9	44.9
The new federal states of Germany 1990 (former German Democratic Republic)									
Berlin	316	255.92	39.07	310	38.33	29.2	70.8	22.8	48
Brandenburg	261	246.51	40.57	516	80.20	24.4	75.6	24	51.6
Mecklenburg–Vorpommern	181	251.55	39.75	398	87.41	28.1	71.9	19.7	52.2
Sachsend	439	269.08	37.16	845	71.53	26	74	25.4	48.6
Sachsen–Anhalt	260	256.22	39.03	481	72.20	26.4	73.6	21.3	52.3
Thüringend	219	275.15	36.34	371	61.57	23.6	76.4	20.2	56.1

Source: Federal Statistical Office and the statistical Offices of the Länder 2004. From http://www.statistik-portal.de/statistik-portal/en/**.**

The federal responsibility for administration and investment in LTC has resulted in differences in the character of provision as highlighted in Sato (2005) offering an overview of the diversity of LTC provision in the German federal states. Some of the variation is attributed to differences in investment over time a great deal of additional investment has been made to support the development of the German LTCI across the federal states. From 1991 to 1998, the federal government spent circa €335 million for close to 400 different projects to fill existing gaps. In addition, the 16 states passed bills to promote investments in long-term care-facilities. The investment resulted in an increase in the number of nursing homes from 4,300 in 1992 to about 8,000 in 1997 (Arntz et al. 2007).

3.2.2 Choice in European long-term care systems

The 'choice paradigm' is much debated and promoted both in policy circles and literature inspiring reforms across Europe. Several European countries have included cash-for-care schemes the when developing existing LTC structures, as in the case of among others France, Austria and the Netherlands. In countries where public investment in care policies is traditionally strong, and in countries where LTC as a policy issue has arisen more recently, cash-for-care schemes have been used to maintain or increase the availability of informal care, to contain costs, and to support care markets as well as provide choice for the individuals (Roit and Bihan 2010).[49]

The development of LTC policy highlights the issue of the division and understanding of responsibility (and power) between the individual and the state (as further discussed

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[49] The distinction between formal (professionally provided and financially rewarded) and informal (family/relative provided without financial contract) care is important. Choice schemes often formalise informal care by allowing for a financial reward as well as in certain cases formalising the care situation through an employment contract.

in chapter 4). In many European countries the strategy has been, rather than developing state provision, creating structures within which to pay family members and relatives to care, or to incentivise private professional providers. A process of increasing 'commodification of care' is argued to be taking place (Ungerson 1997; Ungerson and Yeandle 2007), which has implications for the understanding of the characteristic and reform of the welfare state. LTC policy carries further important implications for labour markets and employment as LTC provision is denoted by labour shortages in many countries. As a result, for example in Austria and Italy a large proportion of care workers are (sometimes illegal) immigrants (Da Roit et al. 2007). The role and incentives of informal carers is a crucial issue for sustainable LTC provision and for this cash allowances can play an important role (Lundsgaard 2005). Unpaid informal carers do not only forgo formal employment while caring, but are likely to face challenges in returning to the labour market at a later stage, particularly after a prolonged period away from formal work (Bittman et al. 2007).

Financial pressures, both from the general cost-containment driving reform of the European welfare states, and from the fiscal constraints imposed by the European Union through the Stability and Growth Pact, has accentuated the need for reformation of the provision of social care. Considerable changes in the traditional support systems – including less care is being provided by family and relatives in a home setting – particularly important the Mediterranean countries, requires reform of the structure of care (Oesterle 2001). The focus on, and promotion of, choice and competition in public services in the EU predicts a further expansion of this type of public sector reform, which highlights the need for further assessment and understanding of the effects of this type of policies (Leichsenring 2004). Choice policies have been presented as a way to

increase user satisfaction and to allow for the often in the setting of the EU referred to: 'ageing in place'. By allowing for a choice between cash benefit and in kind services (as in Germany) the policy is intended to support family care, which is also less costly relative to institutional care (Lundsgaard 2005).

The most prominent choice policy in LTC is the cash-for-care schemes, where the main idea is to allow the individual to make free choices of what combination of care he or she feel is most appropriate (see table 11 for an overview of European choice schemes). It is in terms of this type of policy the beneficial properties of choice is most debated. The choice is offered not only between types of care but also providers that may be public as well as private, non-profit and for-profit. The idea is to improve the autonomy among the elderly (and disabled) which is intended to result in improved wellbeing and satisfaction. Provider choice is also intended to bring competition into the provision of care, which is argued to improve the efficiency and quality of care (Kremer 2006). Originally it was primarily the disabled people's organisations that acted as pressure groups on governments in search of more self-determination in the arrangements of care (Glendinning 2008). The choice policies have also been promoted under the intention of formalising or at least recognising previously un-paid informal care as many of the schemes allow payment of or even a formal employment contract for relatives that previously have provided informal care (Ungerson 1997). This aspect, and the sometimes strict regulations surrounding the schemes have strongly influenced level of 'commodification of care' (Ungerson and Yeandle 2007) as well as created new forms of care work and informal care structures (Da Roit et al. 2007).

'Cash for care' schemes are particularly prominent in Germany, France, Austria, UK and partly in Belgium. The Netherlands, Sweden and Denmark on the other hand, have a highly state oriented provision of LTC, with as evident from the table, considerably higher spending on LTC overall. Noteworthy is that the average satisfaction with LTC is not systematically higher than the countries spending considerably less. The variation seems to be correlated with an historic understanding of the role of the state as a provider of LTC. Particularly in Mediterranean countries familistic values are strong whereby public services are not expected to take a strong role in the provision of LTC (Costa-Font 2010). When needs are demanding, the regular health services step in, conjunctly with expectations.

Table 11 suggests that there is a link between the coverage of choice schemes and the extent to which the country has a familistic culture. We find Italy, Spain and Germany at the upper end of the familism spectrum and Sweden and the Netherlands at the lower end – the countries varying substantially in terms of spending, extent of provision and type of choice offered. France is a particular case with relatively low family values coupled with intergenerational solidarity legislation.[50] Again, Germany has a high level of familism combined with a LTC system with complete emphasis on choice for the individual.

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[50] However the French LTC system has been dubbed 'the French compromise' and consist of a mix of private insurance (the largest LTCI market in the world bar the US), high reliance on formal provision yet with strong values attached to informal care and the duties of the family to provide for the elderly (Bihan and Martin 2006).

Table 11 – LTC choice schemes in Western European countries.[51]

	Choice Scheme	Initial policy setting	Needs/ means test	Cash/ in kind	Percentage covered *	Regulation	Size of benefits	Family versus state care
Germany	General long-term care insurance	Foundation of LTC policy	Only needs tested (lump-sum)	Cash or in kind services	11	Freedom to spend benefits without control	Level 1: €215 Level 2: €420 Level 3: €675	Family
France	Allocation personnalis´ee d'autonomie (APA)	Foundation of LTC policy	Increasing co-payment with income	Cash	7.8 (on population 60+)	Tighter regulation (Care package defined by professionals)	Average amount: €494/month	Mixed/State
Italy	Indennit`a di accompagnamento	Core position within implicit LTC policy	Only needs tested (lump-sum)	Cash	10	Freedom to spend benefits without control	Flat-rate payment, 2009: €472	Family
Spain	Sistema para al autonomía y la atención a la dependencia (SAAD)	Foundation of LTC policy	Needs tested	Cash or in kind services	3.3	Tighter regulation (Care package defined by professionals)	200-500 euro per month	Family /Mixed
Netherlands	Attendance allowance	Flexibility of established LTC policy	Increasing co-payment with income	Cash or in kind services	1.4	Tighter regulation (Recipients must justify expenses)	Average budget, 2006: €11,500/year	State/ professionals
Sweden	Decentralised attendance allowance	Flexibility of established LTC policy	Only needs tested (lump-sum)	Cash	0.1	Tighter regulation (Symbolic payment for informal care)	487/month	State/ professionals
UK	Individual budgets	Flexibility of established LTC policy	Needs tested	Cash	0.5	Tighter regulation	Depending on need	Mixed/State

Sources: ANCIEN study country reports and OECD Health data and documentation (Kraus et al. 2010).

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[51] Table adapted from Costa Font and Zigante (2013).

The case of Germany and the introduction of the LTCI provide a promising empirical test of the welfare effects of choice compared to other European counterparts. The introduction of LTCI was implemented across the country but with key groups excluded which allows a treatments effect approach. On a European level Germany provides a useful case on the 'familism' spectrum in table 12.

Table 12 – Familism in Western European countries, percentages

	Care should be given by relatives *	Best option for parent in need of care: **			
		Live with children	Home care by children	Home care by professionals	Nursing home
France	17%	18%	18%	46%	12%
Germany	35%	25%	30%	27%	8%
Italy	48%	28%	22%	30%	7%
Netherlands	13%	4%	20%	52%	18%
Spain	40%	41%	19%	16%	13%
Sweden	7%	4%	13%	60%	20%
United Kingdom	31%	19%	25%	35%	9%

* QA8.5 For each of the following statements regarding the care of the elderly, please tell me to what extent you agree or disagree. Care should be provided by close relatives of the dependent person, even if that means that they have to sacrifice their career to some extent

** QA7a Imagine an elderly father or mother who lives alone and can no longer manage to live without regular help because of her or hi physical or mental health condition? In your opinion, what would be the best option for people in this situation? Firstly?

They should live with one of their children, Public or private service providers should visit their home and provide them with appropriate help and care, One of their children should regularly visit their home, in order to provide them with the necessary care, They should move to a nursing home

Source: 2007 Special Eurobarometer 283 "Health and Long-Term Care"

The level of 'familism' is argued to be crucial for choice reforms as choice in LTC cannot be separated from the fact that any cash-for-care funded care is more than anything reliant on provision by informal carers (Lundsgaard 2005). Benefits are intensely dependent on the availability and willingness of family, relatives, friends and neighbours to provide care. In most systems, as evident in table 11 the cash payments are not sufficient as replacement for a full-time care giver (notably in Germany - the cash equivalent if opting for professional care is twice the amount of the cash option). This development has been argued to heavily depend on 'familism' as discussed by Costa-Font (2010).

3.2.3 The choice experience in German LTCI

The choice experience in the German LTCI straddles the various types of choice as outlined by Le Grand (2007a). It is not purely a choice of provider, although this represents one of the choices, but further a choice of service and to some extent of treatment. The choice situation offered includes a holistic approach to the individual care situation where various components can be combined and there is room for multiple options within each category. More specifically, an individual having been deemed eligible for support under the LTCI is faced with at least four care options:

- 'Nursing home': In-kind nursing home care; in practice substantial needs are required for eligibility (with co-payment) and hotel costs are not included.

- 'Family care' (cash benefits): informal care givers must work at least 14 hours per week (and work less than 30 hours in employment).

- 'Professional home care': in-kind, professional care provision in the home.

- Combination of family and professional care, with nursing home care as a temporary option (respite care).

The three key options are i, ii and iii, while option iv shares the potential family component with option ii and is considered a sub-category of no additional analytical value. The three options carry different scope and character of choice: an individual qualifying for care through the LTCI will firstly have the choice of location of care; whether to remain in the home or move to an institutional care facility. This choice is however heavily constrained by medical need, and nursing home care external to the LTCI is paid for privately. The general policy is one of ageing in place (Geraedts et al. 2000); which is reflected in the options available. Following this, the main choice is between 'professional home care' and 'family care'. This choice is technically available to all individuals (unless user's condition is too severe to allow for care at home, for

example in the case of severe dementia), but practically choice is constrained by the availability of family carers. The variation in availability of choice is controlled for in the subsequent analysis and forms key constraints in the hypothesised benefits of choice.

3.2.4 Equity implications

The equitability of choice policies in LTC has to date been considered relatively little in the literature. This may stem from the fact that nearly *all* individuals are under- or un-insured in many countries. This of course is less strenuous for individuals with ample resources to purchase private care or assistance, or for individuals who qualified for the (more or less) strict means-testing often present (see for example Dilnot 2011). Hence, in Germany, the 'losers' in the pre-LTCI time were the middle class who potentially faced catastrophic costs if in need of extended periods of LTC support (Colombo 2011). The previous system in Germany only provided social benefits, available to individuals with low incomes, which meant that anyone above the social assistance threshold had to spend down wealth to receive benefits (Alber 1996). The new LTCI system was criticized for the universal benefit levels given to low-, middle- and high-income LTC users exclusively depending on need. This implies an actual redistribution from low-income LTCI users to middle- and high-income LTC users. The analysis by Schneider, including simulation of access to and levels of payments as part of the LTCI, confirms this. Schneider found that the LTCI is financially most beneficial to middle and high income earners, who, prior to the 1994 reform, had to shoulder the full financial strain of disability (1999).

Considering the 'choice component' in itself, the considerations in relation to equity are similar to those generally discussed in regard to health care in chapter 2. 'Voice' problems such as communication difficulties, assertiveness and ability to deal with professionals, cultural and health beliefs and behaviour, transport difficulties and travel distance, as well as the time and financial costs of travel, family or work commitments (Dixon et al. 2003; 2006) apply also to the take-up of choice in LTC.[52] In health care it is further argued that flexibility, mobility and the ability to cope with for example travelling costs (Appleby et al. 2003) matters for the ability to make optimal use of choice by accessing preferred providers. In LTC, the actual options available to most individuals are constrained by external factors related to level of need and availability of family support rather than financial situation. These are not clearly distributed according to socio-economic group belonging, and imply that we need to think differently about equity impacts of LTC provision (Lundsgaard 2005).

3.3 Empirical strategy

This paper uses the introduction of choice as a part of the German compulsory long-term care insurance to estimate a set of DiD models based on the Germany Socio-economic panel survey (GSOEP) in order to identify welfare effects measured through SWB. The analysis is structured around a set of hypothesized positive effects on SWB:

> H1. A *system* effect, of being part of the public system rather than the private system (including choice effect)

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[52] Leece and Leece (2006) identified empirical evidence highlighting the danger that in the UK direct payments or individualized funding is creating a two-tiered service system where middle class users are more likely to get access to personalised services.

H2. A *choice* effect, as in H1 yet controlling for the previously insured public users

(small scheme for high intensity users) to discount the 'system' effect

H3. *Equity* and *informal care availability* effects of characteristics which influence

the capacity to benefit from the LTCI

This section discusses the methodological considerations.

3.3.1 Data and Method

The main data source is the German Socio-economic panel[53], with data available from

1984-2009, in total about half a million observations (Extracted using Panelwhiz, see

Haisken-DeNew and Hahn 2010).

Dependent variable

This chapter uses an indicator of subjective well-being as its main dependent variable,

collected through the question 'how satisfied are you with your life', and rated by the

respondent on a scale from 0 to 10. Subjective well-being data has been collected in the

GSOEP every year since 1984. As in chapter 2, the ordinal life satisfaction variable

(SWB), is transformed into a z-score, and conveys the underlying information in just

one parameter which facilitates analysis and interpretation.[54] All models have been run

on alternative specifications with consistent results.

Independent variable

The key independent variables are proxies for situations where the user has 'choice'.

Practically, 'choice' is a dummy variable where '1' means that the individual is being in

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[53] Accessed with permission from the German Institute for Economic Research (DIW Berlin).
[54] The transformation includes rescaling the ordinal SWB variable into a continuous variable, in the shape of a unit normal distribution, by subtracting the mean of the variable from any given response and dividing this by the standard deviation (Freeman, 1978).

the receipt of *public* LTCI benefits once having been deemed eligible as a LTC user and '0' means that the eligible individual has private health insurance and hence is eligible for private LTCI payments. Private LTCI also offers choice, however as elaborated in relation to the DiD models, the choice offer has remained static over time whereas the public offer has changed. When an individual has been deemed eligible[55] for public LTCI he or she is offered the choice set described in section 3.2.3.

Before the LTCI reform and up until 1996 the GSOEP does not contain a specific question asking for whether individuals are receiving care, how it is paid for and to what extent. From 1996 compulsory LTCI benefits payments are recorded which were used to identify the 'after' sample. The 'before' sample was identified from a set of individual characteristics instrumenting for the need for help with IADLs (Instrumental activities of daily living, see Leitner 2003). This resulted in a sample approximating the number of eligible individuals which was then checked for consistency with the 'after' sample. The sample was matched so that it contained a similar distribution of care needs as the 'after' sample, through significance testing on key variables ('Person Requiring Help Present In HH', 'Need help or have difficulty bathing alone', 'Difficulty/need help getting in/out bed', 'Need help with shopping'). The average and standard error of key variables are shown in table 13, illustrating the similarity of the groups.

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[55] Becoming deemed as eligible can be conceived as an independent choice, where a subset of eligible users may not actively seek to be evaluated for LTC benefits. If this is the case, the observed sample of users who receive LTCI is truncated and any unobserved differences between the observed and unobserved sample may bias the results. Conclusions can hence only be drawn for individuals who have been deemed eligible, rather than the unknown sample of all individuals with LTC needs.

Table 13 – Descriptive statistics for the DiD and DDD groups

Groups	Income	Subjective well-being	Health status	Nr of obs.
Treated (public)	21627.89 (487.05)	5.069 (0.085)	1.733 (0.037)	365
Control (private)	23114.56 (849.06)	4.821 (0.168)	1.574 (0.059)	83
Control (public- severe care needs pre 1994)	22031.9 (535.23)	4.764 (0.101)	1.625 (0.037)	97

Table is reporting mean and standard error (in brackets)
Source: GSOEP (1990-1993)

The identification strategy is due to the character of the data based on assumptions of correct reporting which is not endogenous to the SWB variable. Individuals with a negative disposition may be more likely to report more severe needs, which is also likely to be correlated with a higher propensity to report low SWB. This is however not a unique problem to the present study – any evaluation of the impact of service on LTC outcomes is hampered by the correlation of increased need (i.e. worse outcomes) and increased use of care.

3.3.2 Models

The introduction of the German compulsory LTC insurance in 1994 (see figure 7 for an overview of the reform sequence) allows for a treatment effect analysis in a DiD model. In simple terms, a DiD model seeks to weed out the effect of the treatment, choice, by taking the difference between a treatment group and a control group before and after the introduction of the policy (Lee 2005). The LTCI reform forms a natural experiment, with a 'before-after' distinction in that the LTC coverage prior to the 1994 reform was only available to the severely disabled (Schneider 1999:34; Rothgang 2010). Treatment and control groups which were affected by the choice component of the LTC insurance to varying extents through the regulation and implementation phasing of the compulsory LTCI can also be identified through the GSOEP.

The pre-reform period is (1990-1993)[56] and after is (1996-2000), where the years 1994 and 1995 are left out due to the lagged implementation period – the policy was only fully up and running, including nursing home care, by July 1996. Individual observations have been pooled from the pre and post periods. Few longitudinal observations are available over the before-after periods due to attrition in the group (only 4% of observations are present in 4 consecutive years of surveying). Year dummies are included to account for time varying effects not accounted for by the DiD dummy 'after'. The following sections discuss the models employed based on the control group selected.

H1: DiD 'system effect'

Previous to the LTCI, all individuals in need of care had to use own funds, alternatively social benefits for LTC (Schneider 1999). The benefits were means-tested, and households did not only have to spend down assets before receiving any help, using social benefits was also stigmatised (Schneider 1999). Around 10% of the population with private health insurance had LTC insurance included and for this group there was no change when the public insurance was implemented. Most individuals remained with their private options although the opportunity to switch was given. Hence, the individuals with private LTCI form a control group, similar to that of the public LTC users, but unaffected by the public LTCI. I estimate the following standard DiD equation:

$$SWB_{it} = \beta_0 + \beta_1 G_i + \beta_2 T_t + \beta_3 G_i \times T_t + \beta_4 X_i + \varepsilon_{it} \qquad \textbf{[4]}$$

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[56] Data from the years 1990 to 2000 is selected to avoid the possible disturbance of the German unification which may have systematically affected SWB. Similarly, individuals in East Germany have been excluded from the analysis.

The dependent variable is as discussed SWB is measured as life satisfaction on a scale from 1 to 10, and β_3 is the coefficient of the DiD estimator of SWB where *G=1* (for publicly insured individuals) and *T=1* ('after') interact. This is the coefficient for the treated group in the post-treatment period. The 'private' group is formed by employees earning more than the social security earnings ceiling for the German social insurance system (€3,937.50 per month in 2006). This also applies to civil-servants and self-employed who are not covered by the social insurance system within which contributions are paid equally by employers and employees, calculated from gross income up to a social security contribution ceiling (Arntz et al. 2007). This group is covered by private health insurance and after 1994 private LTCI was channelled through the health insurance funds to provide for this group which is obliged by law to buy private insurance (Geraedts et al. 2000).

A key concern for DiD estimation is the similarity between the treatment and control group, and crucially, whether there is a difference in the trend of the dependent variable between the groups – i.e. whether in absence of treatment the groups would have similar or different trends in the dependent variable (Wooldridge 2010). The GSOEP includes data both before and after the relevant study period which permits identification of any systematic divergence in trends. During the years prior to the introduction of the policy the trends in SWB converged and the trends were at no point after 1985 statistically significantly different. The group of privately insured is distinct from the publicly insured in terms of higher than average prevalence of self- employed and somewhat higher average income both controlled for in the models. It is further assumed that income and wealth are correlated, so that in absence of indicators of capital wealth, income forms a sufficient proxy. Further robustness checks are implemented; additional

time periods and dependent variables, to account for any possible negative impact on the privately insured when the public system came into effect.

H2: DDD 'choice effect'

The DiD general model with private versus public users is expanded as suggested by Meyer (1957) by including an additional control group resulting in a Difference-in-Difference-in-Difference model (DDD). The additional group consists of individuals who, in the 1988 forerunner to the LTCI schemes (see figure 7), were in receipt of benefits. This was restricted to cases of severe dependency with benefits only available for home care. The sickness funds where restrictive in granting benefits for LTC and claimants had to have been insured with the sickness funds for more than 15 years before receiving benefits (Schneider 1999). Hence, individuals who were severely handicapped prior to the introduction of the policy are likely to have benefited from the non-compulsory long-term care insurance and in practice the 1994 law did not imply a major change in how care was provided. However, the users would still benefit from being part of the new LTCI 'system'[57], including new institutional features and an expanding sector of professional care provision, but also an 'intangible' effect of the system, in and of itself. The DDD model is formalised in equation 5 where the coefficient of interest is β_6

$$SWB_{it} = \beta_0 + \beta_1 T_t + \beta_2 GC_i + \beta_3 GT_i + \beta_4 GT \times GC_i + \beta_4 GT_i \times T_t \\ + \beta_5 GC_i \times T + \beta_6 GT_i \times GC_i \times T_t + \beta_7 X_i + \varepsilon_{it}$$ [5]

GT is the treatment group, here public (dummy variable=1) private (0) and GC is the additional control group: public and severely handicapped (1).

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[57] This assumption rests on the theory of altruism and individuals having a social self whereby a benefit from being included in a society wide scheme carries a benefit, both in terms of meaning and values but also in terms of administrative structures becoming institutionalised which tends to bring a quality improvement (Fehr and Fischbacher. 2003).

The use of two control groups as discussed above is designed to capture the dual welfare effect; of the 'system' and of the 'choice'. Using the privately insured control group broadly captures the effect of the change in LTC *system* whereas the control group of severely disabled individuals captures the effect of the *character* of the system. The group of privately insured's status did not change following the introduction of the compulsory LTCI and the group hence provides a control for 'something else' taking place in the German society or economy at the time. The 'previous user' group benefited from the 'system effect' but did not experience a change in the amount of choice available to them. Hence, the group provides a control for the system effect and what remains is the 'choice effect'.

3.4 Results

3.4.1 Descriptive data

A common concern when estimating the determinants of SWB is the non-normality of the SWB variable. However, for the particular sample of LTC users, the distribution of the SWB variable is closer to the normal distribution than what generally found in samples made up of a more diverse population. This anomaly is partly explained by the poorer health status of LTC users. Figure 8 shows the distribution of self-rated health status, where 1 stands for "very poor" and 5 for "very good". The difference, between the general population in the left-hand part and the LTC users to the right, is dramatic. The much higher prevalence of "very poor" self-rated health status explains the higher prevalence of low SWB ratings illustrated in figure 9.

Figure 8 – Distribution of health status, general population (0) and LTC users (1)
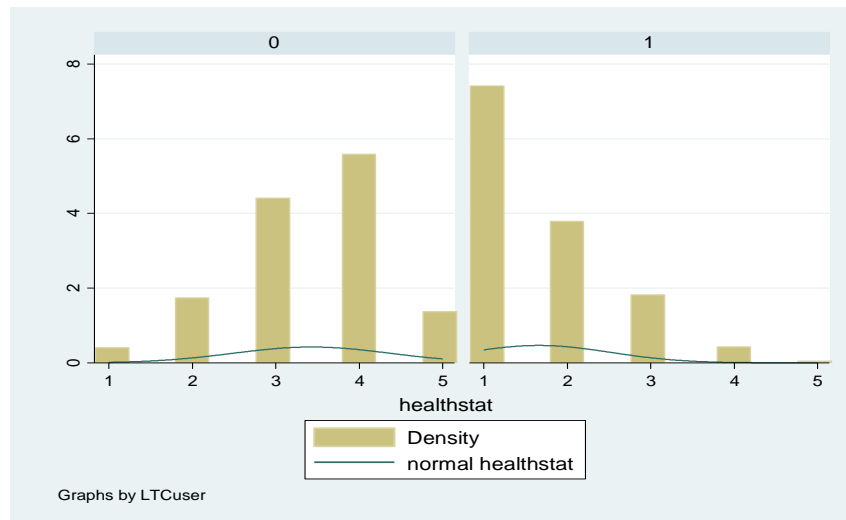
Source: GSOEP 1990-1993

Figure 9 illustrates the distribution of the SWB variable (life satisfaction) for LTC users. The users are grouped according to insurance status; 0 indicates private and 1 public insurance. Firstly, both distributions of the SWB variable are different from what we find in the general population – normally strongly skewed to the left. The distributions of publicly and privately insured LTC users are similar, however for the public users SWB distribution is somewhat more skewed to the left.

Figure 9 – Distribution of SWB, samples: LTC users private (0) public (1)

Source: GSOEP 1990-1993

The particular distribution of SWB among LTC users indicates that we can expect also the determinants of SWB to be different compared to the general population. A descriptive OLS regression reveals the determinants of SWB for the LTC user sample. The model uses a z-score transformed SWB variable which enables the application of continuous variable models – here OLS.[58] The OLS model estimates the following equation:

$$SWB_i = \alpha + \beta_1 X_i + \varepsilon_i \qquad \textbf{[6]}$$

SWB is here dependent on (X_i) a vector of individual (i) level variables; *sex, age, marital status, employment status, income, level of education, household size and health status* all well established in previous studies (see for an overview Dolan 2008), and ε is an error term.

The determinants of SWB in the sample of LTC users (see table 14) are similar to what is observed in broader samples, with a few key exceptions. Health status is strongly positively related to life satisfaction which is expected, yet this effect outweighs the normally strong effect of income. When health status is excluded income becomes significant, albeit only weakly. This illustrates the importance of the overall health situation for LTC users which is the foundational assumption driving this analysis – that the LTC experience matters enough to impact SWB ratings. Further, being divorced or separated is as expected negative for SWB compared to being married, which for this sample may be intensified by the need for informal care (most commonly given by a spouse or partner) common among LTC users. Compared to ISCED 7 (Higher education), only ISCED 4 (Vocational) has a significantly positive effect, however only

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[58] Alternatively, as discussed in chapter 2, the SWB variable can also be treated as categorical (using ordered logit/probit latent variable models).

when health status is not controlled for. The federal state of residence matters for SWB – compared to Berlin all other federal states have higher levels of SWB. Bremen in particular has the strongest positive effect compared to all other regions. There are likely unobserved geographical differences which to some extent explain the difference, but also LTC provision and support has been found to vary considerably across the regions which may account for some of the variation (Sato 2005). Relevant federal states level controls in relation to LTC provision are not available for the 1990s; hence the federal states dummies capture the full effect.

Table 14 – OLS (z-score SWB), sample: LTC users

		Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Sex	Male	-0.083	0.093	-0.021	0.111	-0.006	0.110	-0.112	0.095	-0.048	0.093
	Female					reference category					
Age		0.002	0.018	-0.035*	0.023	-0.034*	0.023	0.006	0.018	-0.015	0.013
Age2		0.000	0.000	0.000*	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Health status	Very poor	reference category						reference category			
	Poor	0.823***	0.087					0.826***	0.089	0.626***	0.083
	Fair	1.360***	0.112					1.371***	0.112	1.171***	0.114
	Good	1.722***	0.188					1.719***	0.191	1.519***	0.120
	Very good	2.267***	0.261					2.180***	0.265	1.780***	0.264
Marital status	Married					reference category					
	Single	0.150	0.189	-0.075	0.217	-0.024	0.218	0.188	0.180	0.100	0.180
	Widowed	-0.199	0.129	-0.278*	0.145	-0.284*	0.146	-0.177	0.127	-0.134	0.128
	Divorced	-0.335	0.247	-0.390	0.288	-0.287	0.273	-0.265	0.242	-0.256	0.245
	Separated	-0.455	0.324	-0.819**	0.333	-0.723**	0.306	-0.468	0.331	-0.326	0.329
Job status	In work	0.053	0.263	0.443**	0.215	0.436**	0.213	0.008	0.257	0.269	0.268
	Not in work					reference category					
Education ISCED	0	0.278	0.359	0.109	0.363	0.183	0.364	0.265	0.359	0.218	0.401
	1	0.158	0.317	0.289	0.338	0.36	0.332	0.151	0.322	0.164	0.324
	2	-0.041	0.296	-0.087	0.303	-0.016	0.302	-0.055	0.311	-0.012	0.310
	3	0.029	0.292	-0.130	0.295	-0.029	0.293	0.052	0.309	-0.008	0.311
	4	0.51	0.365	0.855**	0.352	0.870***	0.338	0.54	0.370	0.576**	0.367
	5	0.101	0.316	0.082	0.317	0.193	0.315	0.091	0.338	0.062	0.332
	6					reference category					
Monthly income (log)		-0.109	0.099	0.13	0.107	0.119	0.109	-0.08	0.101	-0.019	0.100
Household size	1					reference category					
	2	0.224	0.153	0.017	0.158	0.037	0.160	0.211	0.153	0.169	0.154
	3	0.015	0.177	-0.181	0.207	-0.133	0.214	0.043	0.181	0.026	0.176
	4	0.124	0.203	0.04	0.258	0.084	0.249	0.107	0.211	0.231	0.213
	5	0.114	0.252	-0.192	0.302	-0.17	0.303	0.177	0.251	0.148	0.254
	6 or more	0.082	0.284	-0.207	0.362	-0.272	0.377	0.079	0.299	-0.042	0.297

Federal state		coef	se	coef	se	coef	se	coef	se	coef	se
	Berlin					reference category					
	Schleswig-Holstein					0.503**	0.327	0.734**	0.291	0.453**	0.290
	Hamburg					-0.447	0.316	0.114	0.319	-0.13	0.317
	Lower Saxony					-0.134	0.322	0.461*	0.247	0.063*	0.246
	Bremen					0.545**	0.507	0.907**	0.373	0.835*	0.372
	N Rhein Westfalen					0.092**	0.287	0.405**	0.202	0.126**	0.201
	Hessen					0.480**	0.319	0.729***	0.278	0.418**	0.275
	P Pfalz Saarland					0.185**	0.299	0.348*	0.210	0.157**	0.207
	Baden Wurttemberg					0.126**	0.288	0.459**	0.204	0.216**	0.206
	Bavaria					0.089**	0.294	0.603***	0.207	0.173**	0.206
Year dummies	Yes		Yes		Yes		Yes		Yes		
Constant	0.304	1.087	-0.193	1.264	-0.325	1.306	-0.586	1.083	0.267	1.088
Observations	756		1145		756		756		756		
R-square	0.336		0.068		0.085		0.345		0.361		

*** 1%, ** 5%, * 10% significance level   Standard errors clustered by observation

Source: GSOEP 1990-1999

3.4.2 Difference-in-difference specifications

As outlined above, the DiD analysis includes separating out two main effects: the *system effect* and the *choice effect*.

H1: DiD 'system effect'

The system effect is estimated through a comparison of publicly insured LTC users to privately insured LTC users, controlling for the set of covariates discussed above. The results of the DiD regressions (equation 5), indicate a positive effect on SWB, significant at the 1% level (see table 15) and indicates an increase in life satisfaction of 0.322 of a standard deviation, from being in the treated group compared to the control group. The result is robust to inclusion of federal state and time dummies while the covariates match the results obtained in the descriptive model (table 14). The variable 'Treated' (which is equal to 1 if the LTC user is publicly insured) has a weakly significant negative impact. This means that, if not taking into account the time effect, being publicly rather than privately insured has a negative effect on SWB. We would expect privately insured individuals to have a higher SWB rating overall due to higher income and larger proportion self-employed. This also beyond what the covariates included capture, due to unobserved factors correlated with the group belonging. Similar to the descriptive regression, health status dominates. Marital status and education become significant when excluding health, but at a considerable loss in the power of the model. Again, federal state of residence is significant.

Table 15 – DiD OLS (z-score SWB), sample: LTC users

		Coef.	SE	Coef.	SE	Coef.	SE
Treatment group (after)		0.336**	0.233	0.312***	0.195	0.322**	0.228
After		-0.344**	0.230	-0.252**	0.222	-0.319**	0.224
Treated		-0.204	0.210	-0.167	0.146	-0.216	0.207
Sex	Male	-0.081	0.093	-0.021	0.111	-0.109	0.095
	Female			reference category			
Age		0.005	0.018	0.028	0.023	0.008	0.018
Age2		0.000	0.000	0.000	0.000	0.000	0.000
Health status	Very poor			reference category			
	Poor	0.823***	0.087			0.826***	0.089
	Fair	1.363***	0.113			1.375***	0.113
	Good	1.712***	0.188			1.715***	0.190
	Very good	2.266***	0.265			2.180***	0.271
Caregiver		-0.287***	0.082			-0.287***	0.080
Marital status	Married			reference category			
	Single	0.139	0.188	-0.058	0.217	0.179	0.179
	Widowed	-0.216*	0.130	-0.290**	0.144	-0.196	0.128
	Divorced	-0.356	0.247	-0.399*	0.288	-0.279	0.242
	Separated	-0.447	0.322	-0.802**	0.321	-0.461	0.328
Job status	In work	0.062	0.264	0.471**	0.216	0.025	0.258
	Not in work			reference category			
Education ISCED	0	0.293	0.353	0.121	0.358	0.281	0.355
	1	0.159	0.311	0.288	0.337	0.154	0.317
	2	-0.044	0.290	-0.084	0.299	-0.055	0.304
	3	0.03	0.353	-0.129	0.291	0.06	0.302
	4	0.515	0.311	0.857**	0.349	0.551	0.365
	5	0.104	0.290	0.088	0.312	0.098	0.331
	6			reference category			
Monthly income (log)		-0.112	0.099	0.113	0.107	-0.083	0.101
Household size	1			reference category			
	2	0.227	0.153	0.016	0.158	0.215	0.153
	3	0.026	0.177	-0.155	0.207	0.053	0.182
	4	0.131	0.202	0.078	0.258	0.11	0.210
	5	0.114	0.252	-0.154	0.296	0.177	0.251
	6 or more	0.077	0.284	-0.18	0.370	0.076	0.299
Federal state	Berlin			reference category			
	Schleswig-Holstein					0.731**	0.293
	Hamburg					0.116	0.320
	Lower Saxony					0.460*	0.246
	Bremen					0.905**	0.370
	N Rhein Westfalen					0.408**	0.200
	Hessen					0.734***	0.278
	P Pfalz Saarland					0.352*	0.210
	Baden Wurttemberg					0.459**	0.204
	Bavaria					0.602***	0.206
Year dummies		Yes		Yes		Yes	
Constant		0.432	1.088	-0.213	1.278	-0.439	1.088
Observations		524		787		524	
R-square (adjusted)		0.335		0.073		0.343	

*** 1%, ** 5%, * 10% significance level   Standard errors in brackets, clustered by observation
Years: 'Before' 1990-1993, 'After' 1996-1999
Source: GSOEP 1990-1999

H2: DDD 'choice effect'

The DDD model (equation 5), in which an additional control group, already part of the public policy, is introduced to identify the effect of the character of the scheme – interpreted as the 'choice effect'. This group, consisting of severely disabled individuals were likely to have qualified for the restrictive eligibility prior to the compulsory LTCI, had no change in service situation following the introduction of LTCI. We can however imagine that they benefit from a 'system effect' which in the DDD setting constitutes an estimate of the effect of the policy change, not of a changing care situation. The control group is identified through individuals self-identifying as severely disabled in the GSOEP, prior to the LTCI policy, limiting the strength of conclusions drawn due to possible over-estimation of the group.

Table 16 – DDD OLS, (z-score SWB) sample: LTC users

Treatment group (after)	0.806*** (0.324)	0.744** (0.327)
After	-0.067** (0.219)	-0.094** (0.217)
Treated	-0.015 (0.150)	-0.060 (0.144)
Individual controls	Yes	Yes
Federal states dummies		Yes
Year dummies	Yes	Yes
Constant	0.590 (1.012)	0.337 (1.046)
Number of observations	524	524
Adjusted R square	0.328	0.318

*** 1%, ** 5%, * 10% significance level   Standard errors in brackets, clustered by observation
Years: 'Before' 1990-1993, 'After' 1996-1999
Source: GSOEP 1990-1999

The DDD analysis in table 16 shows the positive effect of the 'Treatment group (after)' variable (equal to one for individuals who had public insurance but were not in receipt of care as part of the fore-runner policy). The SWB of this group is 0.744 of a standard deviation higher and significant at the 5% level (when introducing federal state controls, 1% without). The effect size is larger than the 0.32 of a standard deviation in the DiD model including federal state controls (table 15). The DDD effect size can be compared to the difference in SWB from a move between the categories "very poor" and "poor"

health which is a modest improvement, which is however expected due to the broad nature of the dependent variable. Table 11 in appendix shows the full table of covariates. The results remain consistent when excluding health status and federal state dummies.

Equity implications

The hypothesis of an equity effect of the choice based policy is here tested in two steps following the DiD and DDD methodology in the main effects estimation. Subsamples of income quartiles and education levels are used to capture the equity arguments of the differences in capabilities and capacity to take up and benefit optimally from choice. Table 17 shows results of DiD estimation (equation 4) repeated on income quartiles 2 and 3. Both are individually significant at the 5% level, and taking the two quartiles together generates positive results significant at the 5% level. Higher education also accounts for a significant (5% level) and positive effect, weaker than for income quartiles 2 and 3. Interpreting these effects as 'system effects' implies that a proportion of the effects stems from going from a situation where a LTC system was not in place to one where all users are, at least partially, provided for. Hence a certain proportion of this inequitable effect is attributed to the particular benefit to relatively well-off individuals who would under no circumstance qualify for social assistance benefits which was the only support available for LTC users prior to the instigation of the LTCI.[59] The strongest effect size, found for the 2nd quartile, is in line with expectations as this group previously would have been excluded from the means-tested benefits, yet with very little resources to cover privately financed care.

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[59] Similar debate regarding in the UK means-tested system in which middle income earners face catastrophic costs of prolonged LTC usage (threshold for means-tested benefits was £23,250 in 2012) which was proposed to be replaced by a cap on own spending on care by the Dilnot commission (Dilnot 2011) .

Repeating the equity analysis in the setting of the DDD specification instead captures the equity effect of the 'choice' character of the public LTCI. The results differ interestingly from the DiD analysis – the 'treatment group' (after) dummy is generally insignificant across the sub-groups higher/lower education and individual income quartiles. The only significant effect is found when combining income quartile 1 and 2 (below median income). The results, albeit suffering from small sample sizes indicate that the benefits of choice is not primarily tied to high income.

Table 17 – DiD OLS, (z-score SWB) sample: LTC users, by social group

	2nd quartile	3rd quartile	Q 1 + Q 2	Q 2+ Q 3	Education >9 years
Treatment group (after)	0.955**	0.521**	0.285	0.670**	0.417**
After	-0.504	-0.204	-0.283	-0.351*	-0.691**
Treated	-0.407	-0.363	-0.034	-0.521	-0.409
Individual controls	Yes	Yes	Yes	Yes	Yes
Federal states dummies	Yes	Yes	Yes	Yes	Yes
Year dummies	Yes	Yes	Yes	Yes	Yes
Constant	-3.271 (4.689)	7.879*** (5.876)	-0.959 (1.440)	1.843 (2.205)	-2.453* (2.343)
Number of observations	203	147	473	403	379
Adjusted R square	0.396	0.348	0.313	0.353	0.384

Source: GSOEP 1990-1999   *** 1%, ** 5%, * 10% significance level
Years: 'Before' 1990-1993, 'After' 1996-1999, standard errors in brackets, clustered by federal state (region).

The role of family carers

A key unexplored aspect of the welfare effects of choice is to what extent family care is available – the German LTCI offers the choice of a range of mixtures of care, and all but family care are fairly equally available for users. The willingness and capacity to care on the part of the family and relatives has been shown to matter for the type of LTC provision (Costa-Font 2010). The role of family carers has previously been modelled in terms of the intergenerational relationship between parents and children and the

dynamics underlying decisions to take out LTC insurance (Zweifel 1996; Zweifel and Strüwe 1998). They find that LTCI can crowd out care by the children and that parents may choose not to take out insurance as they fear it will decrease the children's sense of responsibility. Zweifel argues that a major problem with introducing LTCI is that it has very little private demand. Insurance may reduce children's willingness to provide caregiving in favour of care provided by third parties (1996).

The above analysis has not directly evaluated the role of the availability of informal carers, but here subsample analysis based on instrumented group definitions provides further insights. The most common informal carers are spouse and daughter (in-law) (Arksey and Glendinning 2007) and table 18 illustrates the above regression models (DiD estimating 'system effect' and DDD estimating 'choice effect') run on sub-samples consisting of individuals with varying probability of access to informal care. The data does not allow for directly identifying carers, or what type of care the individuals are receiving, hence an approximate selection has been made by using indicators of the LTC users household situation and marital status. Spouses are the most common carers and we can therefor assume that an LTC user who is married is more likely to have access to at least some informal care, and, on the other hand, a divorced or separated LTC user is more likely not to have access to informal care (Mentzakis et al. 2009). Living in a single household is a further indicator of a lower probability of receiving informal care (Mentzakis et al. 2009). Single household and LTC users who are divorced/separated still benefit from the system effect – the 'treatment group (after)' coefficient is positive and significant in the DiD model, also when controlling for time fixed effects. When selecting the sample of married individuals, the DiD no longer generates positive SWB effects. However, the group 'married individuals' is the only

subsample for which the DDD coefficient is positive and significant across specifications. The results indicate that the LTCI policy had an overall positive effect also in LTC users with limited (or low probability of support from informal carers) it was among individuals with a high probability of informal support that a *choice* effect (as in the DDD analysis) was present rather than the 'system effect'. The effect sizes on the positive group indicators are similar to those found in the main analysis.

Table 18 – DiD and DDD, OLS (z-score SWB), sample: LTC users by family composition

	Divorced/separated				Single household				Married			
	DiD		DDD		DiD		DDD		DiD		DDD	
Treatment group (after)	0.884*** (0.263)	0.798*** (0.255)	0.835 (0.450)	0.585 (0.426)	0.720** (0.363)	0.637* (0.637)	1.165** (0.549)	0.650 (0.539)	0.051 (0.221)	0.015 (0.217)	0.55** (0.331)	0.590** (0.354)
After	-0.651** (0.288)	-0.601** (0.278)	-0.246** (0.412)	0.0568** (0.256)	-0.257** (0.352)	-0.232** (0.358)	-0.01 (0.410)	-0.312 (0.390)	-0.172 (0.291)	-0.091 (0.273)	-0.091 (0.342)	-0.154 (0.318)
Treated	-0.472** (0.189)	-0.411** (0.181)	-0.143 (0.246)	0.066 (0.221)	-0.124 (0.239)	-0.149 (0.276)	0.298 (0.225)	0.154 (0.260)	-0.110 (0.183)	-0.104 (0.167)	0.036 (0.217)	-0.175 (0.120)
Individual controls	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
Federal states dummies		Yes		Yes		Yes		Yes		Yes		Yes
Year dummies		Yes		Yes		Yes		Yes		Yes		Yes
Constant	-0.397 (1.863)	-1.238 (1.918)	-0.968 (1.911)	-4.473 (1.954)	-1.225 (1.690)	-2.121 (1.171)	-1.777 (1.715)	-3.933 (1.696)	1.827 (1.912)	2.595 (1.962)	2.075 (1.832)	2.697 (1.934)
Number of observations	400	400	400	400	247	247	247	247	345	345	345	345
Adjusted R square	0.402	0.414	0.403	0.37	0.364	0.383	0.377	0.321	0.268	0.306	0.268	0.276

*** 1%, ** 5%, * 10% significance level   Standard errors in brackets, clustered by observation
Years: 'Before' 1990-1993, 'After' 1996-1999
Source: GSOEP 1990-1999

3.4.3 Robustness checks

This section tests the robustness of the results of the DiD and the DDD analysis above following (Wooldridge 2010) and (Lee 2005). Firstly, multiple time periods are tested which shows that only in the real 'before-after' periods are the SWB estimates positive and significant. Secondly, a set of alternative dependent variables control for any unobserved change in the reporting of the life satisfaction variable or other unobserved effects.

Multiple time periods

A commonly implemented robustness check for DiD models is to run the model on a range of time periods with the assumptions that only the relevant 'before-after' time period generates a positive and significant coefficient for the relevant DiD interaction (Lee 2005). The test refutes the diverging trend explanation under which any difference between the groups can be explained through trends in the dependent variable unrelated to the policy change under investigation.

Table 19 – DiD, OLS (z-score SWB), sample: LTC users, results of varying time periods

Time variation	Before	After	Results	Significance
1	1985-1993	1996-2009	Positive	***
2	1990-1993	1996-1999	Positive	***
3	1993	1996	Insignificant	
4	1990-1993	1999-2002	Positive	*
5	2000-2003	2004-2008	Insignificant (negative)	
6	1996-2000	2000-2004	Negative	***

Source: GSOEP   *** 1%, ** 5%, * 10% significance level

Table 19 shows that it is only in the variations of 'before-after' period that positive and significant coefficients are estimated. Time variation 3 generates insignificant results

due to small sample size (number of observations: 361). The main control variation (nr. 6) where 'before' is set to *after* the implementation period the result is negative, and, remarkably, significant. A possible explanation for the result is the state of continuous reform of the LTCI, where soon after the implementation critique was raised against insufficient payments and extensive eligibility criteria (Rothgang 2010).

Alternative dependent variables

The DiD and DDD models have been run with alternative dependent satisfaction variables: satisfaction with household income and satisfaction with health status, both with insignificant results. As these measures are known to be correlated with life satisfaction and a random effect on the life satisfaction variable would likely have been seen also on related satisfaction measures (Ferrer-i-Carbonell 2002; Ferrer-i-Carbonell and Frijters: 2004). A weakly positive effect on both alternative dependent variables would have been acceptable as income is likely to have improved for LTC users and we might expect a small improvement in health status when the care situation improves. Nevertheless, as the descriptive regressions (see table 14) revealed, for the sample of LTC users income is not a significant covariate. Health status is on the other hand a strongly significant predictor of life satisfaction and the insignificant effect on satisfaction with health indicates little improvement of health outcomes. The weak evidence of outcome improvements (and as follows SWB effects of outcome utility) indicates, as the DDD regression suggested – a role for SWB effects in terms of procedural utility. On the other hand, although no outcome improvements can be identified through the limited scope of this analysis, it is possible that objective circumstances (such as number of care hours or appropriateness of care) have improved.

No detailed care indicators are available in the GSOEP before the introduction of the LTCI which renders it impossible to integrate these considerations into the DiD modelling.

The availability of formal care options

The German LTCI offers a choice set (discussed in section 3.2.3) which includes formal care provision options in residential care facilities. The extent to which shorter or longer stays in care facilities, or additional (non-family) support by care professionals, is available depends on the local competition on the market for LTC provision. Hence, not all individuals choosing between family and professional home care may perceive professional home care and nursing homes as an option. Previous studies have found that the provision and particularly the development of provision over time differ substantially between the German federal states (Sato 2005). Sato's analysis was carried out at the federal states level, which is the administrative unit, and provides the boundaries for allocation of care. Due to the entry barriers of the care market we cannot simply assume that any differences in ratios are only due to different character of demand in the federal states. The difference identified by Sato potentially explain some of the noticeable difference between the federal states in the DiD and DDD models above. In the DiD and DDD models federal states fixed effects account for the role of local service provision but does not further explore the dynamics behind the differences. Data on LTC provision is only available from 2003 and cannot be entered into the DiD and DDD as a time series control. However, running OLS regressions (equation 4) on pooled cross-sectional sample of data from 2003-2007 provides a test for a relationship between the various market characteristics and SWB. No significant effects of local care

availability were identified, when using a range of federal level indicators: the number of care homes per 1000 users, number of nursing companies, nursing home places, nursing companies per 1000 users, and a composite indicator of overall formal care availability. This implies that even though federal state of residence has a clear impact on SWB, the effect is not likely to be strongly dependent on the offer of formal care services available.

3.5 Discussion

The analysis has shown a strong positive overall welfare effect among LTC users following the introduction of the German compulsory long-term care insurance in 1994. The DiD regressions, comparing publicly insured to privately insured users, found a positive SWB effect after the introduction of the LTCI, capturing the outcome effect – or the 'system effect' of the new LTC system. The results are conditional on the approximate sample selection in the pre-policy period. Assuming that LTC user do not significantly under or over-report their health and care needs the results are robust to varying specifications, dependent variables and time periods. When introducing a second control group (the severely disabled users already covered by LTCI before 1994) in the DDD models the coefficient for the effect size increases. The DDD confirms that the 'system' effect is not the only effect and captures the change in SWB that is caused by the character of the system – the 'choice effect'.

The positive SWB effects of both the new system and its choice component are in line with the choice literature. For choice to be welfare enhancing, user access to

information, contained number of options and low risk of regret are important conditions (Schwartz et al. 2002; Schwartz 2004). LTC users have personal knowledge about their own care needs (which, even in cases of daily medical interventions, are often of low technological intensity) and the availability of informal carers for their specific care situation. This contributes to the interpretation of the present results as, at least partly, stemming from the choice component to the LTCI. Information about professional care options and their quality is likely to be scarcer but the number of distinct options are relatively few and, importantly, it is possible to change care allocation (between cash and in-kind) yearly (Rothgang 2010), which is known to lower the potential risk of regret. It is also likely that care choices are made within the family, decreasing the challenge of the decision procedure lowering choice aversion.

The equity implications, compared to the situation of means-tested (social assistance) benefits of the pre-LTCI period, are mixed. The results of the 'system effects' regressions suggested significant SWB effects among middle class (middle income and mid to high education), which is likely explained by the significant improvement in long-term economic situation that the LTCI brought. This group was ineligible for social assistance and would hence be likely to bear the full cost of also prolonged LTC needs. The effect of the character of the system, the 'choice effect' is on the other hand significant only in the lowest income quartile and there are no significant differences between education categories. This indicates an equitable 'choice effect' on LTC users. However, the 'choice effect' is significantly stronger among users who are married, compared to those in single households and those who are separated or divorced. As married LTC users have a significantly higher probability of receiving informal carer,

this in essence means that the user has a 'real choice' including an option beyond professional provision. Informal care is also the type of care which the policy is designed to incentivise; hence, these individuals have the opportunity to use the LTC payments optimally. Even though Germany is, compared to other European countries, a country with relatively strong family values ('familism' Costa-Font (2010)) the take-up of the cash option has been lower than expected (Rothgang 2010).

The financial character of the LTC system, albeit controlled for in terms of income and other relevant outcome indicators such as health status, is likely to play an unobservable role in the regressions. The income effect of LTCI is weak due to the high co-payments present also when receiving LTCI, it is expected that 40% of users had to seek social benefits to cover care needs (Schneider 1999:58). The low rate of benefits in the LTCI and the high eligibility requirements lead to reform pressures coming into the 2000s (Heinicke and Thomsen 2010). Arguably the problems can be identified in the SWB data, running a DiD with 'before' time period set to 1998-2000 and 'after' to 2001-2002 the effect is negative on the public LTCI treatment group compared to the privately insured in the control group. The results further confirm previously discussed variation (Sato 2005) in LTC provision between the German regions (federal states) with clear difference in SWB found both in descriptive analysis and the DiD and DDD models. The differences found by Sato, in family care patterns, number of professional care companies and care institutions may reflect varying levels of quality of LTC provision between the federal states provides a plausible explanation for the differences in SWB for the specific LTC user samples.

Finally, the relatively strong 'choice effect' suggests a role for procedural utility in the case of choice in LTC. The effect is stronger than the overall system effect, which as discussed above captures the changing outcomes for LTC users. This means that it is likely that LTC users gain utility from the autonomy and self-determination involved in 'cash-for-care'. The results indicate weak evidence of procedural utility from the character of the system and from having key provision options available.

3.6 Conclusions

This chapter found that the introduction of the German LTCI system improved SWB among users. Also the effect of the choice component, the key characteristic of the system, was identified as enhancing users' SWB. The general system effect is more pronounced among middle income earners, as expected due to the move from a means-tested to a universal system. The empirical analysis on the other hand suggests that the benefits of choice, in and of itself, are found among individuals in lower income segments to a higher extent than any other income group. The benefits of choice (but not the benefits of the system as a whole) are also found to be dependent on the probability of access to a key option – informal care provision.

Chapter 4   Privatisation

Preferences for consumer choice and the link with privatisation in health care: evidence from England, Ireland and Sweden[60]

Abstract

The middle class has, by various literatures, been identified both as a key beneficiary and proponent of provider choice in public services, as well as a key constituency for welfare reform in general. This chapter examines whether a 'middle class preference' for choice can be identified empirically, and, whether the preference is for choice in and of itself, or rather, characteristics and outcomes generally prevalent in choice based systems. The chapter compares choice available through systems of provider choice to systems of privatised financing hypothesising analogous preference sets. Comparative analysis of three tax-funded traditionally publicly provided and financed health care systems (UK (England), Ireland and Sweden) using official expenditure data and Eurobarometer survey data provides evidence. The findings indicate preferences for choice held by the middle class above other system characteristics, both in the systems of provider choice and in a privatised financing structure.

4.1 Introduction

The equitability of choice policies, together with the proposition that choice reforms inevitably lead to, or represent, a process of marketization and privatisation, have been the subject of much debate. These debates, often played out in the media by political commentators, have theoretical underpinnings: according to Blomqvist, this process is linked to the demands of 'the well-off' (2004). Blomqvist argues that the 'well-off' benefit disproportionately from choice and privatisation and that choice reforms are driven by a 'self-perpetuating' dynamic fuelled by the demands of the 'well-off' (2004: 152). The 'well-off', translated into various conceptions of the middle class, is in an extensive literature, placed at the centre of welfare reform (Esping-Andersen 1990; Hibbard et al. 2005; Donnelly 2010). This group is argued to have a distinct preference for consumer choice (Fotaki 2009), to demand a specialised service, and finally to have a tendency to exit the public system if quality becomes an issue (Costa-Font and Jofre-Bonet 2008). Blomqvist's argument does not specify a clear conceptualisation of choice and privatisation, which in reality can take place under a range of circumstances. Le Grand identifies at least six categories in which choice can be implemented (2007a) and privatisation incorporates a variety of processes in the provision and financing of public services.

Complementing the analysis of the preceding chapters, which found that choice in health care is associated with inequitable benefits, this chapter investigates the social class gradient of the demand for choice. The chapter empirically examines the claims of Blomqvist, primarily the preferences of the 'well-off' (or the middle class as the socio-economic group is referred to in this thesis) for choice, and explores how the

preferences under private financing compare to those in universal health care systems. In order to do so, the chapter disentangles the range of systems of choice and privatisation found in NHS type countries. The chapter relies on the fact that choice for the individual is available to users within two distinct systems: 'choice of provider' and 'privatised financing' (VHI). The analysis contributes to the equity analysis which is an overarching objective of this thesis. No previous empirical studies have considered preferences for choice and the relation between accessing provider choice through the public system compared to through the use of private insurance. The chapter explores the hypothesis that choice and competition reforms in universal systems do not necessarily encompass welfare retrenchment, but can instead function as a catalyst for retaining support for the universal welfare state – and in certain cases even the expansion of coverage.[61] The analysis is guided by the following research questions:

- Is there a middle class preference for choice in NHS type health care systems?

  o Are middle class preferences linked to choice in and of itself or is there a role for outcomes produced by choice schemes?

  o Are there complementarities in the provision systems under consumer choice and under privatised financing?

The chapter is focused on health care reform[62] but some reference is made to choice policies in LTC to illuminate the diversity of choice characteristics as a shift in responsibility from a theoretical perspective. The debate is particularly relevant to NHS type systems where choice is not traditionally available (social health insurance systems by default incorporate a range of choices available to patients – e.g. direct access to

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[61] This argument has been made in Environics International (2002) referring to territorial choice, or the introduction of fiscal federalism, which is argued to prevent the privatisation of public services.
[62] Similar reforms are common in education and employment services (Schelkle 2011) and the schematic approach to privatisation captures dynamics applicable also to these areas.

specialists of their choice). This chapter takes a comparative approach to reform trajectories in three NHS type countries: England (universal yet consumerist); Sweden (universal and state oriented); and Ireland (semi-universal and privatised).

The chapter proceeds with a discussion of the character of choice in health care, the role of the middle class and the varieties of privatisation. The institutional evidence in 4.3 includes reform trajectories of the three countries and expenditure data illustrating the complementary nature of choice in provision and privatisation of financing. The institutional evidence is complemented by a regression analysis of stated middle class preferences. Finally, the results are discussed in the broader context of European welfare restructuring.

4.2 Background

The phenomenon of liberalisation in European welfare states is argued to be the result of a wider process of liberalisation in the world economy, where globalisation, integration of trade and movement of people have changed the relationships between individuals, markets and states (Korpi and Palme 2003; Clarke 2004). Such liberalisation includes, as discussed in previous chapters, increased user *choice* in a wide and increasing array of decisions in relation to the welfare state and *competition* in public or private markets or quasi-markets (Le Grand 2007a). Crucially, the process also involves, implicitly or explicitly, a *privatisation* in the sense that it shifts responsibility from the state to the individual as well as to private actors (providers) (Beerman 2000). One line of research argues that consumerism has become a mainstream feature of

modern European societies, profoundly changing the relations between individuals, the state bureaucracy and welfare provision. This new relationship resembles the interactions and processes which individuals are inherently accustomed to facing in private markets. It thus follows that choice in public services is a 'natural' progression of the provision of public services – if people view themselves as consumers in every other aspect of life then an authoritarian relationship with public services represents an exclusion not readily accepted (Clarke 2006).

The shift from public to private sector has been legitimised in a number of ways. At the core was an assault on 'bureaucratic' inertia, inefficiency (Saltman 1994) and the view of markets as dynamic, innovative and flexible. Nevertheless, there was also the contrast between 'monopoly providers' and diverse provision enabling 'consumer choice', as well as a new contrast between 'producer' and 'consumer' interests (Rico et al. 2003; Jha et al. 2007). The dissolution of public sector provision has significant impacts on the political, economic and social relations of welfare (Shekelle et al. 2008). At the individual level, consumer choice is almost universally viewed as a 'good' or a welfare enhancing feature, with an intrinsic value (Dowding and John 2009). Studies also show that people are strongly inclined to covet choice (Botti and Iyengar 2004), but that the complexity, importance of the choice and information availability are key determinants of the extent to which choice is desired.

This phenomenon has attracted attention in policy circles as well as in a wide range of academic fields – especially since the financial crisis of 2008 and its subsequent austerity pressures and increased economic uncertainty. Economic intuition states that

consumer choice and competition between providers (private or public) leads to higher service quality ('bad' providers are incentivised by the threat of being forced to exit the market) as well as to a more efficient allocation – and therefore ultimately to better and more affordable service (Barr 1993). However, a growing body of research indicates that public services are not generally perfect markets and the result is in most cases are various quasi-market[63] solutions (Forder et al. 1996). The introduction of choice reforms leads to the portrayal of cost-containment measures as aligning with austerity pressures and is in turn argued to implicitly represent *privatisation* and retrenchment of the welfare state. It is often assumed that provider privatisation opens the door to the privatisation of the *financing* of the welfare state, for example through encouraging a more active role of private complementary insurance, and hence the privatisation of risk (Hacker 2004).

Choice and competition policies are present to varying extent in most European welfare states with an important distinction between the tax funded (NHS) and social insurance (SI) funded health care systems (Costa-Font and Zigante 2012). In the latter, for example in Germany and the Netherlands, choice forms an inherent part of the system, with direct access to chosen specialists and substantial access to private options (Jacobs 1998; Frank and Lamiraud 2008). In tax funded health care systems (NHS), for example Sweden and the UK, little choice has traditionally been available and GPs have functioned as gate-keepers for access to specialists (Wendt 2009). Choice and competition has, since the early 1990s, become common feature, often motivated by their propensity to increase responsiveness and quality (Le Grand 2007a; 2009). The

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[63] Quasi-markets involve a purchaser-provider split, for example in the NHS fund holders purchased care from NHS trusts and District Health Authorities competing for custom (Le Grand and Bartlett 1993).

rise of choice and competition in NHS countries represents a distinctive qualitative change in the character of welfare provision which is not present in SI systems.

4.2.1 Character of choice and the varieties of privatisation

Broadly speaking, the literature on choice (following Le Grand 2007a), allows us to distinguish six choice categories of choice in health care. First, there is the choice of financer, which includes the option or incentive to take up private supplementary or complementary insurance. Second, the choice of provider determines where the individual is treated, for example at which hospital or primary care practice. Third, there is the choice of professional, includes the selection of who to be treated by for example which general practitioner or specialist. Fourth, there is the choice of service – for example choice of treatment or drug prescription and choice of what time the selected treatment takes place. Fifth, there can be a choice of access channel, which is generally face-to-face, but increasingly done through the phone or the internet and transaction costs have declined as a result (Le Grand 2007a). Finally, there is the choice of treatment, i.e. the patient or user having a say in the choice of treatment strategy, and potentially withholding treatment.

In LTC on the other hand, a similar yet significantly different process can be observed, in the shape of family based privatisation or 'familialisation'. Current reforms in LTC, as choice reforms in European LTC systems are dominated by cash-for-care schemes (for example as discussed in chapter 3 in the context of Germany). Cash-for-care schemes builds on the idea that care is provided in the home, coupled with incentive

structures for family and private carers (Lundsgaard 2005). Table 20 outlines the types of choices present in the provision and financing of health care and LTC.

Table 20 – Types of choices in health and long-term care

	Health	Long-term care
Financer	Public (tax) D, Private health insurance, out-of-pocket payments	Public (taxes, often means-tested), Private savings (D), LTC insurance
Provider	Public (D), private, community/voluntary	Family (D), public, private, community/voluntary
Professional	GP, specialist	Relational social care provider (family, friend), home care nurse
Service	Appointment, surgery	Visiting hours, daily routine
Type of treatment	Withholding/restricting treatment, non-traditional methods	Social engagement, rehabilitation
Access channel	Phone, internet, in person	Phone, internet, in person, telecare

Note: categories following Le Grand 2007a. (D) denotes for the most common default category in NHS type systems.

More specifically for LTC, the set of options discussed above apply, yet due to the lower rate of institutionalisation of LTC systems, the choice categories have different implications and bring different incentive structures. There is the choice of provider, professional and service, similarly to in health care. A key choice policy in LTC is however the introduction of cash-for-care schemes (particularly dominant in SHI systems but increasingly in NHS type welfare states), which essentially provides the user with an on-going choice of how to administer his or her daily care needs through the option of receiving cash payments or in-kind support (Lundsgaard 2005). The cash-for-care schemes vary considerably in level of regulation and level of benefit payment but regardless they are seen as a major trend in European welfare reform and are supported by EU policies promoting ageing in place (Lundsgaard 2005; Da Roit et al. 2007; EC 2008; Costa-Font et al. 2009; Fernandez et al. 2009).

Private options and liberalisation adds a new dynamic and affects the foundations of universal welfare provision, particularly in the tax funded systems this paper considers (Blomqvist 2004). However, the conceptualisation of privatisation is central to capturing the dynamics brought about by, or in tandem with, choice reforms. Previous approaches to the conceptualisation of privatisation tend to separate only the public, i.e. the state, from the private (business) such as in Beerman (2000). Clarke instead refers to 'the two privatisations' in the remaking of the public realm (2004: 32). Firstly, there is the shift between the public and the private *sectors*, from public provision or production to private companies or voluntary organisations (although Clarke places the not-for-profit sector somewhere in the middle). Secondly, there is a shift from the public to the private *sphere* (here family sphere) which Clarke argues implies a transfer of social responsibility and has been most visible in terms of providing long-term care (2004). Voluntary organisations, charities and social enterprises have varying importance across Europe, and play a considerable role in certain countries. Table 21 outlines the types of privatisation, distinguishing between financing and provision and between sector and sphere (following Clarke 2004) as well as deconstructing each by actor.

Table 21 – Varieties of privatisation – sectors and spheres

	Market (sector)	Family (sphere)
Private financing	Private insurance	Private savings, minor role for private insurance. (out-of-pocket payments)
Private provision	For profit Non-profit community based	Family based

Source: author's own

Health care and LTC diverge the way in which choice policies can represent a form of privatisation. Firstly, choice in the financing system of health and LTC, in which varying cost-sharing mechanisms emphasises the option for individuals to either invest in voluntary health insurance to cover co-payments or to seek private care paid out of

pocket, is essentially a choice of how to deal with the added cost. There is also a choice between providers of private health insurance, assuming that the market is competitive and open to entry. However, the latter is often constrained as private insurance markets tend to favour a small number of large providers able to pool risk across a larger group and contain costs (Evans 1987). Secondly, regarding choice of provider, the main distinction is between types of providers: for profit, non-profit or the family. It is important to note that a proportion of choice is often offered between public providers to avoid waiting lists. Private for profit providers, such as private hospitals, general practitioners (GPs), care institutions and home care providers form a rather recent, yet powerful, stakeholder in welfare reform. Often companies bid for contracts in quasi-market settings, such as in the hospital sector in England discussed in chapter two, again favouring large and well-established corporations. Choice may also incentivise family or informal provision, particularly in LTC where the level of technical difficulty and knowledge required when providing care is less challenging to acquire. Families as a general rule support health care with before and after- care, for example in relation to in-patient surgery. Even though this is common practice, there is little room for help with financing and little choice whether to take on caring duties or not. Family care before and after a health care incident is considered a private matter. In this way it is considered distinct from the care incentivised by government funding in LTC.

The discussion of the varieties of privatisation in has been centred on the state as the 'default' provider, meaning the provider which is the institutionalised and incentivised option – but importantly this is not always the case. This is generally true for Scandinavian counties with a history of full state provision (Esping-Andersen 1990).

However, from a European perspective the default is not always the 'public' and not constant across all types of public services. The default here means the type of provision which forms a base category from which individuals can opt out or add additional services. For instance, in a NHS type health care system tax funded public provision forms the base option. For health care, the public is today most often seen as the default[64], which is however not the case for the expanding field of long-term care. Granted, in the Scandinavian countries, the universal financing and provision of long-term care forms the default (Fukushima et al. 2010), but this is an exception. For long-term care, the family has been the key provider, and is still in many countries. Even in countries where more recently universalist LTC systems have been introduced, such as Germany (1994) and the Netherlands (1968 but extended to personal budgets in 1995), the role of the private (market and family) is prominent in the financing and provision of care (Roit and Bihan 2010).

4.2.2 The role of the middle class

An extensive literature puts the 'middle class' at the centre of welfare reform (Esping-Andersen 1990; Hibbard et al. 2005; Donnelly 2010) and, in doing so, places particular emphasis on choice and privatisation reform. The middle class is argued to benefit substantially from universally provided services and benefits, at times even more so than other social groups, due to their ability to manoeuvre the system as a result of their generally higher levels of education and societal standing (e.g. connections) (Goodin and Le Grand 1987). Korpi and Palme (2003) forward an argument to revive the role of

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[64] Historically, however, the public has not been the default. In Western Europe in the nineteenth century the only significant forms of insurance were provided by mutual associations, employers, guilds or unions – on a voluntary basis. For example, 10% of Sweden's workforce was covered by voluntary private insurance schemes called "Friendly Societies" in 1885.

class when explaining the welfare state in response to Pierson's new politics of the welfare state (Pierson 2001). Korpi and Palme see class as defined through "membership groups with which individuals identify and the specific subcultures and norms of such groups" (2003: 427). This is somewhat distinctive compared to the definition of class as categories of individuals who share relatively similar positions or situations in for example employment relations (Goldthorpe 2000). The chapter is based on the theoretical arguments in favour of the middle class as a key constituency for welfare reform (Goodin and Le Grand 1987; Loayza et al. 2012).

The middle class is argued to have a distinct preference for consumer choice (Fotaki 2009) and this influential group demands a special service and has a tendency to exit the public system if quality becomes an issue (Costa-Font and Jofre-Bonet 2008). Blomqvist's view of the 'well-off'[65] is well supported in various literatures, linking with the ideas of consumerism (Newman and Kuhlmann 2007) where it is argued that the relatively 'well-off' group demands a culturally specific service, for which choice is public services is a convenient fit. Several authors have attempted to make sense of this dynamic, its normative appeals and particularly deduce what effect it might have on the role and goals of the welfare state (Clarke 2006; Jones and Needham 2008; Fotaki 2009).

The particular dynamics of the influence of the middle class on choice reform is not explored further in this thesis. Instead the analysis follows Blomqvist's argument that the 'self-perpetuating' nature of choice and privatisation rests on the well-off benefiting

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[65] See also Bevan et al. (2010); Dixon and Le Grand (2006); Robertson and Burge (2011) in different ways discussing why more affluent individuals are likely to benefit more from choice.

more from choice and privatisation reforms and being in a position to influence policy makers towards more choice reforms (2004). Blomqvist does not deal with the historical dynamics and necessary factor of the initial move towards choice and privatisation in Sweden. Other literatures have dealt with the process of policy makers being influenced, actively or passively, by particular constituencies (Finseraas and Vernby 2011), and proceed under the hypothesis of interlinked preferences and policy outcomes in the case of consumer choice reform. Nevertheless, no attempt is here made to disentangle the dynamics with which the preferences of the well-off translate into policy change.

4.3 Institutional evidence: varieties of privatisation in Sweden, England and Ireland

This chapter presents evidence from Sweden, United Kingdom (England) and Ireland illustrating how choice can be institutionalised in different ways in similar yet highly distinct health care systems. The countries all conform to the National Health Service (NHS) model of health care financing which traditionally has offered little choice to patients. Financing is generally drawn from taxes and non-tax government revenues and coverage is universal. In difference to social health insurance systems (SHI)[66] which have been more likely to contract with providers (public and private), tax-financed systems tend to operate publicly managed facilities. As a result the provider payment mechanisms in SHI systems is inclined to be more defined than those in tax-financed systems. Furthermore, most tax-financed systems operate a GP gatekeeper system

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[66] This contrasts with the other 'archetypical' health system category; social health insurance (SHI) which raises revenues largely from earnings-related contributions levied largely on formal sector workers.

whereas in SHI systems patients have more of a choice of provider and direct access to specialists of choice.

The cases were selected based on Wendt et al.'s clustering (2009) where Denmark, United Kingdom, Sweden (which are all early developed NHS countries), Italy (late developed NHS) and Ireland (not fully institutionalized NHS) are identified as the NHS cluster. A medium level of total health expenditure characterizes the cluster, the share of public health funding is high, and private out-of-pocket funding is moderate. Also access structures, the role of co-payments, regulation of provider and opportunities for competition are similar, which are argued to be key considerations when grouping health care systems (Jacobs 1998; Marmor et al. 2005). Vrangbaek et al. (2012) argues that we in fact see convergence of policy in Sweden and England where the countries are moving towards a similar rhetoric in relation to choice policies. The countries, albeit similar NHS type countries, exhibit considerable differences in the approach to, and reform trajectory of, choice and privatisation. For example, Sweden's approach has an undercurrent of an overall universalistic welfare state. This model stands in stark contrast to the more consumerist English welfare provision. Finally, Ireland, which has a traditionally lower overall spending level, has managed to arrive at a situation over the past two decades that resembles the expenditure and services provided by that of Sweden and England, however based on its own, unique financing structure.

The reform trajectories of the Swedish, English and Irish health care systems diverge mainly in terms of the financing structure. On a general scale, private health insurance (PHI) prevalence has proven challenging to explain on a comparative level. The OECD

finds that market sizes for PHI differ across Europe and are not dependent on GDP or to any stronger degree to health system spending (Tapay et al. 2004). This indicates that other explanations are of relevance, which I here explore by comparing the countries' structures and developments over time with particular focus on PHI and co-payments using expenditure data from World Health Organisation (WHO 1996-2012). At a first glance, we find a discrepancy in the usage of private health insurance. The difference is shown in figure 10. In 2012 34.4% of the Irish health expenditure was paid through private insurance plans compared to less than 10% in Sweden and the England. The difference cannot be explained by overall size of expenditure, government expenditure or, at least not fully, overall private expenditure (including co-payments such as GP fee in Sweden of €15). Total private expenditure is higher in Ireland, much owing to steep fees for GP visits (McDaid et al. 2009).

Figure 10 – Health expenditure indicators 2010 (Sweden, England, and Ireland)
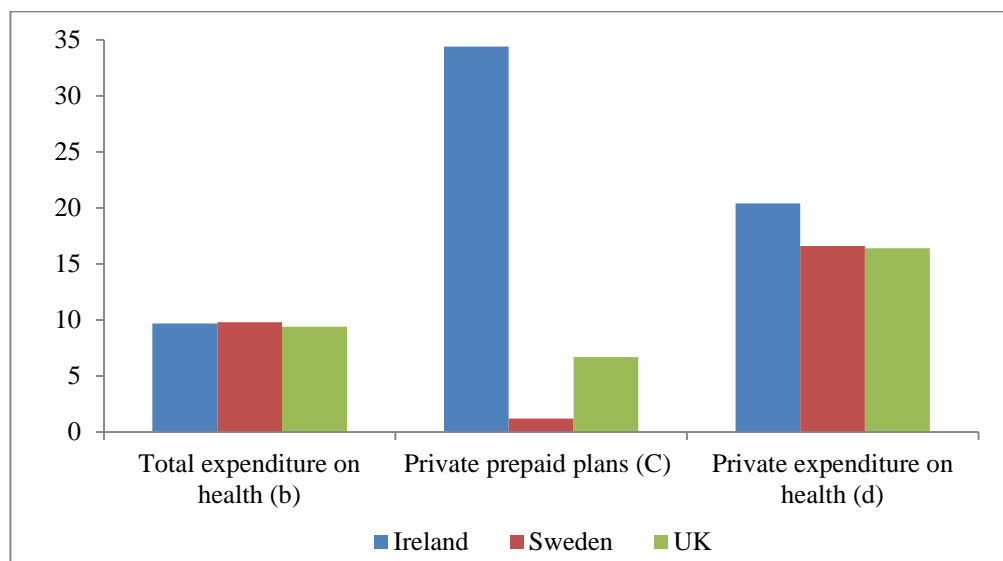
b) Percentage of gross domestic product   c) Percentage of private expenditure on health

d) Percentage of total expenditure on health

Source: World Health Organisation 2012 (full table of statistics in appendix 14)

Turning to changes over time, the differences between countries are mostly stable. Private health expenditure is trending downwards in Ireland since 1998, whereas the

proportion in Sweden and the England is increasing mildly over the same time period (see figure 11a and b). The percentage spent through private health insurance has also remained rather constant, except for the decrease in the percentage of total health expenditure in the early 2000s which coincides with the increase in the absolute level of health care spending in those years (Harmon and Nolan 2001).

Figure 11a and 11b – Private expenditure and private insurance as percentage of total health expenditure 1996-2010 (Sweden, England, and Ireland)
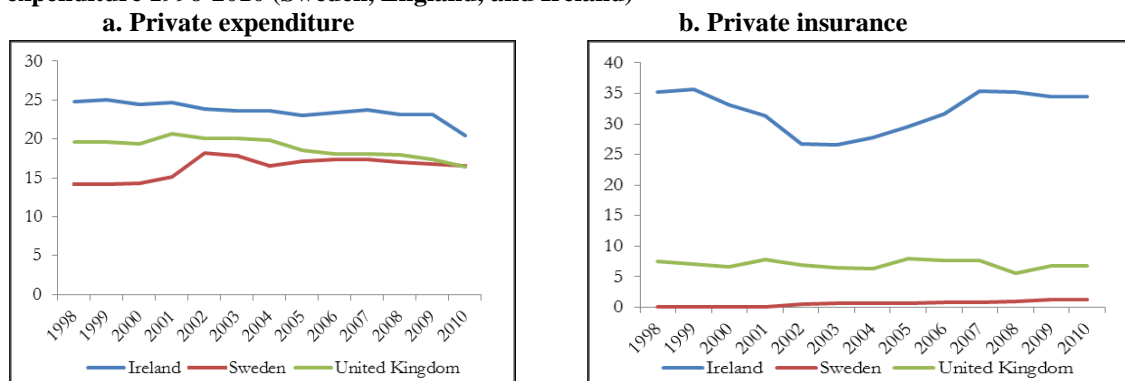
Source: World health Organisation 2012

4.3.1 Reform trajectories

Table 22 outlines the key events and focus of debate for each decade, starting from the 1980s, when choice reforms first became an item on the agenda (Self 1990). Sweden and England have had a discontinuous development of liberal policies with periods of minor reversal or pause, after transfers of power between political parties and coalitions (Fotaki 2007). The trend has been one of expansion, but there seems to have been disagreement about 'how far and how fast' choice was to be implemented. Even though England has used Swedish reforms as inspiration, it is in England where choice has been made a real 'selling point' for welfare reform.

Pierre writes that, by the mid-1980s,

> Both the Tory United Kingdom and Social Democratic Sweden were broadly rejecting the notion of the passive public service user. However, if Thatcher was courting the self-reliant consumer, then the Social Democrats were flirting with the discriminating client (1993:22).

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It should be noted, however, that in spite of the similarities between England and Sweden, Sweden has implemented less choice in certain areas, particularly LTC.

Table 22 – Health system reform trajectories in Sweden, England, and Ireland.

	Reform trajectory		
	Pre-1990	1990-2000	2000-
Sweden	State dominance (cost-containment)	De-centralisation, modernisation, choice and purchaser provider split. Choice of GP.	Cost-containment, 2001 stop law- ending sales of emergency hospitals
England	Key theme was the superior efficiency of the private sector, focus on competition	Internal market (1991) (separating purchaser provider) (reverted 97-2000 under labour- but with more focus on user choice)	Increased budget, 2002 active promotion of private providers. 2006 free choice of hospital
Ireland	Decentralised system of mixed public/private funding and provision. Broad eligibility for free care	Health Insurance Act (1994) competition between insurers. general hospitals, special hospitals and community care Programmes (voluntary sector vital)	2001 Health Insurance Authority (HIA): facilitate the further development of the VHI market. Establishing central authority to increase accountability

Sources: Health Systems in Transition Reports: McDaid et al. (2009), Anell et al. (2012), Boyle (2011).

Sweden

The general reform dynamic towards more of a liberalised welfare state in Sweden can be seen as stemming from a crisis of legitimacy (Pierre 1993) where improving and modernising the health system in response to excessive waiting times and inflexibility was emphasised as motivations for the reforms (Glenngård et al. 2005). During the 1980s the then finance minister Kjell-Olof Feldt pushed for consumer orientation as the focus of Swedish welfare policy and in the late 1980s this was officially endorsed by the Social Democratic party (Blomqvist 2004: 145). The policies were accelerated under liberal rule which put further emphasis on private providers however later reversed by the Social Democrats (Bergmark 2008). Regardless of this, Blomqvist argues that the choice policies represented a move away from the traditional Swedish model of welfare

provision (2004). Choice of GP was the first consumer choice policy in the Swedish NHS and was later expanded to secondary care, where it was tied to waiting times regulations (Burström 2009).

Sweden is continuously attempting to introduce choice but the process has been hampered by slow or partial implementation in certain areas, due to the de-centralised governance of welfare and sometimes unwillingness on the part of local governments to support choice (Fredriksson and Winblad 2008). Privatisation has gone further, particularly in regards to the provision of LTC. GP choice has been the most successful health care consumer choice policy, whereas cash-for-care in LTC has had limited spread.

United Kingdom (England)

> The government is attempting to reconcile the social democratic conception of a free, universal health service with a range of modernising strategies that draw on private sector investment and resources. It is seeking to secure middle class 'buy in' by ensuring a more personalised, consumer-friendly and choice-oriented service. Finally, it is struggling to negotiate different conceptions of equality. (Department of health 2007).

The initial choice reforms in England[67] where enacted in the late 1980s and early 1990s by the Conservative governments, much to the critique of Labour at the time. However, Labour's later 'third way' approach further expanded choice and competition[68] and this has become a central tenant of UK public sector policy (6 2003). This has meant that the UK has since the 1980s posed as a model for and indeed exporter of public service reform oriented towards the market, privatisation, under the 'New Public Management'

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[67] The devolved nature of UK policy making has resulted in a at times striking contrast in policies between the countries. 'The choice agenda' has mainly applied to England.
[68] Tony Blair's famous assertion in the 1999 party conference speech was: "I want to go to the hospital of my choice, on the day I want, at the time I want. And I want it to be on the NHS"

approach (Clarke 2006: 424). GP choice and internal market reforms (purchaser-provider split) were the first consumer choice reforms enacted in the English health care sector. Extending choice to elective surgery at hospitals became a point of discussion in the early 2000s and from 2006; patients were given the option of to choose from at least four different primary care trusts free of charge.

Initially the choice agenda was based on efficiency and quality arguments in favour of choice and competition reforms (Hamilton and Bramley-Harker 1999). However, in 2006, a large part of the debate concerned responsiveness and the role of the individual. The debate portrayed the patient as a consumer and attached strong values to choice. Choice and competition was not primarily a matter of efficiency or cost-containment, but also based on political motivations (Bevan et al. 2010). On the other hand, Dawson et al., emphasises the role of waiting times and waiting lists as the main shortcoming of the English NHS and an important factor for the focus on choice. The waiting times also play a role for the increase in the market for voluntary health insurance, even though this is relatively small (2007).

England is the country with the most 'politicised' choice policies out of the three here analysed. Choice has been a selling point, increasingly, since the early 1990s. England is also the only case where the equity of choice policies is key – where choice and competition is promoted as something equitable (Jacobs 1998). The politicisation of choice is evident particularly in the NHS (as discussed in chapter 2) and in LTC but also in education.

Ireland

The Irish health care system is denoted by universal coverage, but with a large proportion of the population using voluntary health insurance (VHI). Means-tested co-payments are applied to all except 30% (in 2007) of the population who hold Medical Cards (McDaid et al. 2009). VHI is used to cover some of the out-of-pocket costs associated with public health services (complementary) but also importantly allows individuals to escape waiting lists by being treated as private patients either in private facilities but often within public sector hospitals (supplementary). As follows, more than 50% of the Irish population has private health insurance (HIA 2008) and as insurance premiums are tax deductible the take up is supported by government policies.[69]

Figure 12 – Evolution of proportion of population covered by VHI in Ireland 1979-2002
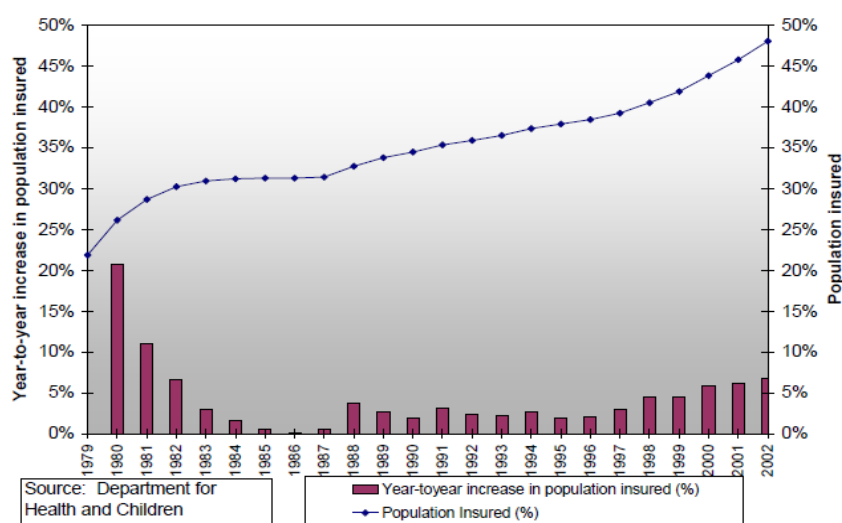
Source: Colombo and Tapay (2004)

VHI in Ireland originally (introduced in 1957) catered to the top 15% of income earners who were not covered entitled to free care in public hospitals in 1957 and incrementally spread to lower income brackets (Harmon and Nolan 2001). The real expansion of

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[69] HIA found that in 2005, 14% of adults with a Medical Card also had private health insurance (2008).

health care spending in the 1990s[70] – the proportion of GDP spent remained stable due to the high levels of economic growth throughout the decade – sets Ireland apart from the development in Sweden and England. Private co-payments have only decreased marginally while the proportion taking up private VHI has still remained rather constant over time (see figure 12). The Irish VHI market has up until recently been dominated by the Voluntary Health Insurance (VHI) Board which in 2006 held 75% of the private insurance market. It has operated as a non-profit making, semi-state private insurance body but is being reformed to conform with requirements of the Third EU Non-Life Directive (1992), and opening the VHI market, to competition. The market for private health insurance has been booming following the growing economy, the provision of VHI as an employment benefit, and a confidence in the value of private cover (Francesca and Nicole 2004).[71]

Choice of provider and time of treatment was until recently exclusively available to private health insurance holders (McDaid et al. 2009). Choice of primary care provider (GP) was introduced also to individuals with Medical Cards. No such options are available for secondary care. Private insurance (depending on plan) offers a range of choices linked to secondary care whereas Medical Card holders and those without private insurance face limited options and considerably longer waiting times. Providers face incentives to offer preferential treatment and quicker access to private patients in public hospitals (Harmon and Nolan 2001; Francesca and Nicole 2004; Health Insurance Authority 2003). The Health Service Executive (HSE) provides many health

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[70] Health expenditure increased by 59% in nominal terms between 1990 and 1996.
[71] All health insurance schemes operate on the basis of open enrolment with lifetime cover and community rating, whereby everyone – regardless of age or health status – is charged the same premium for the same insurance package that amounts to a wide pooling of risk.

care services directly, but the voluntary sector, including organizations linked with the Church, have and will continue to play an important role in the delivery of health and personal social care services. These services range from running hospitals to small community-based projects (Barry 2010).

The access to choice and private options in health care in Ireland is strongly dependent on holding private health insurance, which is also widespread (particularly in the higher income brackets). In general, countries have tended to choose solutions that fit with their existing method of financing health services. Nevertheless, Ireland's health care financing system is unique, combining a 'national health service' with voluntary private insurance – that latter of which covers almost 50% of the population. PHI in Ireland forming a 'gateway' to choice for individuals who have a preference for a service different from what is provided on the NHS, or simply have a preference for being able to make a choice at the time of need.

4.3.2 Summary discussion

This section has illustrated that in England and Sweden choice is universally offered (subject to co-payments) between state providers, for-profit private providers, and non-profit community-based private providers. Alternatively, in Ireland, choice is mainly available to those with VHI. The variation in ways which patients access choice and the associated benefits (primarily shorter waiting times and higher quality) between the three countries was above found to be to an extent historically determined, particularly stemming from the universalist approach of the Swedish and British system compared to the Irish system primarily directed towards lower income segments. Ireland has

maintained the continuation of the reform trajectory over time even though it increased spending in real terms during the economic boom, did not move to include more of the 'well-off' in the public system.

4.4 Quantitative analysis: the preferences of the middle class

This section examines whether there is a social group gradient to the preferences for choice in relation to other characteristics of what individuals perceive to be a quality health care system. If the arguments of Blomqvist (2004) and the consumerist literature (Fotaki et al. 2008; Fotaki 2009) are accurate, middle class preferences for certain characteristics, including choice in and of itself, should be evident in survey responses concerning the health care system. The central hypothesis of the paper is that the middle class views choice as a desirable characteristic of quality health care systems. Furthermore, the hypothesised middle class preference for choice is expected to be present regardless of whether provider choice is available in the public system (Sweden and England), or through private insurance (Ireland).

4.4.1 Data and method

The analysis utilises comparative survey data including preferences regarding the health care system (Eurobarometer 72.2, 2009). A list of variables used and descriptive statistics can be found in appendix 15.

Dependent variables- definition and descriptive statistics

  - *Criteria for a quality health care system*

The Eurobarometer survey asks individuals what they consider to be the most important criteria for quality health care (see table 23). Respondents are asked to choose *three* out of the eleven criteria (there is also an 'other' category).[72] The most commonly selected criteria across the three countries are well-trained staff and effective treatment. These are known to be components which individuals see as important or indeed necessary for a positive health outcome (Propper 1990; Propper 1995; Johannesson et al. 1998; Dawson et al. 2007). Choice on its own (e.g. of hospital and doctor) is mentioned relatively rarely – albeit consistently – across the three countries. 'No waiting lists' and 'proximity' are more commonly mentioned. These can be seen as benefits associated with having a choice, building on what individuals regard as important factors when choosing a hospital (see figure 3 and Dixon 2008 based on data from England).

Table 23 – Health care criteria, % mentioned. Sample: Sweden, England, and Ireland (2009)

	Choice of doctor	Choice of hospital	No waiting lists	Proximity	Dignity	Well-trained staff
Ireland	16.03	12.56	44.26	36.99	25.82	46.00
England	12.78	14.21	27.43	13.76	21.17	59.87
Sweden	14.78	8.32	39.3	56.02	27.56	65.77
	Effective treatment	Safety from harm	Clean	Friendly staff	Modern equipment	
Ireland	22.23	28.38	32.99	5.43	14.04	
England	40.04	29.16	29.84	6.64	23.39	
Sweden	35.32	4.48	10.65	4.78	24.38	

Source: Eurobarometer 72.2 2009

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[72] Of the following criteria, which are the three most important criteria when you think of high quality healthcare in your country? Proximity of hospital and doctor, Free choice of doctor, Respect of a patient's dignity, Medical staff that is well trained, A clean environment at the healthcare facility, Treatment that works, Free choice of hospital, Healthcare that keeps you safe from harm, No waiting lists to get seen and treated, A welcoming and friendly environment, Modern medical equipment. Respondent may select up to three answers.

Part of the variation between countries is likely to be linked to characteristics of the respective health care system. For example, the criteria 'proximity' is mentioned by only 13% of English respondents, whereas in Sweden it is mentioned by 56%. Geographical differences are a plausible explanation: Sweden's geographical character, with its sparsely populated areas, stands in sharp contrast to England's higher population density. Similarly, Sweden is remarkable in terms of the percentage of respondents who mention 'safety from harm', which stands at only 4% and compares to around 30% in both England and Ireland. The variation reveals that preferences are country specific, which highlights the need for country fixed effects in the regression models to account for baseline differences. The country dummy variables also function as controls for differences in payment structures in the health care system. Sweden, and in particular Ireland, use more extensive out-of-pocket payments compared to England.

The individuals' selection of criteria is assumed to involve an implicit evaluation of costs and benefits. It is however well established that individual preferences are influenced by individual (internal factors), time varying characteristics and perceptions, as well as the manner in which data is collected (external factors) (Dolan et al. 2003). Preferences for health care resource allocation are also known to be influenced by the timing of data collection: ex ante or ex post – i.e. whether the individual has (recently) been a patient. It further matters whether the respondent is asked for a personal or a social preference. The regressions control for previous experience of using the health care system as well as other attitudinal variables to account for a more positive or negative baseline view of the health care system.

The Eurobarometer health care quality question reflects personal preferences – what the individual considers to be a quality health care system – in relation to how each individual patient is treated. There is no reference to resource allocation, cost or the value attached to each of the options. This approach is appropriate in relation to tax funded health care systems where care is free at the point of use (apart from out of pocket payments) (Dolan et al. 2003). However, when selecting three of the eleven criteria, it is possible that the respondent considers the relative cost despite not being asked specifically to do so. In terms of the social class analysis it is therefore of interest to see whether there is a systematic difference in how various characteristics are valued across social classes. It is possible that middle class respondents, who are likely to pay a high(er) tax rate, are less likely to demand expensive policy options relative to respondents who pay little or no tax. If we assume that choice policies are seen as expensive it is conceivable that the middle class will be less favourable. The results of the empirical analysis are therefore unlikely to overestimate any middle class preferences.

Independent variables

In order to identify the middle class a range of social status indicators are used (see appendix 15). Firstly, a self-rated social status ('1' lowest and 10 'highest') variable is used. Because national conceptions of social class are relative within each society, a self-rated variable means there is no need to equivalise the scale to account for cross-country differences (Banerjee and Duflo 2008).The ordinal self-rated social status variable (ranging from 1 to 10) is entered into the regressions both as a z-score transformed variable and as individual dummies for each of the categories. Indicators

for education level, income, wealth (proxied through home ownership) and a self-rated financial status variable ('difficulty meeting payments') are also included. The reasoning is identical to that set out in chapter 2 and 3.

4.4.2 Empirical strategy

The key relation modelled is that between preferences for choice and the social status of individuals. The dependent variables are binary (yes/no) which would normally imply the use of a logistic or probit regression model estimating probabilities or odds ratio's for each of the criteria to be selected. However, the character of the question requires an approach which accounts for the interrelated probabilities of selecting one criterion dependent on the criteria already selected. The dependent variables are, as discussed above, responses to a multiple choice question where respondents are asked to choose three criteria out of eleven (see table 23). This means that a standard logistic regression does not fully account for the structure of the multiple choice character of the question (Jann 2005). Each individual equation has contemporaneous cross-equation error correlation – i.e. the error terms in the regression equations are correlated. A multivariate multiple regression model (OLS) is the standard approach used to account for the correlations between response options, which for a binary dependent variable is implemented through a seemingly unrelated estimation procedure (Greene 2011). The seemingly unrelated regression (SUR) estimates a system of equations which simultaneously estimate the individual regressions (one for each criterion) (Zellner 1962). The probability of selecting any given criterion is estimated through a probit model comprising a system of equations which are jointly estimated through the SUR

procedure.[73] The covariates are discussed in detail below. Another approach to dealing with the issue of correlated errors is a poisson regression, with a dependent variable generated from individual counts of the questions of interest. The results are consistent across the estimation strategies (as reported below under 'Robustness checks').

4.4.3 Results

The results of the SUR regressions are reported in table 24. The table includes the results of the 11 health system criteria. However, only the criteria in the first three columns – choice of hospital, choice of doctor and no waiting lists – are found to have a significant relationship with self-rated social status. The effect size is modest yet significant at the 1% level for choice of hospital and at the 5% level for the two other criteria. Beyond the self-rated social status indicator several variables are used to identify the middle class; home ownership, occupation, financial difficulties and level of education. The variables are likely to be collinear and, as expected, difficulty meeting payments and home ownership (except for the 'choice of doctor' specification) are insignificant yet positive. Occupation is not found to have a strong effect in the choice specifications. However, compared to managers, unemployed individuals are consistently less likely to select any of the three criteria. The probability of selecting 'no waiting lists' has a clearer relation to occupational status, where all but self-employed, manual workers and house persons are less likely than managers to select it. Highly educated individuals are more likely to report a preference for no waiting lists and choice of doctor. Excluding self-rated social status extends the positive effect of

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[73] The probit regressions assume a latent variable y* which is linearly related to the observed independent variables $y* = x_i + \varepsilon_i$ where x_i is a vector of observed covariates and ε_i is a random disturbance independent of the observed covariates. The observed dependent variable y equals 1 only if an unobserved variable y* is greater than an unobserved threshold, τ. That is, $y_i = \begin{array}{l} 1 \ if \ y_i^* > \tau \\ 0 \ if \ y_i^* \leq \tau \end{array}$

education to choice of hospital and also renders the effect of home ownership significant across the board (which illustrates the expected collinearity of the variables). When dividing the social status variable into quartiles we find that the relation between social status and preferences for choice is not obviously curve-linear as we would expect. There is instead an above versus below median social status division in preferences.

A set of standard demographic covariates are included in the system of regressions: age, gender and marital status. Firstly, age has a negative relation with choice of hospital and age squared is positive, albeit with a very low effect. This is interesting because most hospital episodes are elective surgery dominated by higher age groups (the second largest group is maternity services which tend to be excluded from choice policies). Cohort analysis on the other hand reveals that higher social status leads to a higher probability that choice of doctor will be selected by the younger age group (40 years and younger). For respondents older than 55, individuals with a higher self-rated social status have a higher probability of selecting choice of hospital. The results suggest that age matters for the relation but does not outweigh the effect of social status on preferences for choice and no waitlists. Gender is generally insignificant, although men are more likely to select choice of doctor. Married individuals are less likely to select choice of hospital but are most likely to select choice of doctor (except widow(ers) who are most likely) and waiting lists.

Table 24 – Seemingly unrelated regressions, health care criteria, sample: general population

		Choice of hospital	Choice of doctor	No waiting lists	Well trained staff	Clean environment	Effective treatment
Self-rated social status		0.080***	0.062**	0.041**	-0.027	0.012	0.017
Difficulty meeting payments		0.173	0.035	0.064	-0.083	-0.015	0.029
Female		-0.049	-0.196***	0.018	0.171***	0.158***	-0.142***
Age		-0.025**	-0.001	-0.006	0.001	-0.007	0.015
Age squared		0.000**	0.000	0.000	0.000	0.000	0.000
Overall health care quality	Very good			Reference category			
	Fairly good	0.120	0.069	0.171***	-0.148**	0.094	0.014
	Fairly bad	0.049	0.108	0.238**	-0.125	0.075	0.006
	Very bad	0.329**	-0.016	0.489***	-0.337***	0.090	-0.038
Experience with health care system		-0.047	-0.090	0.135***	0.044	0.078	-0.022
Hospital care: probability of harm	Very likely			Reference category			
	Fairly likely	0.015	-0.115	0.291***	0.024	-0.105	-0.017
	Not very likely	-0.030	-0.316***	0.368***	0.249***	-0.243**	0.033
	Not at all likely	0.060	-0.317*	0.403***	0.288**	-0.180	0.067
Occupational status	Self-employed	0.009	-0.037	-0.006	0.120	-0.208**	0.013
	Managers			Reference category			
	White collar	0.147	0.245*	-0.137*	0.112	-0.049	-0.025
	Manual workers	-0.099	0.230*	-0.150	0.071	0.000	-0.049
	House persons	0.043	0.205	-0.084	-0.113	0.066	0.070
	Unemployed	-0.358*	-0.498***	-0.891**	0.189	-0.361	0.104
	Retired	0.098	0.234 *	-0.411***	0.208	0.064	0.157
	Students	0.517*	0.318	-0.380 ***	-0.074	0.174	0.042
Marital status	Married			Reference category			
	Cohabitating	0.444***	-0.201**	-0.337***	-0.127	0.070	-0.083
	Single	0.375**	-0.005	-0.247**	-0.011	-0.051	-0.208*
	Divorced or separated	0.506***	-0.008	-0.294**	-0.220*	0.088	-0.186
	Widow	0.553***	0.219**	-0.265***	-0.150	-0.049	-0.185*
	Other	0.232	0.237	-0.443***	-0.211	0.372**	0.050
High education (yes)		0.103	0.134**	0.103*	0.112*	-0.035	0.079
Owns home (yes)		0.026	0.140**	0.052	0.166**	-0.031	0.143 **
Area type	Large town	0.022	0.130*	-0.073	0.111*	0.078	0.101
	Mid-sized town	0.056	0.160**	-0.089	0.133 **	0.062	0.070
	Rural			Reference category			
Ireland		0.068	0.014	0.065	-0.455***	0.766***	-0.312***
England		0.223**	-0.164**	-0.362 ***	-0.0935	0.690***	0.209***
Sweden				Reference category			
Constant		-1.104***	-1.012	-0.105	0.217	-1.151***	-0.873***
Number of observations		2701	2701	2701	2701	2701	2701
R-square		0.037	0.034	0.039	0.049	0.071	0.071

		Patients dignity	Safety from harm	Doctor proximity	Friendly environment	Modern equipment	Other
Self-rated social status		-0.023	-0.027	-0.021	-0.066	-0.043	-0.032
Difficulty meeting payments		-0.095	0.040	-0.026	0.127	-0.047	0.285
Female		0.298***	0.044	-0.176***	-0.056	-0.085	-0.613**
Age		0.006	0.005	0.007	-0.025**	0.019*	-0.054
Age squared		0.000	0.000	0.000	0.000	-0.000**	0.000
Overall health care quality	Very good				Reference category		
	Fairly good	-0.018	0.093	-0.106	-0.240**	-0.114*	-0.034
	Fairly bad	0.054	0.003	-0.031	-0.413***	-0.348***	0.651*
	Very bad	-0.030	-0.061	-0.276**	-0.177	-0.150	0.287
Experience with health care system		0.103*	-0.057	-0.082	-0.026	-0.008	0.100
Hospital care: probability of harm	Very likely				Reference category		
	Fairly likely	-0.225**	0.091	-0.163*	-0.001	0.096	-0.250
	Not very likely	-0.294***	0.035	-0.116	0.009	0.099	0.032
	Not at all likely	-0.297**	-0.155	-0.070	-0.421	-0.029	-0.342
Occupational status	Self-employed	0.029	-0.026	0.076	0.179	0.103	0.154
	Managers				Reference category		
	White collar	-0.002	0.033	-0.073	0.084	0.160**	-0.616*
	Manual workers	0.159	-0.019	0.085	-0.046	-0.001	0.056
	House persons	0.193*	0.067	0.173	0.087	-0.173	-0.134
	Unemployed	-0.528	0.327	-0.100	0.769*	0.303	(omitted)
	Retired	0.336**	0.049	0.014	-0.255	-0.336**	-0.142
	Students	0.107	0.096	0.366**	-0.310	-0.100	-0.241
Marital status	Married				Reference category		
	Cohabitating	0.152	0.059	0.020	0.028	-0.078	-0.518
	Single	-0.077	0.024	-0.046	0.109	-0.002	0.194
	Divorced or separated	0.169	-0.079	-0.055	0.112	-0.048	-0.356
	Widow	0.173	0.030	-0.157	0.110	0.021	-0.125
	Other	0.130	-0.053	0.212	-0.232	-0.238	-0.383
High education (yes)		0.042	0.090	-0.021	-0.033	0.117*	-0.692**
Owns home (yes)		-0.010	0.021	0.113	0.120	-0.051	0.126
Area type	Large town	-0.180***	0.073	-0.320***	0.077	0.028	0.821**
	Mid-sized town	-0.166***	0.077	-0.263***	-0.132	0.060	0.615*
	Rural				Reference category		
Ireland		-0.042**	1.134***	-0.479***	0.001	-0.218**	-0.078
England		-0.189***	1.171***	-1.22 ***	0.0951	0.0667	-0.816**
Sweden					Reference category		
Constant		-0.689***	-2.020***	0 .320	-0.759*	-1.113***	-0.442
Number of observations		2701	2701	2701	2701	2701	2701
R-square		0.028	0.109	0.132	0.042	0.029	0.236

Source: Eurobarometer: 72.2, 2009

A set of variables capturing attitudes towards and experience of the health care system were also included. These were overall quality, experience of the health care system and perceived probability of harm. The variables are generally insignificant in the 'choice of hospital' regression – only very poor quality is significant and positive compared to very good quality. If the individual perceives that overall quality is poor then they are more likely to feel that choice is important. 'Choice of doctor' is influenced by the perceived risk of harm – a higher risk of harm makes individuals more likely to want to choose their doctor. Finally, waiting lists are strongly influenced by the health system variables: experience with the health care system and a perception of overall quality as 'very bad' are positively linked to the selection of no waiting lists. Selecting no waiting lists, on the other hand, is more likely among individuals who perceive low probability of harm within the health care system.

Running the same SUR models (including controls) on country samples generates a clearer insight into the preference functions within each health system. Interestingly, in Ireland only the positive effect of social status on the likelihood the select no waiting times is significant, whereas in Sweden and England only the social status – choice relation is significant; in England choice of hospital and in Sweden, choice of doctor. These results mirror the specific health system and reform trajectory of each country (as discussed above). In Ireland, which is dominated by VHI, social status is strongly linked to waiting lists (a key motivation for using VHI). In England, choice of hospital is the only significant relation, which reflects the strong standing of the choice at referral policy introduced three years before the time of the survey. The Swedish choice at

referral policy is considerably less developed and so choice of doctor unsurprisingly stands out as the preferred criterion.

Table 25 – SUR regressions on health care criteria, by country. Samples: Sweden, England, and Ireland

	Dependent variables		
Self-rated social status (1-10)	Wait lists	Choice of hospital	Choice of doctor
Ireland	0.0677 **	Insignificant	Insignificant
England	Insignificant	0.0719**	Insignificant
Sweden	Insignificant	Insignificant	0.0716**

*** 1%, ** 5%, * 10% significance level
Source: Eurobarometer 72.2 Sep- Oct 2009.

4.4.4 Robustness checks

A poisson regression model is an alternative approach to dealing with the correlated errors of the health system criteria equations. The individuals are asked: 'of the following criteria (see table 23) which are the three most important criteria when you think of high quality healthcare in your country?' The poisson model is run on a dependent variable which counts the number of 'yes' responses to the criterion of interest: choice of hospital, choice of doctor and no wait lists. This generates a variable ranging from 0-3. This is then used as the dependent variable in a poisson count model. Table 26 illustrates a set of regression specifications including the same set of covariates used in table 25.

The results are consistent with the main regressions and offers evidence that the middle class is more likely to have a preference for the three choice and 'quick access' criteria. The poisson regression confirms the results of the SUR regressions, albeit with lower explanatory power and a larger number of insignificant independent variables.

Table 26 – Poisson count model, health care criteria, sample general population.

Dependent variables: Wait lists, Choice of hospital, Choice of doctor

		Count of criteria		Count of criteria		Count of criteria	
		Coef.	SE	Coef.	SE	Coef.	SE
Self-rated social status		0.067***	0.021	0.069***	0.021	0.063***	0.020
Difficulty meeting payments		0.109	0.053	0.125	0.052	0.120	0.051
Female		-0.071	0.044	-0.080*	0.044	-0.061	0.042
Age		-0.013*	0.007	-0.011	0.007	-0.012*	0.007
Age squared		0.000	0.000	0.000	0.000	0.000	0.000
Overall health care quality	Very good			reference category			
	Fairly good	0.161***	0.056	0.169***	0.056		
	Fairly bad	0.197***	0.076	0.253***	0.075		
	Very bad	0.354***	0.089	0.433***	0.085		
Experience with health care system		0.031	0.041	0.018	0.041		
Hospital care: probability of harm	Very likely			reference category			
	Fairly likely	0.123	0.075	0.097	0.074		
	Not very likely	0.083	0.078	0.066	0.078		
	Not at all likely	0.127	0.112	0.148	0.111		
Occupational status	Self-employed	-0.268**	0.112	-0.255**	0.111	-0.250**	0.109
	Managers			reference category			
	Other white collar	-0.026	0.083	-0.015	0.083	-0.033	0.083
	Manual workers	-0.031	0.072	-0.009	0.073	-0.007	0.071
	House persons	-0.003	0.088	0.028	0.086	0.008	0.087
	Unemployed	-0.116*	0.093	-0.124*	0.094	-0.121*	0.090
	Retired	0.049	0.082	0.051	0.081	0.067	0.081
	Students	-0.135	0.117	-0.113	0.117	-0.125	0.112
Marital status	Married			reference category			
	Cohabitating	-0.056	0.066	-0.036	0.066	-0.052	0.065
	Single	-0.112*	0.061	-0.116*	0.061	-0.073	0.058
	Divorced/separated	-0.047	0.076	-0.063	0.076	-0.031	0.075
	Widow	0.066	0.081	0.062	0.081	0.066	0.080
	Other	-0.515	0.404	-0.493	0.388	-0.261	0.358
High education (yes)		0.150*	0.049	0.091*	0.046	0.143*	0.048
Owns home (yes)		0.090*	0.051	0.098*	0.051	0.093*	0.050
Area type	Rural	0.003	0.048	-0.004	0.049	0.032	0.047
	Mid-sized town	0.021	0.053	-0.015	0.052	0.035	0.052
	Large town			reference category			
Ireland		0.064	0.060			0.148***	0.055
England		-0.198***	0.058			-0.179***	0.057
Sweden				reference category			
Constant		-0.252	0.242	-0.387*	0.227	-0.104	0.214
Number of observations		2701		2701		2834	
Pseudo r-square		0.013		0.010		0.011	

*** 1%, ** 5%, * 10% significance level

Source: Eurobarometer: 72.2, 2009

The poisson model's interpretation is constrained by the variation in the underlying preference functions between the three indicators accumulated into the index. By not taking into account the variation between the three variables that build the index a less

precise measure is found. The poisson model was estimated on a dependent variable consisting of choice of hospital and choice of doctor (range 0-2) with comparable results.

4.5 Discussion

This chapter has set out to examine middle class preferences for choice and to compare these preferences across systems of provider choice and private health insurance as illustrated through institutional evidence and reform trajectories in Sweden, England and Ireland. Firstly, empirical evidence was found for middle class preferences for three health system criteria: 'choice of doctor', 'choice of hospital' and 'no waiting lists'. The preferences were consistent across the three health care systems and supports Blomqvist's (2004) hypothesis of a middle class demand for choice. Secondly, a middle class preference for quick access, defined in terms of 'no waiting lists', was identified across the three countries. Quick access is related to choice by being among the factors most commonly reported as important when choosing a hospital (Dixon 2008). Furthermore, shortening waiting times has and continues to be a rationale for choice reform (for example in Sweden see Fotaki 2007), with choice seen as key to improving the allocation of patients to hospitals with less queues. Quick access is also known to be a key driver of taking up or using private health insurance (Besley et al. 1999; Costa-Font and Garcia 2003).

Private health insurance offers the same set of choices in Ireland as those offered as part of the publicly funded choice schemes in Sweden and England. However, as the case of

Ireland demonstrates, choice can be implemented through private financing *and* through choice schemes. Co-payments are not significantly higher in Ireland but choice was, until recently, restricted to VHI holders, which is in contrast to the situation in Sweden and England since the 1990s. The varying reform dynamics in Sweden, England and Ireland indicate that provider choice forms an alternative to privatisation of financing and does not necessarily accelerate an overall privatisation process.

4.6 Conclusion

The empirical analysis presented in this chapter suggests that the middle classes in Sweden, England and Ireland have a preference for choice, in and of itself. Both choice of doctor and choice of hospital are more likely to be mentioned by individuals above median self-assessed social status. The middle classes are also more likely to mention quick access ('no waiting lists') in all three countries. Taken together, the chapter provides evidence in favour of the hypothesis that the middle classes prefer choice, as well as outcome(s) of choice as an access system. The similar preference functions of the middle classes across the three countries further suggest that it does not matter whether choice is available through choice of provider schemes or through private insurance. This suggests that the 'choice leading to privatisation' thesis needs to be refined to account for the proposition that provider choice schemes and private health insurance can be substitutive reform trajectories responding to similar underlying preference functions.

Chapter 5   Conclusion

The overarching objective of this thesis was to identify potential welfare effects of provider choice from a perspective other than the standard cost-benefit analysis of welfare economics. In doing so the thesis relies on the approach of subjective well-being – an approach which is gaining attention across literatures and policy. More specifically, the thesis examined the welfare effects and equity implications of choice and competition reforms in the cases of health care and long-term care. These reforms were analysed through an empirical strategy incorporating self-rated subjective well-being to elicit extrinsic (outcome) and intrinsic (procedural) effects and stated preferences to capture public demand for choice. In this concluding chapter I firstly discuss how the results of this analysis contribute to the overarching research question. I then move on to a more detailed discussion of each of the papers followed by a discussion of equity implications and procedural utility drawing on the combined empirical evidence. Broader implications for policy based on the findings are then discussed. Study limitations and a proposed future research agenda are presented in the final section.

5.1 Summary and discussion of results

The conceptual framework presented in chapter one suggests that welfare effects of choice in public services could be modelled by expanding the traditional rational choice approach to include ideas from the behavioural science literature (Simon 1955;

Schwartz 2004) as well as the concept of procedural utility (Frey and Stutzer 2004). This can in turn be explored statistically using a subjective well-being approach (Oswald 1997; Layard 2005; Clark 2008; Diener et al. 2008). The analysis of welfare effects is typically carried out in a cost-benefit setting based on assumptions of rational actors and is focused on extrinsic (outcome) benefits. This conventional approach overlooks the role of intrinsic and procedural values of choice in the provision of health and long-term care. The most important conceptual contribution of this thesis is its incorporation of procedural utility into the modelling of welfare effects of choice. This contribution includes the analysis of equitability of welfare effects and preferences for choice (where the thesis illustrates the importance of acknowledging the dual sources of wellbeing – from instrumental and procedural values).

The thesis analysed the individual welfare effects of the institutional change brought about by consumer choice in public services – from changing outcomes and institutionalised procedures. Positive well-being effects are hypothesised based on insights from psychology but also from economics and the rational choice approach. The analysis builds (by incorporating procedural utility) on the rational choice argument that choice is valuable only as a tool to achieve a better outcome yet is restricted by external and internal constraints such as information availability, processing and transaction costs (Simon 1955). The thesis then investigated the hypothesis of the rational choice approach – following psychological and sociological arguments – that consumer choice under certain circumstances generates disutility or inequitable utility.

5.1.1 Main findings

Extending provider choice in public services affects individual welfare and equity in a number of ways. The thesis focused on three aspects of the choice agenda which are linked by their influence on the individual's right to choose: competition between providers; choice of service/treatment/provider; and preferences for choice. These were investigated in each of the chapters respectively:

- Chapter 2 found a consistently positive effect of choice and competition between providers in the English NHS. The positive SWB effect stems partly from improved (health) outcomes following quality improvements. The positive SWB effects are present among patients in higher income and education brackets thus suggesting an inequitable overall effect.

- Chapter 3 found a positive SWB effect of choice in the German LTC system. The benefits of choice, in and of itself, did not exhibit an inequitable distribution. Nevertheless, the benefits appeared to be influenced by the availability of informal care, that is, a privately constrained key provision option.

- Chapter 4 found that preferences for choice, in and of itself, as well as quick access (a potential outcome benefit of choice) are evident among higher socio-economic groups. The evidence proved consistent in NHS type countries (England and Sweden) as well as a privatised NHS country (Ireland). This indicates a potential substitutivity of provider choice policies relative to privatised financing (VHI).

- Each of the chapters contributed to the analysis of equity implications of choice reforms with mixed results. The analysis suggests that the equitability of choice

is dependent on policy specific conditions. Individuals who are relatively well-off tend to experience a more pronounced SWB effect when the choice situation is institutionalised within a relatively complex structure (such as in the case of choice of hospital). On the other hand, welfare effects are more broadly distributed when the choice relates to provision allocation where key information is privately held and where care can be privately (family) provided.

- Each chapter also contributed to the analysis of procedural utility as a benefit of choice. The data did not allow for direct identification of procedural utility; however, an indirect approach, discounting outcome effects, did provide mixed evidence. In the case of choice in health care little evidence of PU was found, while in the case of choice in LTC the evidence indicated a welfare improvement which can be linked to procedural utility.

5.1.2 Chapter 2 – Choice and competition in health care

The second chapter explored the subjective well-being effects of choice of hospital and the associated equity implications. The findings suggest that competition has an influence on well-being improvements from choice of provider in health care. This chapter contributes to the health economics literature by offering a different approach to the measurement of quality and welfare effects. Methodologically, this study measured choice and competition in a treatments effects setting defined by the intensity of local competition (Herfindahl–Hirschman Index (HHI) of market concentration). The evidence of improved health outcomes from competition supported the conclusion that the positive SWB effects are more closely linked to competition (driving quality improvements) than choice. Individuals with higher income and education had a

significant SWB effect which was not the case for lower income and education brackets. Similarly, individuals with higher income also reported improved satisfaction with health (a domain satisfaction), but no such differences were found when considering subgroups based on education categories. The results were robust to local area characteristics, lags in implementation and individual level controls.

This study confirms the positive results of a range of previous contemporary health economics studies analysing the NHS reforms of the 2000s (Propper et al. 2004; Propper and Burgess 2008; Cooper et al. 2011; Gaynor et al. 2010; Gravelle et al. 2012). These studies tend to focus on narrow quality indicators, such as AMI mortality, or other objective indicators of quality or efficiency, which the positive effect on satisfaction with health status found in chapter 2 supports. On the other hand, the results of the broader SWB analysis have no clear reference point in previous health economics literature. Only Gravelle et al. (2012) have incorporated various measures of patient satisfaction as outcome variables in cross-sectional regressions of competition effects. These results are mixed but did not account for any longitudinal effect of the introduction of choice and are therefore not directly comparable to those presented in chapter.

The unequal distribution of the positive welfare effects has no real reference in the happiness literature. To date there is little quantitative evidence tracing equity effects of a policy change in a SWB setting. Subsample analysis capturing equity effects is common in the happiness literature but not in a longitudinal setting. In the health policy literature there is mixed evidence of equity in the NHS (Dixon et al. 2003). With regard

to choice of hospital, Robertson and Burge (2011) found that the take-up of choice is not in itself inequitable, while the propensity to travel beyond the local area is related to social status. Individuals with higher education and income are more likely to travel beyond their local hospital, and this is also the group which this chapter finds enjoys a SWB improvement from choice and competition. However, there are no significant differences between education categories in terms of health satisfaction while the differences between income categories are consistent with the SWB regressions.

One plausible explanation for the unequal effects is the character of the choice situation. The choice situation is denoted by high complexity and inaccessible information, implying that personal connections are likely to matter. The middle class has a better capacity to cope with the choice process under these circumstances (Dixon and Le Grand 2006; Robertson and Burge 2011). It has been argued that individuals tend to rely on heuristic approaches to decision making (Longo et al. 1997; Marmot and Wilkinson 2006). The individual forms a private conception of quality, or simply chooses provider based on proximity or the views of his or her social network. Therefore, if we assume that level of education is particularly important for coping with a complex choice process, then the significant difference between education levels in terms of SWB effects and the insignificant difference in terms of health satisfaction is interesting. This suggests that the outcome effect (health satisfaction) may be linked to the improved quality induced by competition rather than any benefit of choice in and of itself. The significant difference between education categories in terms of SWB effects on the other hand can be linked to the choice experience and procedural utility rather than competition effects.

The second chapter contributes to the overall objective of the thesis through its analysis of a case which is characterised by constrained information availability and potentially substantial transaction costs. Choice of hospital also has a low rate of repetition which offers little opportunity for 'learning' and optimising future choice. Based on the results of this paper, there is scope for further exploration of the role of competition for SWB, particularly using data featuring more detailed measures of patient satisfaction. This would enable us to disentangle whether SWB is as closely related to improved health outcomes as the results of the chapter suggest.

5.1.3 Chapter 3 – Choice in long-term care provision

The third chapter is concerned with the choice that cash-for-care schemes bring to the provision of LTC in the German LTC system. Cash-for-care is a vehicle for increasing individual autonomy and control over the character and quality of care. The chapter questioned the SWB effects of choice, the implications for equity and the role of procedural utility. The methodological approach – using DiD models in an attempt to identify causal effects of the LTCI system and its choice component – is similar to that of the first chapter. The crucial distinction is the expansion in provision, inherent to the LTCI reform, which all else being equal should represent a welfare improvement in itself. The overall positive SWB effect was therefore decomposed into a 'system' and a 'choice' effect. The overall positive effect of the choice component conforms to the current literature which promotes the benefits of choice (often referred to as personalisation) for long-term care users (Ungerson 2004; Glendinning and Kemp 2006; Timonen et al. 2006; Ungerson and Yeandle 2007).

The 'system effect' on SWB is stronger among individuals with higher income and education whereas the effect of the choice component is significantly stronger in the lowest income quartiles but is not differentiated between education categories. This means that any inequitable SWB effects are in this case linked to instrumental (outcome related) rather than procedural benefits. The positive SWB effect among middle income groups can be explained by the significant improvement in economic situation that the LTCI created for that group (Schneider 1999). The previous eligibility criteria for social assistance meant that not even an extensive period of care needs resulted in state-funded care becoming available to middle class users (Geraedts et al. 2000). Even though the regressions controlled for income, the current year income does not capture the effect of more long-term strain on the economic situation.

The analysis finally identified mixed SWB 'system' and 'choice' effects depending on probability of access to informal family carers. Informal care is a key option, especially incentivised in 'cash-for-care' schemes. This suggests that the character of the choice situation and the choice-set available are important which supports previous evidence (Schwartz 2004, Botti and Iyengar 2006). A high probability of having an informal carer led to a positive SWB effect of choice, whereas groups less likely to have informal carers benefited from the system effect. Users without informal carers also benefit from the system of LTCI but the choice effect bolstered by availability of informal carers supports previous arguments in the literature (Da Roit et al. 2007; Pavolini and Ranci 2008; Fernandez et al. 2009). The results also have equity implications; however, the current literature offers mixed evidence on the effects of income and labour market status on the propensity to provide informal care (Colombo 2011).

The chapter contributes to the thesis through the analysis of a case in which the choice situation is denoted by privately held information, relatively low transaction costs and the opportunity to continuously revise the elected choice-set. This is a setting in which lessons from the psychology literature indicate that benefits of choice should be expected (Botti 2004; Iyengar 2010).

5.1.4 Chapter 4 – Preferences for consumer choice and privatisation

The fourth chapter approached the equity argument from the demand side and incorporated the analysis of socio-economic class dependent preferences for consumer choice. The chapter examined the proposition by Blomqvist (2004) that the 'well-off' (the middle class) not only benefit disproportionately from choice reforms but also have a particular preference for the type of service offered in such systems. The chapter is based on theoretical arguments which view the middle class as a key constituency for welfare reform (Goodin and Le Grand 1987; Loayza et al. 2012) and as having a distinct preference for consumer choice (Fotaki 2009). The findings from chapters two and three – that the middle class benefits more from choice and competition reforms – support the relevance of the question.

The chapter draws on evidence from a comparative review of system characteristics of three tax-funded health care systems: England, Sweden and Ireland. The system characteristics and reform trajectories formed benchmarks for the quantitative analysis of survey data (Eurobarometer 72.2). Findings suggested middle class preferences for choice of provider and choice of doctor before a range of other health system characteristics. The results support the arguments of the consumerist literature (Long

1999; Clarke 2006; Jones and Needham 2008; Fotaki 2009). More specifically, that 'consumer citizens' and particularly the middle class enjoy choice also in relation to public services. Furthermore, middle class preferences included 'no waiting lists' as a criterion for a quality health care system. The preference estimates were robust to the inclusion of country dummies and were similar across the three countries despite their differing access systems. Choice of provider is available to the patient either through provider choice schemes in England and Sweden or through private health insurance in Ireland. 'No waiting lists', or quick access, plays a similar role in the provider choice systems as it does in the Irish system (which is reliant on private insurance). This supports the previous literature: firstly, quick access is a well-known driver for individuals to seek private care (Propper 1993; Besley et al. 1999; Costa-Font and Garcia 2003; Costa-Font and Garcia-Villar 2009); and secondly, it is a key motivation when selecting a hospital through provider choice schemes (Dixon 2008 – see figure 3). The finding of middle class preferences for both choice (of hospital and doctor) and quick access has further significance in that preference for choice can be understood as signalling the presence of procedural benefits and the preference for quick access as signalling the presence of an outcome benefit.

The chapter contributes to the thesis by examining the evidence of a middle class preference for choice in health care. The similar preference structures (higher preferences among individuals who are better off) for choice (in and of itself) and 'no waiting lists' suggests that the middle class demands an accessible system to a similar extent that it demands choice.

5.1.5 Equity implications and procedural utility

The thesis considered two key questions across the three papers: the equity implications of choice reforms and the role of procedural utility. These questions were not only of empirical interest but were also a key motivation for the thesis. Informed by the literature on institutional economics and (constraints to) rational choice, this section discusses these questions further.

Equity implications

The three chapters identified mixed evidence of equity implications. Relatively well-off individuals tend to experience a more pronounced SWB effect in the case of choice of hospital, while choice (in and of itself) in LTC seems to bring benefits more equally across the social status distribution. Building on the divergent character of the two cases, this suggests that welfare effects are more equally distributed when the choice relates to a provision allocation which is privately (family in LTC) oriented and where key information is privately held than when the choice situation is institutionalised within a relatively complex structure. Chapter 4 further identified that preferences for both choice (in and of itself) and service characteristics ('no waiting times') are more likely to be held by individuals in higher (self-rated) social status categories.

Inequitable SWB effects are identified in relation to the choice reforms considered in both health care and LTC; however, the results suggest that this is largely due to outcomes effects. Firstly, in LTC the inequitable 'system effects' are present when estimating the overall effect of the reform, rather than the pre-reform situation. The introduction of the LTCI implied an overall improvement, in terms of income as well as

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care situation, for eligible individuals. Controlling for current year income only partly captures the benefit drawn from long-term financial prospects which the LTCI influenced. The improvement was most noticeable for individuals in higher income categories, who in the previous system were excluded from social benefits (Geraedts et al. 2000). This explanation is supported by the significant difference in SWB effects depending on income and the absence of difference depending on education. As a result, the inequitable effect in the case of LTC cannot be directly linked to choice effects, in and of itself.

Secondly, in health care, the SWB effect can be explained by quality improvements leading to outcome effects. In light of previous evidence of inequitable take-up of choice, this implies that patients with more resources reap the benefits of choice by making an active choice and selecting better facilities. In the case of health care this suggests that choice reproduces existing health differentials depending on social status (Braveman and Gruskin 2003). The ability of the middle class to make 'better choices' has in the literature been explained in different ways. The economics literature highlights (as in this thesis) education and income which enable individuals to make more informed and costly choices (Dixon et al. 2003). The sociological literature meanwhile focuses on theories of social capital (Bourdieu 2008). The concept of social capital claims that individuals are socialised into certain habits which are then enforced though learning from the social group that the individuals belongs to. Individuals in similar social groups assimilate into behaving in a certain way; in this context, to make active and 'good' choices (Bourdieu 2008). Belonging to the 'middle class group' is also more likely to give direct or indirect access to professionals who have insights into

the organisational and institutional structures governing the process of making a choice of, for example, provider.

In the case of health care the middle class benefited more in terms of health outcomes whereas in LTC the outcome effects were more likely to be explained by an improved overall economic situation compared to the pre-reform situation. The results indicate that any benefit reaped by the middle class is instrumental and linked to higher capacity to cope with the information requirements and transaction costs rather than a stronger preference for choice. The inequitable effects are not directly linked to choice – suggested by the finding that 'lower' classes benefit more from the procedure of choosing (found in the case of LTC).

The role of procedural utility

The empirical evidence of this thesis (overall positive SWB effects) supports the hypothesis that choice generates procedural utility. This assertion rests however on indirect evidence rather than a conclusive empirical test. Nonetheless, Frey and colleagues argue that there is a value to jointly assessing outcome and procedural utility, which SWB allows us to do, even if separating the two is not possible (2004). At the very least, the positive SWB effect indicates that any potential disutility from the procedure (or process) does not outweigh the outcome benefits (which are conclusively supported).

The first strategy to identify PU throughout the thesis rests on controlling for outcomes, so that any effect can be attributed to the procedure, wherever possible. Health status is

a key outcome indicator, particularly in chapter two. The approach is supported by evidence that self-reported health status is closely aligned with physician diagnoses as well as a strong predictor of future mortality (Mossey and Shapiro 1982; Idler and Benyamini 1997). In LTC, outcomes are more challenging to control for as individuals with chronic diseases tend to have a relatively constant health status (with little expectation of dramatic improvements). Care outcomes – such as care hours or technical aides are – not necessarily included in the cash benefits commonly opted for in the German LTC. The LTC choice reforms are therefore about something procedural – either PU from the institution of choice or process utility (in the health economics interpretation – process quality). The positive SWB effect provides evidence which suggests a procedural utility effect.

The second strategy to identify procedural utility is based on an analytical comparison of the results of chapter 2 and 3 (in light of the psychological literature on choice). These conclusions on procedural utility are based on the underlying policy structure and suggest that choice is sometimes a good thing in and of itself while at other times it is only (or mainly) an instrument to achieve a better outcome. In the case of choice of hospital the PU effect is likely to be constrained by the character of the choice of hospital. It is information and knowledge intensive; there is low probability of repetition of choice, potentially high transaction costs and possible deficiencies in the quality of information and the way that choice is communicated to patients. This indicates that patients may not perceive the procedure as fair and as meeting their needs. On the other hand, in the case of LTC, information is privately held (the individual is often well aware of his or her needs and the optimal treatment) and choices can be altered and

repeated if necessary. Transaction costs can be an issue; however, these are only indirectly related to the choice making itself. LTC provision in the home may require investment in technical aid which can pose a challenge and increase the stress of choosing. Nevertheless, LTC provision under systems of 'cash-for-care' is likely to produce PU, as indicated in numerous satisfaction studies (see Colombo 2011).

The findings support the arguments in the literature that procedural utility stems from procedures which are perceived to be fair by the individuals involved (Frey and Stutzer 2004). This thesis provides evidence that procedural utility is more likely to be gained when the individual choosing has 'enough' information and when 'key' choices are available. 'Enough' information, as suggested in the psychology literature, is when the choice is likely to provide the individual with a sense of autonomy and independence (Dworkin 1988; Timonen et al. 2006). The role of 'key' choices means that benefits do not necessarily depend on having the highest number of options but rather having a *real* choice between options which are equally incentivised (Dowding 1992). The two choice situations considered in this thesis – choice of hospital and choice of service in LTC – illustrate this distinction. In sum, the evidence supports the arguments that procedural utility is gained where the individual choosing has sufficient information, where *actual* options are available and where the chooser is not in an *a priori* substandard position in terms of outcomes. The latter point can be understood as outcome utility taking precedence over procedural utility where outcome deficiencies exist and the individuals' needs are not sufficiently met.

5.2 Policy implications

The rise of the consumer choice agenda as an important pan-European reform trend stresses the need to formulate an agenda within which (equitable) welfare effects can be obtained. This thesis informs such an agenda by examining the well-being effects of choice, which is a unit of measurement increasingly valued by policy makers and scholars alike. The findings of this thesis have a number of implications for policy.

Overarching recommendation

The thesis supports the view that, even though the welfare effect of the consumer choice policies considered in the empirical analysis is positive, attention must be paid to their equity implications (Barr et al. 2008; Bevan et al. 2010). This applies equally to inequalities between socio-economic groups as it does to inequalities determined by circumstances related to individual availability of options amounting to a genuine opportunity to choose. This goes beyond differences in the individuals' availability of information and associated transaction costs to include geographical differences and limitations to the support offered by family and relatives.

The change for different social groups brought about by the respective policies varies considerably. In health care the status quo in a public system is generally found to include inequalities in terms of access, health outcomes and utilisation (Braveman and Gruskin 2003; Braveman 2006; Braveman et al. 2011). In LTC systems such as Germany, on the other hand, choice systems are preceded by a means-tested system of benefits – a system often based on social assistance rather than recognising LTC needs as a unique social risk (Geraedts et al. 2000). The move from a means-tested system to a

more universal system featuring choice has a particularly strong effect on the middle class. It is middle income earners who stand to lose the most under means-testing as they are forced to either spend down wealth in order to become eligible for social assistance or fund care privately (Dilnot 2011). Finally, a choice is only a useful choice if genuine options are available. Policy makers considering choice based policies should consider the available options and the extent to which they are constrained by individual circumstances if an equitable policy is to be created. The thesis finally argues that measures of SWB and other domain satisfaction should be routinely incorporated into the analysis of reform

Specific recommendations:

- *Information and transaction costs*

The thesis has used system wide information and potential transaction costs as benchmarks on which to differentiate the cases. The inequity discussed in the literature can be explained as the capability to make other choices than the default (e.g. transport costs and the availability of appropriate transport such as own car). The cost of making the choice should be set against the cost associated with taking up (more costly) options. Information processing and 'costly' choice making is not necessarily a massive constraint unless the choice is challenging to the point where it generates damaging stress for the individual. In health care, making an informed choice of a hospital for surgery depends on in-depth understanding of performance and available surgeons. Hospital ratings have also been found to be suboptimal vehicles for communicating quality to patients and users (Marshall et al. 2000; Hibbard et al. 2005). This thesis considers this type of choice situation as one where information is 'professionally held',

particularly information about quality and specifics of the service provided. Transaction costs related to taking up options, such as travel to and extended stays at or near distant provider locations, are perceivable in relation to hospital choice. The choice of service in LTC is centred on the individual which in practice means that even though choice making may be subject to considerable transaction costs (in terms of selecting a non-standard care package and the regulations and bureaucracy involved), transaction costs in relation to taking up the choice are less likely to be prohibitive.

- *Personalisation and links with labour markets*

The evidence of this thesis supports the impetus for further cash-for-care policies. This is particularly relevant in light of the agenda of 'ageing in place' and formalising informal care seen in many European countries. We can here envision links between choice policies and for example employment policy for potential informal carers. The EU and many European counties strongly promote ageing in place and informal care as the best and most cost-efficient way of caring for the elderly and the disabled. As further discussed below, the SWB of informal carers was not incorporated into the analysis, but is thought to play an important role for the outcomes of choice policies.

5.3 Limitations and future research agenda

This section outlines the limitations of the thesis as a whole (topic specific limitations are found within each of the chapters). I then move on to discuss a possible future research agenda.

5.3.1 Limitations of the study

Limitations fall under three broad categories: data availability; measurement; and methods/conceptual framework.

Data availability

In order to make the analysis of large scale choice and competition reforms possible the analysis relied on data already available through large-scale socio-economic surveys. Data from before and after the reforms was used in order to endeavour a causal interpretation. The longitudinal survey data used in chapters 2 (BHPS) and 3 (GSOEP) allows for groups of individuals to be followed over time. However, due to the particular samples; individuals who had been in hospital in the past year and individuals using LTC services, the longitudinal aspect of the data was almost completely lost. Neither of the groups tend to be recorded in the relevant status (hospital in-patient or LTC user) in the surveys over the course of several years. LTC users may become too frail to take part in the survey and ultimately have a higher mortality rate than the general population. Moreover, individuals, unless suffering from chronic conditions or multi-morbidity, rarely become hospital in-patients on repeated occasions. Repeated cross-sectional data was used throughout.

Different samples, treatment and control groups were identified to attempt to alleviate the potential bias that the data limitations entail. Personality (Diener and Lucas 1999; Fujita 2005) and genetics (De Neve 2011) have been found to matter for SWB ratings – which statistically can be captured through individual fixed effects models (Ferrer-i-Carbonell and Frijters: 2004). The lack of a longitudinal sample is also here a problem.

The regression analysis included a broad variety of socio-economic and area level controls in an attempt to eliminate bias from the set-point SWB (Lucas 2004) of the various samples. The determinants of SWB were in line with what is normally found in the literature and stable across specifications which indicate that set-point bias was not a major issue.

Measurement

A second limitation is that the analysis almost exclusive relies on individuals' subjective answers to questions about demographic information, health, family and household circumstances – something which may lead to bias (Bertrand and Mullainathan 2001). Bias can easily affect responses to questions about wealth, satisfaction, attitudes etc. A particularly important variable for this thesis is self-reported health. Respondents are asked for an overall evaluation of their health status or specific symptoms and the perceived severity (not confirmed by a physician in GSOEP and BHPS). Sutton et al (1990) argue that individual perceptions of health measure 'something different' to actual health, such that using self-reported health increases the chance of measurement error. In one empirical study Blaxter (1995) found that 20% of self-reports on chronic illnesses did not match that of physician records. However, Andersen (1998:3) argues that modelling of health behaviour should consider how people view their own general health, and how they experience symptoms of illness, pain and worries about their health and when they judge their symptoms to be severe enough to seek care. Empirical evidence suggest that self-reported health status is closely aligned with physician diagnoses as well as being a strong predictor of future mortality (Mossey and Shapiro 1982; Idler and Benyamini 1997). All this suggests that

individuals are good evaluators of their own health status. However, given that the present study aims to capture individual subjective well-being effects − a subjective assessment in itself − bias arising from self-reported health is less of an issue than for studies aiming to capture health utilisation and behaviour. SWB is formed around the perceptions an individual has of a particular situation and hence it is the *perceived* health status which is relevant to control for (Brief et al. 1993).[74]

Conceptual framework and methodological approach

In addition to the measurement issues discussed above, the SWB approach has conceptual limitations. Questions on individual satisfaction with life or with domains of life are driven by subjective assessments including personal preferences, expectations, perceptions of the objective situation and circumstance experienced (Sitzia and Wood 1997; Van Praag et al. 2003). Additionally, social desirability bias (reluctance to express dissatisfaction) may affect answers. However, in the long-running well-established surveys (BHPS and GSOEP) used in this thesis, interviewers are trained to make clear to the respondent that all answers are confidential and anonymous so as to reduce bias.

Bias of a similar kind is inherent to the SWB measure and well-known in the happiness literature. Adaptation, expectations and social comparisons all affect individuals' evaluation of their satisfaction with life (Diener and Lucas 1999). These effects are inherent to the measure and are difficult to control for. Using SWB as a tool for

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[74] Recent developments in data availability whereby survey data is increasingly linked to patient records and will allow for controlling more in detail for the difference between subjective health status and 'objective'. There are however concerns over self-selection in giving consent for linking (Knies et al. 2011).

evaluating policy, which is a broad contribution of this thesis, rests on a normative judgement of the importance of SWB as a measure of welfare (Layard 1980; Layard 2006). Economists often disagree with the exclusive use of SWB as a measurement, partly due to the interpretation of the effects. Similarly, we know from the happiness literature that even large and important life events only affect well-being to a minor extent and that effects tend to return close to 'normal' after a few years (Lucas 2004; Fujita 2005).The finding that choice reforms impact on SWB, controlling for individual and societal variables in treatments effects models is, in itself, a contribution both to the choice literature and to the happiness literature where studies evaluating reforms in a treatments effects setting are few.

The choice situation

The analysis was further limited by a lack of data for capturing the circumstances surrounding the choice (both in chapters 2 and 3). The thesis only takes into account 'policy-wide' information availability and transaction costs as the data does not allow for a more detailed modelling of the choice situation of each individual. Firstly, the identification of whether an individual was actually faced with the choice situation, and perceived themselves to have been offered a choice, is not exclusively based on the individuals own statement. This limits the analysis and causal identification of one aspect of procedural utility, which relies on the individual's perception of an appropriate and fair process of choosing. The identification of procedural utility generated from choice as an institution is however not restrained in the same way. It does not rely on the circumstances of the choice but on the 'idea' of choice as 'the rules of the game'

(North 1995) of the health or long-term care system. This overlaps with the intrinsic value of choice.

5.3.2 Avenues for future research

The evidence in this thesis invites a number of diverse extensions: the role and dynamics of individual choice for competition, the politics of middle class preferences, the choice in itself and the availability of options; and finally, extending a similar examination to other cases.

Choice and competition

The issues in the literature regarding the choice situation and perceptions of quality of care can offer insight for the dynamic of the incentives behind the competition effects of choice in public services (Cooper et al. 2011; Gravelle et al. 2012). In theory it is patient choice that drives providers to improve quality since 'money follows patients' choices in a quasi-market setting. If patients, as indicated by the data, do not choose based on quality and view proximity as a major consideration (Dixon 2008), how will this in the long-run affect competition? There is still a potential for real competition effects in urban areas, such as London, where patients have 'easy' access to several providers. If patients in fact strive to use quality as a background for choice then they will encounter further difficulties. Quality varies not only between providers but between professionals and these differences are largely hidden to patients. It has further been found that quality ratings are relatively under-used when choosing provider, but that user ratings are increasingly discussed as a complement to official ratings. Individuals tend to rely on the views of their peers over official ratings (Marshall et al. 2000). Likewise, online

forums, particularly in areas such as maternity care, are increasingly being used. The potential for non-typical ways of making quality ratings accessible needs to be further explored (see literature review Trigg 2013).

The politics of the middle class as a driver of CCP reform

This thesis has provided evidence in support of the elsewhere hypothesised correlation between middle class preferences for choice, competition and privatisation and national reform trajectories. It may be that a priori middle class preferences for choice – as argued in the consumerism literature – lead politicians to move towards CCP reforms. It may also be that policy-makers move towards CCP reforms expecting the middle class to appreciate the reforms once they are in place, regardless of prior concerns over investment costs related to institutional change. It may also be that there is a role for the private provider lobby to 'sell' the idea of choice and private options to both policy makers and the middle class. The above forms a refined version of Blomqvist's general argument that the direction of causality is not crucial. Blomqvist instead argues that it is a self-perpetuating dynamic which denotes the increasing role of choice reforms: choice feeds demands for more choice which is enforced by the middle class's inherent preference for consumer choice. Whether there is a generalisable direction of causality can be identified through process tracing of reform trajectories in relevant countries. The dynamic, if at all present, is likely to vary between funding systems (social health insurance compared to national health service) and between the regime types of Esping-Andersen (1990).

Beyond Western Europe

The thesis argued that the universal welfare states of Western Europe are a particularly relevant case for the analysis of the welfare effects of choice. This is because of the qualitative change CCP reforms constitute in mature welfare states which are traditionally characterised by little choice for the individual. The analysis could be applied to choice reforms in other countries and, similar to the case of LTC, to cases where the pre-reform situation places responsibility exclusively on the individual to arrange and fund care privately. Eastern Europe is in this respect an interesting extension. As part of the enlarged European Union, policy transfer is increasingly impacting on the institutions and structures of the welfare states, which is in turn driving CCP reforms (Kornai and Eggleston. 2001). The recent transition from varying degrees of communist economic rule has led to a change in how citizens view the state and public services. The communist rule was denoted by minimal choice for users of welfare services, hence CCP reforms result in a considerable break with previous traditions and is embedded within increasing individualisation and consumerism. This is reflected in the determinants of SWB which are strongly focused on individual factors such as income (Zigante 2008). Similarly, Iyengar argues that choice should matter everywhere, but that a predisposition to benefit from choice varies between cultures (Iyengar and Lepper 1999). This is likely to apply also within the countries of Western Europe. The analysis of chapters 2 and 3 can offer insights into this by repeating the analysis for different ethnic groups, religions and migrant statuses. These indicators are also increasingly linked to inequalities beyond those solely dependent on economic situation and education (as focused on in this thesis).

How individuals experience the choice situation

This thesis emphasised the role of information, transaction costs and preferences as determinants of the SWB effects of choice. The more specific characteristics of the choice situation can provide further policy relevant evidence with more detail than in this thesis.

The role of *actors* in the choice process was left out of the present analysis. This applies to both the health care case (the GP) and LTC case (family and advisors) – where actors advising in the process are important. However, data limitations did not allow for a detailed analysis of the character of the choice situation (which limited the examination of PU effects for the individual). This limited opportunities for an analysis of whether there was a 'real' choice for the individual. In LTC, for example, chapter 3 found a SWB effect of choice among individuals with informal carers available, but not among individuals with a lower probability of available informal carers. In LTC the role of informal carers and 'when' and 'how' family carers actually provide care is largely unexplored. In LTC, this availability is not only constrained by intra-family relations, employment conditions and other caring responsibilities, but is also intimately intertwined with the development of public funding. Germany, a forerunner in the LTC choice agenda, exemplifies this clearly. The fact that the cash option is used less than expected highlights the relevance of constraints beyond financing (Rothgang 2012).

A more detailed account of the character of the choice situation may further provide evidence of procedural utility, which was not conclusively identified in this thesis. This thesis discussed the evidence in favour of quality improvements brought about by

competition in hospital markets (Bloom et al. 2010; Cooper et al. 2011; Gravelle et al. 2012) – which is here found to improve individual well-being, mainly due to better health outcomes. However, the idea that choice and individual autonomy can generate utility, beyond what is gained from outcomes, was a key motivation for the approach of this thesis. Psychological research (see for example Botti and Iyengar 2004) indicates that the gains from choice depend on the situation and at times the predisposition of the person choosing. Therefore, the growing literature on procedural, or process, utility can benefit from an expanded methodological approach. Survey data can beneficially be combined with qualitative evidence and experiments on the effects of the choice situation and how the procedure can be improved in order to generate well-being effects. The mapping and understanding of the role of procedural utility is a crucial endeavour for providing public services efficiently and with high quality, particularly in an age of fiscal austerity.

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Appendices

Chapter 1

Appendix 1 – Overview of research questions

Question	Subset	Question	What do we know already?	Main method	Answer	Key contribution
1		Does competition and choice in health care improve individual well-being?	Emerging evidence of quality improvements from choice and competition in the English NHS.	DiD models (OLS), main independent variable is a concentration index of hospital competition	SWB effects of competition are positive and not explained by individual or local characteristics.	Supporting the positive quality effect of competition – also on SWB.
1	a	Are benefits equitably distributed according to socio-economic status?	Mainly empirical evidence, of take-up but little/nothing on how this transforms into outcomes and welfare effects.	Sub-group analysis using income and education as indicators of capability to benefit from choice.	SWB effects found among individuals with higher income and education.	The results support the argument that individuals who are better off benefit more from choice.
1	b	Does choice and competition improve patient satisfaction with health?	Health economics studies have found quality improvements measured as AMI mortality.	DiD models, dependent variable satisfaction with health and independent; competition index	Positive effect on satisfaction with health.	Confirming the positive effect of competition, also on satisfaction with health. Indicates less of a role for procedural utility
2		Does choice in long-term care improve individual well-being?	Qualitative studies have found positive effects of increased autonomy.	DiD and DDD models based on groups of public users, privately insured and severely disabled.	SWB effects are positive overall and not explained by individual or local characteristics.	Systematic and considerable effect on SWB both in terms of a system effect and a choice effect.
2	a	Are benefits equitably distributed according to socio-economic status?	Scattered empirical evidence of equity impacts. US evidence focused on race and ethnicity. Inter-generational equity in relation to financing.	Sub-group analysis using income and education and as indicators of ability.	SWB effects are significant among higher income groups and education (system effect) whereas the effects of choice are present among lower income groups	The LTC system benefit those who previously were most disfavoured (the middle class) whereas choice in and of itself is not inequitable.

2	b	Are benefits equitably distributed according to the availability of meaningful options (such as informal carers)?	Studies have found familism (as a value) to be crucial for informal provision of care	Sub-group analysis of individuals with varying probability of having available informal carers	'System effect' for users with low probability of informal care provision. 'choice effect' among those with high probability of availability of informal carers	Choice (more and broader choice set) i.e. having informal carers available matters for SWB effects (outcome and procedure)
3		Is there a middle class preference for choice in NHS type health care systems?	Consumerist: procedural preference for choice ('likes to choose') and/or benefits more of choice due to better resources --> instrumental preferences	Seemingly unrelated regression of criteria for a quality health care system- by socio-economic social status.	Higher socio-economic status (no evidence of curve-linear relationship) is linked to preferences for choice of doctor and hospital and no waiting times	The evidence supports the theoretical propositions of middle class support for choice and privatisation.
3	a	Are middle class preferences linked to choice in and of itself or is there a role for outcomes produced by choice schemes?	Middle class argued to have stronger preferences for a quick and specialised service. Waiting lists is key factor for take-up of private insurance.		Higher socio-economic status (no evidence of curve-linear relationship) is linked to preferences for quick access (no waiting times)	
3	b	Are there complementarities in the provision systems under consumer choice and privatised funding?	Theories of a succession of the wealthy - people turn to the private system - removing support for the public among influential members of society.	Comparative analysis of reform trajectories, institutional structures and quantitative evidence of middle class preferences.	Similar support structures in England, Sweden and Ireland, despite distinct system characteristics.	The results contradicts the existing literature in that the findings indicate that choice and privatisation are *substitutive* reform trajectories rather than as previously argued, complementary.

Chapter 2

Appendix 2 – Summary table of variables for Paper 1

Variable	Obs.	Mean	Std. Dev.	Min	Max	Detail/coding
Life satisfaction	9492	5.173	1.243	1	7	[0] not satisfied at all, [7] completely satisfied
Period	9492	0.333	0.471	0	1	[1] after, [0] before
Treated	9492	0.506	0.500	0	1	[1] high competition area [0] low competition area
Post*treated	9492	0.170	0.376	0	1	[1] after*treated, [0] otherwise
Sex	9492	0.557	0.497	0	1	[0] male, [1] female
Age	9492	47.397	16.600	16	93	Age in years
Age square	9492	2522	1675.5	256	8649	Age squared
Health status	9490	2.230	0.928	1	5	[1] excellent, good, fair, poor, [5] very poor
Marital status	9492	2.232	1.833	1	7	[1] Married, Living as couple, Widowed, Divorced, Separated, Never married, [7] Civil partnership
Job status	9492	3.058	1.838	1	10	[1] Self- employed, Employed, Unemployed, Retired, Maternity leave, Family care, In school, Sick, disabld, Gvt trng scheme, [10] Other
Education	9364	2.182	1.513	1	6	[1] higher degree, first degree, teaching qf, other higher qf, nursing qf, [2] gce a levels, gce o levels or equiv, commercial qf, no o levels, [3] cse grade 2-5,scot grade 4-5, [4] apprenticeship, other qf, [5] still at school, [6] no qf
Household income	9492	1365.6	1201.5	0	16142	Equivalised household income
Household size	9492	2.796	1.266	1	6	Nr of individuals in household (6 or above is coded as 6)
Hospital stay private	9492	0.008	0.089	0	1	[1] private [0] NHS

Appendix 3 – Description of local authority level variables

LA code	LA name	House prices	Unemployment Rate	Deprivation index	Offered choice %Yes	Offered choice %No
00AA	City of London	482572	.	12.84	39	52
00AB	Barking and Dagenham	193314	8.9	34.49	56	42
00AC	Barnet	382813	4.6	21.16	48	46
00AD	Bexley	225114	5.1	16.21	47	48
00AE	Brent	322262	6.9	29.22	49	43
00AF	Bromley	316593	2.8	14.36	58	39
00AG	Camden	562202	6.5	28.62	46	49
00AH	Croydon	248198	4.8	21.31	37	57
00AJ	Ealing	329094	5.8	25.1	45	47
00AK	Enfield	268757	7.2	26.19	56	40
00AL	Greenwich	260663	7.1	33.94	45	47
00AM	Hackney	314839	10.3	46.1	39	52
00AN	Hammersmith and Fulham	535017	8.6	28.07	48	45
00AP	Haringey	353426	8	35.73	43	49
00AQ	Harrow	320818	5.7	15.59	56	40
00AR	Havering	246926	3.9	16.07	49	49
00AS	Hillingdon	271896	5.7	18.56	38	57
00AT	Hounslow	311968	3.5	23.2	42	51
00AU	Islington	438910	5.9	38.96	50	45
00AW	Kensington and Chelsea	1033470	3.9	23.51	57	38
00AX	Kingston upon Thames	348152	4	13.1	28	66
00AY	Lambeth	341899	8.8	34.94	48	47
00AZ	Lewisham	248615	9.1	31.04	48	48
00BA	Merton	372802	4.1	14.62	39	57
00BB	Newham	232094	10	42.95	40	53
00BC	Redbridge	282666	7.8	20.36	41	54
00BD	Richmond upon Thames	512207	4.4	9.55	53	41
00BE	Southwark	333658	8.4	33.33	43	52
00BF	Sutton	261675	5.3	13.98	39	57
00BG	Tower Hamlets	335427	11.1	44.64	32	59
00BH	Waltham Forest	246567	6.4	33.19	50	44
00BJ	Wandsworth	456837	5.8	20.34	54	42
00BK	Westminster	687828	7	26.3	41	54
00BL	Bolton	140978	5.5	29.67	41	55
00BM	Bury	150301	5.9	21.42	53	40
00BN	Manchester	156290	10.3	44.5	44	49
00BP	Oldham	131092	9.7	30.82	75	22
00BQ	Rochdale	132108	7.1	33.89	59	37
00BR	Salford	143164	5.3	36.51	53	44
00BS	Stockport	195665	3.8	18.06	47	50
00BT	Tameside	137731	6.8	28.78	57	41
00BU	Trafford	247458	4.8	17.33	51	44
00BW	Wigan	132076	6.4	26.91	42	57
00BX	Knowsley	125322	8.8	43.2	48	48

LA code	LA name	House prices	Unemployment Rate	Deprivation index	Offered choice %Yes	Offered choice %No
00BZ	St. Helens	136016	7.6	29.82	50	48
00CA	Sefton	171933	5.6	25.13	32	63
00CB	Wirral	161351	7	27.9	61	35
00CC	Barnsley	129827	6.3	30.48	56	40
00CE	Doncaster	131955	7.3	30.84	48	48
00CF	Rotherham	137348	6.3	26.71	57	39
00CG	Sheffield	155835	5.8	27.84	37	60
00CH	Gateshead	134601	5.9	29.52	47	49
00CJ	Newcastle upon Tyne	169822	7.5	31.36	26	70
00CK	North Tyneside	150005	6.6	23.51	40	58
00CL	South Tyneside	134606	6.1	31.16	42	54
00CM	Sunderland	129874	7.8	31.79	48	48
00CN	Birmingham	162383	9.2	38.67	63	34
00CQ	Coventry	147215	7.3	27.85	52	45
00CR	Dudley	151989	6.6	23.68	26	71
00CS	Sandwell	132461	9.2	37.03	56	40
00CT	Solihull	244897	5.9	16.16	60	40
00CU	Walsall	147546	8.3	30.14	50	47
00CW	Wolverhampton	138322	9.9	33.02	39	57
00CX	Bradford	147265	6.4	32	33	63
00CY	Calderdale	148777	4.6	23.01	53	43
00CZ	Kirklees	153514	5.6	25.23	42	54
00DA	Leeds	171077	6.5	25.07	30	66
00DB	Wakefield	145967	5.8	27.07	48	49
00EB	Hartlepool	123388	11.3	34.1	56	41
00EC	Middlesbrough	118821	9	38.94	63	34
00EE	Redcar and Cleveland	130638	6.9	29.69	53	44
00EF	Stockton-on-Tees	151487	6	23.8	53	44
00EH	Darlington	141345	5.3	24.1	57	43
00EJ	Durham	126910	6.2		54	44
00EM	Northumberland	178371	4.8		38	58
00EQ	Cheshire East	229938	3.6		58	38
00ET	Halton	134195	6.8	32.61	50	48
00EU	Warrington	179827	3.7	17.89	29	66
00EW	Cheshire West and Chester	197044	3.3		47	48
00EX	Blackburn with Darwen	118730	6.5	35.83	43	53
00EY	Blackpool	127588	5.7	37.66	64	34
00FA	Kingston upon Hull, City of	100898	9.1	38.31	41	55
00FB	East Riding of Yorkshire	174462	3.1	14.17	35	62
00FC	North East Lincolnshire	119775	6.8	29.73	48	50
00FD	North Lincolnshire	137541	5.3	20.88	57	39
00FF	York	210942	3.6	13.4	41	56
00FK	Derby	150977	4.8	26.64	37	63
00FN	Leicester	145422	11.4	34.68	36	60

LA code	LA name	House prices	Unemployment Rate	Deprivation index	Offered choice %Yes	Offered choice %No
00FP	Rutland	268411	1.2	7.49	43	53
00FY	Nottingham	129407	7.6	37.46	57	40
00GA	Herefordshire	222073	3.9	17.58	35	62
00GF	Telford and Wrekin	155575	5.6	22.35	67	29
00GG	Shropshire	213622	4.4	36.03	45	49
00GL	Stoke-on-Trent	103518	6.2	11.47	60	37
00HA	Bath and North East Somerset	287970	3.6	27.76	74	24
00HB	Bristol, City of	209340	3.6	15.01	41	54
00HC	North Somerset	220723	2.5	9.58	42	55
00HD	South Gloucestershire	212854	3		44	51
00HE	Cornwall	232366	5.4		72	26
00HF	Isles of Scilly	392476	..		72	26
00HG	Plymouth	167241	6.2	26.11	72	24
00HH	Torbay	197503	6.2	26.42	47	50
00HN	Bournemouth	222187	4.9	22.99	45	50
00HP	Poole	288760	2.8	14.93	45	50
00HX	Swindon	175184	4.1	16.94	35	60
00HY	Wiltshire	242074	3.9		48	49
00JA	Peterborough	163401	7.1	24.49	26	68
00KA	Luton	166540	9	24.73	28	68
00KB	Bedford	207555	4.7		43	54
00KC	Central Bedfordshire	221204	3		43	54
00KF	Southend-on-Sea	203898	5.5	22.47	37	61
00KG	Thurrock	185127	4.3	21.31	44	53
00LC	Medway	175662	6.9	19.55	56	38
00MA	Bracknell Forest	257468	3.9	8.75	52	43
00MB	West Berkshire	293148	3.3	8.19	54	39
00MC	Reading	228308	4	19.3	54	39
00MD	Slough	204407	5.2	22.31	54	39
00ME	Windsor and Maidenhead	408749	2.7	8.51	52	43
00MF	Wokingham	319657	2.2	5.36	54	39
00MG	Milton Keynes	197906	3.9	15.32	45	52
00ML	Brighton and Hove	265716	5.6	25.56	33	62
00MR	Portsmouth	173322	5.7	24.21	43	54
00MS	Southampton	176605	6.1	24.31	30	67
00MW	Isle of Wight	204528	6.4	20.67	25	70
11UB	Aylesbury Vale	267937	3.3	8.76	35	61
11UC	Chiltern	440483	5.8	7.02	35	61
11UE	South Bucks	524748	5.2	8.35	35	61
11UF	Wycombe	318275	5.8	10.65	35	61
12UB	Cambridge	297835	2.8		35	61
12UC	East Cambridgeshire	215760	2.5		35	61
12UD	Fenland	153684	6.7		35	61
12UE	Huntingdonshire	208275	3.4		35	61

LA code	LA name	House prices	Unemployment Rate	Deprivation index	Offered choice % Yes	Offered choice % No
12UG	South Cambridgeshire	278654	2.6		35	61
16UB	Allerdale	166062	2		57	38
16UC	Barrow-in-Furness	113383	5.3		53	44
16UD	Carlisle	146557	2.1		57	39
16UE	Copeland	130208	4.8		57	38
16UF	Eden	211450	.	14.64	57	38
16UG	South Lakeland	243653	5.5	11.67	57	38
17UB	Amber Valley	166426	1.7	18.12	61	35
17UC	Bolsover	131220	8.3	28.93	61	35
17UD	Chesterfield	147108	6	25.75	61	35
17UF	Derbyshire Dales	257600	4.1	12.53	61	35
17UG	Erewash	145730	3.9	17.98	45	52
17UH	High Peak	184385	5.3	15.34	61	35
17UJ	North East Derbyshire	168580	5.2	17.37	61	35
17UK	South Derbyshire	174790	2.9	13.93	61	35
18UB	East Devon	259267	2.4	13.69	48	49
18UC	Exeter	207360	3.6	20.27	48	49
18UD	Mid Devon	223474	4	17.34	48	49
18UE	North Devon	235952	2.8	19.97	48	49
18UG	South Hams	315432	2.6	14.31	48	49
18UH	Teignbridge	232965	2.4	17.29	48	49
18UK	Torridge	216871	10.9	21.13	48	49
18UL	West Devon	255595	.	17.08	48	49
19UC	Christchurch	279655	8.9	14.68	57	39
19UD	East Dorset	298697	2.1	8.46	57	39
19UE	North Dorset	247302	2.4	13.02	57	39
19UG	Purbeck	262652	4.4	13.49	57	39
19UH	West Dorset	267236	1.8	15.51	57	39
19UJ	Weymouth and Portland	217312	.	21.19	57	39
21UC	Eastbourne	204195	6	23.36	41	56
21UD	Hastings	165109	6.2	32.21	34	61
21UF	Lewes	264953	.	14.79	41	56
21UG	Rother	245118	5.2	17.85	34	61
21UH	Wealden	282406	3.8	10.86	41	56
22UB	Basildon	212899	4.6	20.58	44	53
22UC	Braintree	222930	5.2	13.61	30	65
22UD	Brentwood	328266	.	9.18	44	53
22UE	Castle Point	216586	.	12.9	37	61
22UF	Chelmsford	253957	3.4	9.26	30	65
22UG	Colchester	205812	6	14.59	47	50
22UH	Epping Forest	338477	4.5	14.33	30	65
22UJ	Harlow	184748	10.6	21.44	32	64
22UK	Maldon	252052	4.2	12.26	30	65
22UL	Rochford	241841	4.4	9.22	37	61
22UN	Tendring	184812	8.2	23.45	47	50
22UQ	Uttlesford	302442	.	6.94	32	64
23UB	Cheltenham	232250	5.9	15.92	50	47
23UC	Cotswold	328707	.	10.22	50	47

LA code	LA name	House prices	Unemployment Rate	Deprivation index	Offered choice % Yes	Offered choice % No
23UD	Forest of Dean	212658	.	16	50	47
23UE	Gloucester	169839	4.3	21.64	50	47
23UF	Stroud	246976	.	11.14	50	47
23UG	Tewkesbury	233397	.	11.23	50	47
24UB	Basingstoke and Deane	254088	3.4	9.84	50	46
24UC	East Hampshire	312691	2.4	8.06	50	46
24UD	Eastleigh	232426	.	9.24	50	46
24UE	Fareham	233838	3.4	7.28	50	46
24UF	Gosport	167433	6.5	17.8	50	46
24UG	Hart	316509	3	4.13	50	46
24UH	Havant	212166	2.2	21.28	50	46
24UJ	New Forest	291949	2.8	10.16	50	46
24UL	Rushmoor	211984	5.6	11.62	50	46
24UN	Test Valley	285376	2.9	8.88	50	46
24UP	Winchester	345596	3.3	7.16	50	46
26UB	Broxbourne	241281	3	16.22	41	55
26UC	Dacorum	294141	3.1	10.73	41	55
26UD	East Hertfordshire	304064	3.1	7.41	41	55
26UE	Hertsmere	343230	5.7	12.86	41	55
26UF	North Hertfordshire	256769	5.2	10.69	41	55
26UG	St Albans	384084	2.3	8.88	41	55
26UH	Stevenage	189951	5.3	16.42	41	55
26UJ	Three Rivers	371106	3.3	10.74	41	55
26UK	Watford	247025	4	15.81	41	55
26UL	Welwyn Hatfield	273769	3.4	14.18	41	55
29UB	Ashford	235575	4.9	14.37	49	48
29UC	Canterbury	223933	7.4	16.17	49	48
29UD	Dartford	213549	8.1	16.65	39	58
29UE	Dover	196009	2.5	19.12	49	48
29UG	Gravesham	203245	8.8	20.37	39	58
29UH	Maidstone	239703	2.8	12.99	49	48
29UK	Sevenoaks	363328	4.5	10.34	39	58
29UL	Shepway	208158	6.7	21.35	49	48
29UM	Swale	183725	6.2	22.1	49	48
29UN	Thanet	183955	7.8	27.61	49	48
29UP	Tonbridge and Malling	280648	6.3	10.95	39	58
29UQ	Tunbridge Wells	305299	4.5	11.45	39	58
30UD	Burnley	96410	8.7	34.61	73	23
30UE	Chorley	165297	3.8	16.56	56	41
30UF	Fylde	204833	4.1	12.86	63	34
30UG	Hyndburn	108354	10.4	30.91	50	46
30UH	Lancaster	158136	4.5	21.94	63	34
30UJ	Pendle	115829	9.4	30.24	44	53
30UK	Preston	150018	6.7	29.78	73	23
30UL	Ribble Valley	230464	3.1	10.07	56	41
30UM	Rossendale	132985	8.8	24.23	50	46
30UN	South Ribble	167039	4.8	14.1	56	41
30UP	West Lancashire	191903	2.9	20.4	56	41
30UQ	Wyre	172664	3.5	17.7	63	34

LA code	LA name	House prices	Unemployment Rate	Deprivation index	Offered choice %Yes	Offered choice %No
31UB	Blaby	184971	2.7	8.41	43	53
31UC	Charnwood	190675	4.8	11.95	43	53
31UD	Harborough	239714	3.2	7.08	43	53
31UE	Hinckley and Bosworth	185492	3	10.9	43	53
31UG	Melton	207573	.	10.43	43	53
31UH	North West Leicestershire	178348	6.5	14.73	43	53
31UJ	Oadby and Wigston	178218	4.6	10.51	43	53
32UB	Boston	142130	5.1	22.75	48	48
32UC	East Lindsey	163672	4.8	24.61	48	48
32UD	Lincoln	138285	12.5	26.56	48	48
32UE	North Kesteven	175194	2.7	10.26	48	48
32UF	South Holland	164618	3.3	16.21	48	48
32UG	South Kesteven	188652	5.1	11.49	48	48
32UH	West Lindsey	162036	7.7	16.75	48	48
33UB	Breckland	185609	4.5	15.3	43	52
33UC	Broadland	209501	2.7	10.09	43	52
33UD	Great Yarmouth	156684	10.5	28.35	60	38
33UE	King's Lynn and West Norfolk	184684	3.4	20.58	43	52
33UF	North Norfolk	207749	6	18.06	43	52
33UG	Norwich	178028	3.2	27.84	43	52
33UH	South Norfolk	216184	2.2	10.84	43	52
34UB	Corby	146271	4.6	26.16	61	35
34UC	Daventry	233841	6.7	10.61	61	35
34UD	East Northamptonshire	186179	4.7	11.78	61	35
34UE	Kettering	162845	5.8	15.09	61	35
34UF	Northampton	165604	3.1	21.15	61	35
34UG	South Northamptonshire	255635	2	6.46	61	35
34UH	Wellingborough	161272	3.2	17.79	61	35
36UB	Craven	216546	.	11.59	41	56
36UC	Hambleton	238830	.	9.84	41	56
36UD	Harrogate	273167	.	9.49	41	56
36UE	Richmondshire	228666	3.4	10.94	53	41
36UF	Ryedale	238917	7.9	14.49	41	56
36UG	Scarborough	168124	5.1	24.06	41	56
36UH	Selby	199404	2.3	12.17	41	56
37UB	Ashfield	125970	8	25.26	63	35
37UC	Bassetlaw	151007	.	24.11	62	35
37UD	Broxtowe	162196	6.3	14.41	63	35
37UE	Gedling	159148	3.9	15.54	63	35
37UF	Mansfield	124681	7.3	31.8	63	35
37UG	Newark and Sherwood	176994	8.9	18.03	63	35
37UJ	Rushcliffe	228159	6.4	8.13	63	35
38UB	Cherwell	235213	4.9	11.3	58	40
38UC	Oxford	305915	5.8	18.8	58	40
38UD	South Oxfordshire	347372	3.2	7.75	58	40

LA code	LA name	House prices	Unemployment Rate	Deprivation index	Offered choice % Yes	Offered choice % No
38UE	Vale of White Horse	293808	.	7.23	58	40
38UF	West Oxfordshire	275104	2.9	6.67	58	40
40UB	Mendip	221989	3.3	14.83	74	25
40UC	Sedgemoor	204423	6.7	17.76	74	25
40UD	South Somerset	216562	2.7	13.86	74	25
40UE	Taunton Deane	220738	2.3	15.65	74	25
40UF	West Somerset	239067	.	23.16	74	25
41UB	Cannock Chase	151298	7.1	20.64	48	49
41UC	East Staffordshire	166207	3.9	18.44	59	39
41UD	Lichfield	226993	4	12.12	48	49
41UE	Newcastle-under-Lyme	144864	7.1	19.27	26	70
41UF	South Staffordshire	220304	5.5	11.62	48	49
41UG	Stafford	187495	1.9	12.71	48	49
41UH	Staffordshire Moorlands	168185	1.8	16.36	59	39
41UK	Tamworth	156383	3.5	19.76	48	49
42UB	Babergh	238263	2.5	11.3	32	64
42UC	Forest Heath	184358	6.4	11.9	32	64
42UD	Ipswich	160162	3.2	23.75	32	64
42UE	Mid Suffolk	224396	.	9.79	32	64
42UF	St Edmundsbury	222682	2.7	12.06	32	64
42UG	Suffolk Coastal	237658	5.7	11.33	32	64
42UH	Waveney	170404	2.3	22.32	60	38
43UB	Elmbridge	533975	2.7	7.12	45	52
43UC	Epsom and Ewell	333429	5	7.43		
43UD	Guildford	372604	2.2	8.2	45	52
43UE	Mole Valley	385841	.	7.25	45	52
43UF	Reigate and Banstead	322031	2.9	8.59	45	52
43UG	Runnymede	384553	3.1	8.33	45	52
43UH	Spelthorne	273764	5.6	12.18	45	52
43UJ	Surrey Heath	342412	.	5.75	45	52
43UK	Tandridge	341846	7.2	8.49	45	52
43UL	Waverley	397898	2.6	6.86	45	52
43UM	Woking	329300	.	8.7	45	52
44UB	North Warwickshire	181148	7.4	16.18	51	46
44UC	Nuneaton and Bedworth	147164	7.2	22.41	51	46
44UD	Rugby	185784	3.6	13.08	51	46
44UE	Stratford-on-Avon	275812	4	9.63	51	46
44UF	Warwick	237305	4.5	11.97	51	46
45UB	Adur	224030	4.5	20.55	44	53
45UC	Arun	236566	3.2	16.64	44	53
45UD	Chichester	328481	3.1	12.08	44	53
45UE	Crawley	211764	5.1	15.55	44	53
45UF	Horsham	312429	1.7	7.38	44	53
45UG	Mid Sussex	289701	2.8	6.94	32	64
45UH	Worthing	216156	6.3	17.48	44	53
47UB	Bromsgrove	237599	4.6	10.2	41	56

LA code	LA name	House prices	Unemployment Rate	Deprivation index	Offered choice %Yes	Offered choice %No
47UC	Malvern Hills	266234	4.1	13.59	41	56
47UD	Redditch	169867	4.8	21.05	41	56
47UE	Worcester	188401	.	18.03	41	56
47UF	Wychavon	250211	3.3	11.99	41	56
47UG	Wyre Forest	182808	4.6	19.09	41	56

Note: Source and derivation of LA variables, all from 2007.
House prices: Price Indicators for All Dwellings; Mean
Unemployment Rate: Unemployment Rate; Aged 16-64 (Males); 16-59 (Females)
Deprivation index: Deprivation index: Average Score
Offered choice: Yes/No: National Patient Choice Survey, % of individuals recalling having been offered a choice by GP. 2007

Appendix 4 – HHI competition index, by LA

LA code	LA name	HHI 20.000 metres
00AA	City of London	0.052372
00AC	Barnet	0.072337
00AC	Barnet	0.077615
00AD	Bexley	0.103495
00AE	Brent	0.065552
00AE	Brent	0.051361
00AF	Bromley	0.117797
00AF	Bromley	0.12864
00AG	Camden	0.049479
00AG	Camden	0.056621
00AH	Croydon	0.071401
00AJ	Ealing	0.064091
00AK	Enfield	0.070591
00AK	Enfield	0.072805
00AL	Greenwich	0.047845
00AM	Hackney	0.044914
00AN	Hammersmith and Fulham	0.056804
00AP	Haringey	0.074499
00AQ	Harrow	0.064372
00AR	Havering	0.152678
00AS	Hillingdon	0.102169
00AS	Hillingdon	0.101534
00AT	Hounslow	0.060738
00AU	Islington	0.058604
00AU	Islington	0.04352
00AW	Kensington and Chelsea	0.059692
00AX	Kingston upon Thames	0.071938
00AY	Lambeth	0.055862
00AY	Lambeth	0.0551
00AZ	Lewisham	0.04332
00BB	Newham	0.046977
00BC	Redbridge	0.071097
00BE	Southwark	0.040984
00BF	Sutton	0.075133
00BF	Sutton	0.080407
00BG	Tower Hamlets	0.042234
00BG	Tower Hamlets	0.065964
00BH	Waltham Forest	0.073654
00BJ	Wandsworth	0.067982
00BK	Westminster	0.068828
00BK	Westminster	0.043801
00BL	Bolton	0.231471
00BM	Bury	0.10475
00BN	Manchester	**0.224939**
00BN	Manchester	**0.089775**
00BN	Manchester	**0.089253**
00BN	Manchester	**0.114626**
00BN	Manchester	**0.098446**

00BN	Manchester	**0.09102**
00BN	Manchester	**0.084009**
00BP	Oldham	0.237989
00BR	Salford	0.077508
00BR	Salford	0.089654
00BS	Stockport	0.217525
00BT	Tameside	0.113727
00BW	Wigan	**0.216575**
00BW	Wigan	**0.096133**
00BX	Knowsley	0.150522
00BY	Liverpool	**0.100764**
00BY	Liverpool	**0.159452**
00BY	Liverpool	**0.219033**
00BY	Liverpool	**0.214286**
00BY	Liverpool	**0.151858**
00BZ	St. Helens	0.172382
00CA	Sefton	**0.380448**
00CA	Sefton	**0.385485**
00CB	Wirral	**0.326177**
00CB	Wirral	**0.192256**
00CC	Barnsley	0.219118
00CE	Doncaster	**0.785633**
00CE	Doncaster	**0.270952**
00CF	Rotherham	0.258317
00CG	Sheffield	0.264141
00CG	Sheffield	0.255695
00CH	Gateshead	0.213612
00CK	North Tyneside	0.130806
00CK	North Tyneside	0.171465
00CL	South Tyneside	0.202781
00CM	Sunderland	0.502121
00CM	Sunderland	0.18409
00CN	Birmingham	0.08434
00CN	Birmingham	0.140698
00CN	Birmingham	0.14196
00CN	Birmingham	0.139812
00CN	Birmingham	0.14979
00CN	Birmingham	0.145095
00CN	Birmingham	0.169786
00CN	Birmingham	0.12459
00CQ	Coventry	0.33572
00CR	Dudley	0.158855
00CR	Dudley	0.134333
00CR	Dudley	0.18021
00CS	Sandwell	0.120784
00CU	Walsall	0.132196
00CW	Wolverhampton	0.152554
00CX,	Bradford	**0.146939**
00CX,	Bradford	**0.470398**
00CX,	Bradford	**0.20383**
00CY	Calderdale	0.262684
00CZ	Kirklees	0.262456

00CZ	Kirklees	0.182317
00DA	Leeds	0.220989
00DA	Leeds	0.253088
00DA	Leeds	0.23994
00DA	Leeds	0.277801
00DB	Wakefield	**0.310119**
00DB	Wakefield	**0.318566**
00DB	Wakefield	**0.61632**
00EE	Redcar and Cleveland	1
00EF	Stockton-on-Tees	0.331936
00EH	Darlington	0.769426
00EJ	County Durham	**0.79212**
00EJ	County Durham	**0.29789**
00EM	Northumberland	**1**
00EM	Northumberland	**0.498634**
00EM	Northumberland	**1**
00EQ	Cheshire East	**1**
00EQ	Cheshire East	**0.408078**
00ET	Halton	**0.172416**
00ET	Halton	**0.284647**
00EU	Warrington	0.28046
00EW	Cheshire West and Chester	0.744212
00EX	Blackburn with Darwen	0.381787
00EY	Blackpool	1
00FA	Kingston upon Hull, City of	**0.393766**
00FA	Kingston upon Hull, City of	**0.447171**
00FA	Kingston upon Hull, City of	**0.872629**
00FB	East Riding of Yorkshire	**0.545985**
00FB	East Riding of Yorkshire	**0.45159**
00FB	East Riding of Yorkshire	**1**
00FC	North East Lincolnshire	1
00FD	North Lincolnshire	0.544128
00FF	York	**0.519679**
00FF	York	**0.810291**
00FK	Derby	0.37309
00FK	Derby	0.350649
00FN	Leicester	**0.90626**
00FN	Leicester	**0.435702**
00FN	Leicester	**0.446524**
00FN	Leicester	**0.469995**
00FY	Nottingham	0.341563
00FY	Nottingham	0.460182
00GA	Herefordshire, County of	1
00GF	Telford and Wrekin	0.7626
00GG	Shropshire	**1**
00GG	Shropshire	**0.655539**
00GL	Stoke-on-Trent	1
00HA	Bath and North East Somerset	0.524873
00HB	Bristol, City of	**0.453438**
00HB	Bristol, City of	**0.646234**
00HB	Bristol, City of	**0.37045**

00HB	Bristol, City of	**0.316866**
00HC	North Somerset	1
00HD	South Gloucestershire	0.343682
00HE	Cornwall	1
00HE	Cornwall	1
00HE	Cornwall	1
00HE	Cornwall	1
00HG	Plymouth	1
00HG	Plymouth	**0.508688**
00HG	Plymouth	**0.63187**
00HH	Torbay	0.940644
00HN	Bournemouth	0.932997
00HP	Poole	0.648611
00HX	Swindon	1
00HY	Wiltshire	**0.790941**
00HY	Wiltshire	**0.534386**
00JA	Peterborough	0.838001
00JA	Peterborough	0.7155
00KA	Luton	0.405864
00KB	Bedford	0.834821
00KF	Southend-on-Sea	0.823067
00KG	Thurrock	0.18096
00LC	Medway	0.402642
00LC	Medway	0.375733
00MB	West Berkshire	0.629813
00MC	Reading	0.648767
00MC	Reading	0.692605
00MD	Slough	0.115825
00ME	Windsor and Maidenhead	0.145328
00ME	Windsor and Maidenhead	0.163223
00MG	Milton Keynes	**0.366947**
00MG	Milton Keynes	**0.869405**
00ML	Brighton and Hove	**0.200976**
00ML	Brighton and Hove	**0.263253**
00ML	Brighton and Hove	**0.501666**
00MR	Portsmouth	**0.518848**
00MR	Portsmouth	**0.617354**
00MR	Portsmouth	**0.809276**
00MS	Southampton	**0.383435**
00MS	Southampton	**0.618492**
11UB	Aylesbury Vale	0.602301
11UF	Wycombe	0.495397
12UB	Cambridge	1
12UD	Fenland	1
12UE	Huntingdonshire	1
16UC	Barrow-in-Furness	1
16UD	Carlisle	1
16UE	Copeland	1
17UC	Bolsover	0.200782
17UD	Chesterfield	0.324868
18UB	East Devon	**0.601989**
18UB	East Devon	**1**

18UB	East Devon	**0.384693**
18UC	Exeter	**0.6566**
18UC	Exeter	**0.917214**
18UD	Mid Devon	1
18UE	North Devon	1
18UH	Teignbridge	0.418825
19UE	North Dorset	1
19UH	West Dorset	0.956902
19UJ	Weymouth and Portland Borough Council	0.689349
21UC	Eastbourne	0.893763
21UD	Hastings	0.897855
21UG	Rother	0.344561
21UH	Wealden	0.530345
22UB	Basildon	0.2998
22UF	Chelmsford	1
22UG	Colchester	0.923624
22UG	Colchester	0.9978
22UJ	Harlow	0.410149
23UB	Cheltenham	0.59899
23UC	Cotswold	0.501236
23UD	Forest of Dean	1
23UE	Gloucester	0.480027
23UE	Gloucester	0.587284
23UF	Stroud	0.331763
23UG	Tewkesbury	0.646996
24UB	Basingstoke and Deane	0.730581
24UN	Test Valley	1
24UP	Winchester	0.55541
26UC	Dacorum	0.187938
26UE	Hertsmere	0.112271
26UG	St Albans	0.17257
26UH	Stevenage	0.351528
26UK	Watford	0.109496
26UL	Welwyn Hatfield	0.190822
29UB	Ashford	0.702104
29UC	Canterbury	0.578676
29UD	Dartford	0.10949
29UH	Maidstone	0.508516
29UN	Thanet	1
29UQ	Tunbridge Wells	**0.558195**
29UQ	Tunbridge Wells	**0.886017**
30UD	Burnley	0.546166
30UE	Chorley	0.241739
30UH	Lancaster	1
30UK	Preston	0.551934
30UK	Preston	0.651163
30UP	West Lancashire	0.18708
30UP	West Lancashire	0.258142
31UJ	Oadby and Wigston	0.484889
32UB	Boston	**0.564142**
32UB	Boston	**0.957102**

32UC	East Lindsey	1
32UD	Lincoln	1
32UG	South Kesteven	**1**
32UG	South Kesteven	**0.559983**
32UG	South Kesteven	**0.517244**
32UH	West Lindsey	1
33UD	Great Yarmouth	1
33UE	King's Lynn and West Norfolk	1
33UF	North Norfolk	1
33UG	Norwich	1
34UE	Kettering	1
34UF	Northampton	1
36UC	Hambleton	1
36UD	Harrogate	0.421197
36UF	Ryedale	1
36UG	Scarborough	1
36UG	Scarborough	1
37UB	Ashfield	0.418596
37UC	Bassetlaw	0.514904
37UG	Newark and Sherwood	0.54468
38UB	Cherwell	1
38UB	Cherwell	1
38UC	Oxford	**0.89427**
38UC	Oxford	**0.552029**
38UC	Oxford	**0.975774**
40UB	Mendip	1
40UD	South Somerset	1
40UE	Taunton Deane	1
41UB	Cannock Chase	0.237793
41UC	East Staffordshire	0.535934
41UE	Newcastle-under-Lyme	**0.491643**
41UE	Newcastle-under-Lyme	**0.20668**
41UE	Newcastle-under-Lyme	**0.213794**
41UG	Stafford	0.94289
42UD	Ipswich	1
42UF	St Edmundsbury	1
43UC	Epsom and Ewell	0.210837
43UD	Guildford	0.277425
43UF	Reigate and Banstead	0.306222
43UG	Runnymede	0.130228
43UH	Spelthorne	0.117054
43UJ	Surrey Heath	0.241617
43UM	Woking	0.190973
44UC	Nuneaton and Bedworth	0.55289
44UD	Rugby	0.585627
44UF	Warwick	0.355743
45UB	Adur	0.679132
45UD	Chichester	1
45UE	Crawley	0.316469
45UG	Mid Sussex	0.407507
45UG	Mid Sussex	0.495331

45UH	Worthing	0.481101
47UB	Bromsgrove	0.118414
47UD	Redditch	0.357077
47UD	Redditch	0.234755
47UE	Worcester	1
47UG	Wyre Forest	0.469605

Appendix 5 – Cross-sectional OLS (z-score SWB), LA covariates

Competition index (20.000 metres radius)		0.208**	0.221**	0.308**	0.296**	
Sex	Male	reference category				
	Female	0.129	0.072	0.096	0.149	0.139
	Age	-0.003	-0.007	-0.005	-0.008	-0.002
	Age2	0.001	0.001	0.000	0.000	0.000
Health status	Excellent	reference category				
	Good	-0.176			-0.223	-0.203
	Fair	-0.426***			-0.446***	-0.430***
	Poor	-0.694***			-0.705***	-0.689***
	Very poor	-1.076***			-1.081***	-1.074***
Marital status	Married	reference category				
	Living as couple	0.053	0.014	0.008	0.042	0.057
	Widowed	0.061	0.138	0.098	0.028	0.036
	Divorced	-0.674***	-0.698***	-0.693***	-0.667***	-0.660***
	Separated	-0.786	-0.765	-0.692	-0.744	-0.785
	Never married	-0.118	-0.036	-0.053	-0.126	-0.103
Job status	Self- employed	1.097***	1.112***	1.078***	1.068***	1.055***
	Employed	0.778**	0.774**	0.828**	0.830***	0.827***
	Unemployed	reference category				
	Retired	0.596*	0.486	0.560	0.662*	0.620*
	Maternity leave	1.126***	1.310***	1.374***	1.184***	1.187***
	Family care	0.946***	0.989***	1.020***	0.975***	0.955***
	In school	0.618	0.555	0.729*	0.753*	0.706*
	Sick, disabled	0.280	-0.051	-0.019	0.293	0.287
	Government tr	0.669	0.665	0.629	0.649	0.654
	Other	2.185***	2.123***	2.052***	2.135***	2.104***
Education	Further degree	0.204	0.498	0.439	0.152	0.105
	A-levels	0.238	0.334	0.359	0.267	0.259
	Secondary school	0.562**	0.812***	0.928***	0.657***	0.584**
	Apprenticeship	0.115	0.166	0.193	0.142	0.131
	No qualification	reference category				
	Still at school	0.168	0.206	0.260	0.218	0.194
Monthly income (log)		0.030	0.049	0.026	0.012	0.002
Household size	1	reference category				
	2	0.058	0.068	0.044	0.037	0.064
	3	-0.180	-0.140	-0.145	-0.183	-0.155
	4	-0.196	-0.167	-0.218	-0.237	-0.176
	5	-0.330	-0.316	-0.300	-0.313	-0.274
	6 or more	-0.344	-0.373	-0.432	-0.390	-0.340
Implementation rate		0.003	0.004	0.003	0.002	0.003
House prices				0.002	0.002	0.001
Unemployment rate				0.011*	0.009*	0.007*
Deprivation index				-0.013*	-0.009*	-0.012*
Constant		-0.863	-1.314	-1.336	-0.920	-0.429
Observations		405	405	405	405	405
R-square (adjusted/pseudo)		0.192	0.133	0.141	0.197	0.192

*** 1%, ** 5%, * 10% significance level   Clustered standard errors by PID

Source: BHPS for 2007.

Appendix 6 – DiD OLS (z-score SWB), sample: hospital patients.

		Coef.	SE	Coef.	SE	Coef.	SE
Treatment group (after)		0.242**	0.151	0.194**	0.150	0.235**	0.146
After		-0.230**	-0.151	-0.188**	0.153	-0.217**	0.147
Treated		-0.063	0.085	-0.072	0.100	-0.062	0.097
Sex	Male			reference category			
	Female	0.011	0.100	0.028	0.105	-0.001	0.098
Age		-0.016	0.015	-0.029**	0.015		
Age2		0.002	0.000	0.003**	0.000		
Health status	Excellent			reference category			
	Good	-0.242	0.147			-0.250*	0.149
	Fair	-0.523***	0.157			-0.536***	0.158
	Poor	-0.727***	0.172			-0.750***	0.172
	Very poor	-0.952***	0.221			-1.000***	0.219
Marital status	Married			reference category			
	Living as couple	-0.084	0.127	-0.078	0.131	-0.078	0.120
	Widowed	-0.562**	0.232	-0.577**	0.243	-0.495**	0.223
	Divorced	-0.397*	0.213	-0.350	0.216	-0.422**	0.211
	Separated	-0.605**	0.259	-0.719***	0.252	-0.591**	0.263
	Never married	-0.498***	0.191	-0.448**	0.205	-0.489***	0.174
Job status	Self- employed	0.762**	0.362	0.855**	0.375	0.727**	0.365
	Employed	0.721**	0.292	0.763**	0.308	0.698**	0.296
	Unemployed			reference category			
	Retired	0.631**	0.320	0.565*	0.338	0.726**	0.313
	Maternity leave	1.220***	0.322	1.344***	0.334	1.217***	0.323
	Family care	0.484	0.317	0.51	0.335	0.472	0.322
	In school	1.007**	0.448	1.005**	0.466	1.050**	0.448
	Sick, disabled	0.119	0.319	-0.018	0.336	0.104	0.323
	Gvt. training	0.611	0.597	0.658	0.701	0.614	0.587
	Other	0.922*	0.497	0.991*	0.506	0.942*	0.517
Education	Further degree	-0.078	0.157	-0.039	0.306	-0.102	0.275
	A-levels	-0.111	0.123	-0.097	0.166	-0.116	0.156
	Secondary school	0.206	0.226	0.181	0.411	0.197	0.420
	Apprenticeship/other	0.124	0.154	0.201	0.128	0.121	0.123
	No qualification			reference category			
	Still at school	1.486	0.14	1.227	0.282	1.51	0.293
Monthly income (log)		0.022	0.039	0.027	0.041	0.02	0.039
Household size	1			reference category			
	2	-0.071	0.209	-0.049	0.216	-0.073	0.205
	3	-0.181	0.222	-0.158	0.230	-0.195	0.212
	4	-0.395*	0.220	-0.346	0.224	-0.418**	0.211
	5	-0.443	0.270	-0.383	0.279	-0.467*	0.257
	6 or more	-0.231	0.287	-0.163	0.296	-0.254	0.279
Implementation (% being offered choice)		0.003	0.005	0.002	0.004	0.003	0.003
Deprivation index (LA)		-0.011***	0.008	-0.009**	0.005	-0.007*	0.007
Unemployment rate (LA)		-0.013*	0.004	-0.009	0.003	-0.012*	0.006
Time dummies		Yes		Yes		Yes	
Constant		0.268	0.681	-0.054	0.696	0.032	0.513
Observations		885		885		885	
R-square (adjusted)		0.193		0.15		0.19	

*** 1%, ** 5%, * 10% significance level   Clustered standard errors by PID

Source: BHPS for 2003-2008

Appendix 7 – DiD OLS (z-score SWB), sample: hospital patients, by socio-economic groups

		Above median income		Below median income	
		Coef.	SE	Coef.	SE
Treatment group (after)		0.340**	0.194	-0.066	0.234
After		-0.209	0.127	0.197	0.159
Treated		-0.265	0.205	-0.134	0.242
Sex	Male	reference category			
	Female	-0.105	0.146	0.097	0.153
Age		-0.035*	0.021	-0.016	0.023
Age2		0.000	0.000	0.000	0.000
Health status	Excellent	reference category			
	Good	-0.283	0.239	-0.242	0.188
	Fair	-0.609**	0.248	-0.470**	0.204
	Poor	-0.837***	0.267	-0.608***	0.217
	Very poor	-0.984***	0.316	-0.936***	0.346
Marital status	Married	reference category			
	Living as couple	-0.058	0.186	-0.097	0.190
	Widowed	-0.864**	0.345	-0.387	0.278
	Divorced	-0.637***	0.219	-0.153	0.381
	Separated	-0.858***	0.212	-0.504*	0.304
	Never married	-0.625**	0.261	-0.449	0.292
Job status	Self- employed	0.449	0.428	1.074	0.840
	Employed	0.770***	0.288	0.781	0.772
	Unemployed	reference category			
	Retired	0.839**	0.330	0.256	0.836
	Maternity leave	1.198***	0.360	1.325*	0.801
	Family care	0.557*	0.297	0.541	0.807
	In school	0.864*	0.452	2.868***	0.864
	Sick, disabled	0.298	0.316	0.011	0.829
	Gvt. training	0.286	0.570	0.132	0.436
	Other	0.939*	0.483	0.654*	0.332
Education	Further degree	0.388**	0.191	0.233	0.372
	A-levels	-0.322	0.559	-0.087	0.279
	Secondary school	-0.082	0.144	-0.312	0.565
	Apprenticeship, other	0.559	0.783	-0.122	0.246
	No qualification	reference category			
	Still at school	-1.526***	0.206	1.410***	0.401
Household size	1	reference category			
	2	-0.295	0.263	0.085	0.309
	3	-0.577**	0.292	0.070	0.301
	4	-0.667**	0.280	-0.181	0.312
	5	-0.892**	0.387	-0.034	0.365
	6 or more	-0.641*	0.361	0.331	0.459
Implementation (% being offered choice)		0.003	0.005	0.004	0.005
Deprivation index (LA)		-0.009***	0.008	-0.014***	0.009
Unemployment rate (LA)		-0.097*	0.004	-0.013*	0.005
Time dummies		Yes		Yes	
Constant		1.552*	0.883	-0.367	1.422
Observations		372		360	
R-square (adjusted)		0.216		0.245	

Table continues on the following page

		High Education		Low education	
		Coef.	SE	Coef.	SE
Treatment group (after)		0.379**	0.280	0.119	0.170
After		-0.332*	0.191	0.115	0.106
Treated		-0.327	0.286	-0.188	0.176
Sex	Male	reference category			
	Female	0.090	0.209	0.009	0.110
Age		-0.006	0.036	-0.020	0.017
Age2		0.000	0.000	0.000	0.000
Health status	Very good	reference category			
	Good	0.126	0.496	-0.319**	0.151
	Fair	-0.429	0.501	-0.485***	0.158
	Poor	-0.547	0.525	-0.756***	0.181
	Very poor	-0.657	0.580	-1.100***	0.246
Marital status	Married	reference category			
	Living as couple	-0.563*	0.316	0.026	0.135
	Widowed	-0.912*	0.483	-0.506**	0.255
	Divorced	-0.876	0.539	-0.301	0.198
	Separated	-0.647**	0.311	-0.367	0.358
	Never married	-0.767*	0.420	-0.478**	0.201
Job status	Self- employed	0.697	0.811	1.023***	0.323
	Employed	-0.426	0.677	1.161***	0.237
	Unemployed	reference category			
	Retired	-0.719	0.700	1.229***	0.288
	Maternity leave	0.285	0.816	1.607***	0.278
	Family care	-0.404	0.651	0.809***	0.296
	In school	-1.225*	0.671	1.362***	0.411
	Sick, disabled	-0.119	0.813	0.757**	0.306
	Gvt training	0.689	0.886	0.368	0.333
	Other	0.864**	0.423	1.202**	0.522
Monthly income (log)		0.173	0.141	-0.021	0.038
Household size	1	reference category			
	2	-0.443	0.427	0.027	0.218
	3	-0.685	0.468	-0.022	0.225
	4	-1.268**	0.494	-0.154	0.219
	5	-1.154**	0.562	-0.265	0.282
	6 or more	-1.041**	0.488	0.217	0.346
Implementation (% being offered choice)		0.003	0.006	0.004	0.005
Deprivation index (LA)		0.009***	0.008	0.012***	0.007
Unemployment rate (LA)		-0.011*	0.004	-0.014*	0.003
Time dummies		Yes		Yes	
Constant		0.774	1.764	0.086	0.662
Observations		481		251	
R-square (adjusted)		0.273		0.215	

*** 1%, ** 5%, * 10% significance level.   Clustered standard errors by PID
Source: BHPS for 2003-2008

Appendix 8 – DiD OLS (z-score health satisfaction), sample: hospital patients, by socio-economic groups

		Above median income		Below median income	
		Coef.	SE	Coef.	SE
Treatment group (after)		0.676***	0.189	0.134	0.176
After		-0.168	0.110	-0.152	0.132
Treated		-0.518**	0.211	0.276	0.190
Sex	Male	reference category			
	Female	-0.155	0.122	-0.046	0.121
Age		-0.024	0.017	-0.021	0.020
Age2		0. 000	0.000	0. 000	0.000
Health status	Excellent	reference category			
	Good	-0.652***	0.246	-0.556***	0.139
	Fair	-1.220***	0.258	-1.042***	0.160
	Poor	-1.745***	0.264	-1.563***	0.174
	Very poor	-2.067***	0.316	-2.114***	0.285
Marital status	Married	reference category			
	Couple	-0.191	0.137	0.106	0.162
	Widowed	-0.372	0.254	0.489*	0.266
	Divorced	-0.189	0.167	0.148	0.287
	Separated	-0.766	0.514	-0.258	0.275
	Never married	-0.330**	0.163	0.141	0.220
Job status	Self-employed	0.570	0.351	1.138***	0.398
	Employed	0.706**	0.306	0.861***	0.294
	Unemployed	reference category			
	Retired	0.425	0.346	0.266	0.396
	Maternity leave	1.104***	0.361	1.282***	0.354
	Family care	0.386	0.312	0.691*	0.356
	In school	1.042***	0.377	1.513***	0.442
	Sick, disabled	0.072	0.335	-0.202	0.347
	Gvt. training	0.775*	0.453	-0.139	
	Other	0.38	0.532	-0.431*	
Education	Further degree	0.199	0.324	-0.527	0.298
	A-levels	0.306	0.219	-0.503***	0.234
	Secondary school	0.101	0.473	-0.294	0.436
	Apprenticeship/other	0.370**	0.130	-0.492*	0.188
	No qualification	reference category			
	Still at school	-0.592***	0.171	-0.673*	0.188
Monthly income (log)		omitted			
Household size	1	reference category			
	2	-0.340*	0.186	0.219	0.226
	3	-0.452**	0.219	0.274	0.242
	4	-0.363*	0.207	0.244	0.261
	5	-0.510**	0.259	0.504	0.313
	6 or more	-0.647**	0.252	0.342	0.323
Implementation (% being offered choice)		0.003	0.004	0.004	0.005
Deprivation index (LA)		-0.008***	0.008	-0.015***	0.009
Unemployment rate (LA)		-0.093*	0.004	-0.012*	0.005
Time dummies		Yes		Yes	
Constant		1.666**	0.676	1.201	1.118
Observations		372		360	
R-square (adjusted)		0.376		0.453	

		High education		Low education	
		Coef.	SE	Coef.	SE
Treatment group (after)		0.374**	0.146	0.43	0.270
After		-0.099	0.088	-0.103	0.178
Treated		-0.032	0.149	-0.385	0.288
Sex	Male	reference category			
	Female	-0.004	0.091	-0.036	0.169
Age		-0.029*	0.015	0.025	0.031
Age2		0.000	0.000	0.000	0.000
Health status	Very good	reference category			
	Good	-0.638***	0.118	0.06	0.497
	Fair	-1.163***	0.123	-0.401	0.511
	Poor	-1.693***	0.136	-0.977*	0.516
	Very poor	-2.201***	0.214	-1.292**	0.558
Marital status	Married	reference category			
	Living as couple	0.009	0.107	0.141	0.346
	Widowed	0.265	0.219	-0.646*	0.341
	Divorced	0.179	0.159	-0.825***	0.287
	Separated	-0.218	0.336	-0.514	0.537
	Never married	-0.036	0.150	-0.163	0.310
Job status	Self-employed	1.114***	0.274	0.274	0.701
	Employed	1.094***	0.237	-0.312	0.612
	Unemployed	reference category			
	Retired	1.045***	0.287	-0.976	0.648
	Maternity leave	1.451***	0.283	0.213	0.671
	Family care	0.841***	0.269	-0.614	0.612
	In school	1.226***	0.304	-1.294**	0.644
	Sick, disabled	0.419	0.261	0.647	0.633
	Gvt. training	0.893***	0.292	0.894	0.830
	Other	0.628	0.482		
Education		omitted			
Monthly income (log)		-0.080**	0.038	0.053	0.126
Household size	1	reference category			
	2	-0.027	0.167	-0.574*	0.322
	3	-0.031	0.182	-0.636*	0.363
	4	0.082	0.183	-0.684*	0.392
	5	-0.001	0.229	-0.212	0.356
	6 or more	-0.076	0.248	-0.762*	0.388
Implementation (% being offered choice)		0.006	0.011	0.002	0.014
Deprivation index (LA)		-0.009***	0.008	-0.014***	0.009
Unemployment rate (LA)		-0.072*	0.004	-0.016*	0.003
Time dummies		Yes		Yes	
Constant		0.839	0.546	0.283	1.430
Observations		480		251	
R-square (adjusted)		0.438		0.346	

*** 1%, ** 5%, * 10% significance level.   Clustered standard errors by PID

Source: BHPS for 2003-2008

Chapter 3

Appendix 9 – Germany: economic and demographic structure by federal state (land)

Land (Federal State)	Population 1000	Area (km2)	Revenue million Euro	Unemployment %	Population 65 years %	Needing care (persons)
Baden–Württemberg	10,475.90	35,751.64	41,422	4.9	15.5	210,837
Bayern	12,155.00	70,549.32	49,071	5.3	16	294,294
Berlin	3,386.70	891.75	11,378	16.1	14.2	80,871
Brandenburg	2,601.20	29,476.67	26,962	17.4	14.9	64,340
Bremen	663.1	404.28	7,931	12.4	18.1	17,143
Hamburg	1,704.70	755.26	27,170	8.3	16.7	42,001
Hessen	6,052.00	21,114.88	67,149	6.6	16.2	145,445
Mecklenburg– Vorpommernd	1,789.30	23,173.46	14,413	18.3	14.5	45,531
Nirdersachsen	7,898.80	47,617.97	4,190	9.1	16.6	209,257
Nordrhein–Westfalen	17,999.80	34,082.76	18,775	8.8	16.6	465,850
Rheinland–Pfalz	4,030.80	19,846.91	11,198	6.8	17	92,340
Saarland	1,071.50	2,568.53	10,442	9	17.8	27,194
Sachsend	4,459.70	18,413.29	10,412	17.5	18	118,124
Sachsen–Anhalt	2,648.70	20,445.72	17,339	19.7	16.9	66,616
Schleswig–Holstein	2,777.30	15,762.90	3,883	8.4	16.4	75,991
Thüringend	2,449.10	16,172.21	8,141	15.3	16.3	60,257

Source: Federal Statistical Office and the statistical Offices of the Länder 2004. (http://www.statistik-portal.de/statistik-portal/en/)

Note: East and West German federal states are included. Only West German residents are included in the empirical analysis.

Appendix 10 – Summary table of variables for paper 2

Variable	Detail	Obs.	Mean	Std. Dev.	Min	Max	Coding
SWB	Satisfaction with life	889	4.945	2.636	0	10	[0] Completely dissatisfied, [10] Completely satisfied
Treataft	Treated group*after	914	0.442	0.497	0	1	[1] after*treat, [0] otherwise
After	Year 1996-1999	917	0.531	0.499	0	1	[1] after, [0] before
Treat	Treated group	914	0.791	0.407	0	1	[1] public [0] private LTCI
Sex	Male/female	917	0.365	0.482	0	1	[1] male, [0] female
Age	Age in years	917	69	18.72	17	98	
Age2	Age squared	917	5112.5	2239.2	289	9604	Age*age
Health status	Self-rated health status	894	2.59	2.59	1	5	[1] Very good, Good, Satisfactory, Poor, [5] Bad
Marital status		917	2.14	1.03	1	5	[1] Married, Single, Widowed, Divorced, [5] Separated
Household income		917	23938.8	15378.9	1374.5	101160.5	Equivalised household income (after tax and benefits)
Lninc	Log postgov income	917	9.81	0.68	7.22	11.52	
Job status	In work	917	0.03	0.16	0	1	[1] in work, [0] not in work
Carer	Informal caregiver	917	0.53	0.50	0	1	[1] providing informal care, [0] no care provided
ISCED	Education categories	917	2.46	1.24	0	6	[0] In School, Inadequately, General Elementary, Middle Vocational, Vocational, Higher Vocational, [6] Higher Education
HHsize	Nr. of individuals in household	917	2.33	1.33	1	6	6 or above is coded as 6.
Land	State of residence	917	0.02	0.15	0	9	Berlin (west), Schleswig-Holstein, Hamburg, Lower Saxony, Bremen, North-Rhine-Westfalia, Hessen, Rheinland-Pfalz, Baden Wurttemberg, Bavaria

Appendix 11 – DDD (z-score SWB), sample LTC users

		Coef.	SE	Coef.	SE	Coef.	SE
Treatment group (after)		0.806**	0.324	0.862**	0.397	0.744**	0.327
After		-0.067	0.219	0.005	0.274	-0.094	0.217
Treated		-0.015	0.150	-0.009	0.193	-0.06	0.144
Disabled		0.387*	0.217	0.551**	0.249	0.338	0.215
Disabled after		-0.607**	0.302	-0.670*	0.376	-0.560*	0.302
Treated after		0.049	0.201	0.015	0.245	0.059	0.199
Sex	Male	-0.032	0.082	-0.021	0.111	-0.109	0.083
	Female			reference category			
Age		-0.017	0.016	-0.022	0.023	-0.013	0.016
Age2		0.000	0.000	0.000	0.000	0.000	0.000
Health status	Very poor			reference category			
	Poor	0.798***	0.087			0.805***	0.089
	Fair	1.322***	0.113			1.339***	0.113
	Good	1.684***	0.188			1.681***	0.190
	Very good	2.183***	0.265			2.103***	0.271
Marital status	Married	-0.149	0.119	-0.266*	0.143	-0.152	0.119
	Single	-0.014	0.177	0.023	0.214	0.033	0.181
	Widowed			reference category			
	Divorced	-0.319	0.224	-0.386	0.290	-0.249	0.222
	Separated	-0.474	0.297	-0.794**	0.324	-0.442	0.283
Job status	In work	0.337*	0.180	0.378*	0.214	0.332*	0.189
Education ISCED	0	0.133	0.315	0.093	0.365	0.167	0.325
	1	0.109	0.251	0.251	0.338	0.136	0.254
	2	-0.084	0.228	-0.128	0.305	-0.051	0.235
	3	-0.101	0.225	-0.15	0.297	-0.027	0.231
	4	0.585*	0.322	0.783**	0.346	0.567**	0.283
	5	0.003	0.251	0.054	0.324	0.075	0.254
	6			reference category			
Monthly income (log)		-0.024	0.093	0.117	0.109	-0.022	0.094
Household size	1			reference category			
	2	0.102	0.128	0.026	0.155	0.107	0.132
	3	-0.072	0.164	-0.183	0.209	-0.027	0.172
	4	0.164	0.209	0.058	0.259	0.19	0.206
	5	0.009	0.229	-0.219	0.289	0.046	0.229
	6 or more	-0.121	0.305	-0.213	0.342	-0.137	0.307
Federal state	Berlin					reference category	
	Schleswig-Holstein					0.466*	0.263
	Hamburg					-0.165	0.283
	Lower Saxony					-0.006	0.261
	Bremen					0.805	0.505
	N Rhein Westfalen					0.083	0.230
	Hessen					0.334	0.259
	P Pfalz Saarland					0.081	0.246
	Baden Wurttemberg					0.151	0.231
	Bavaria					0.077	0.238
Year dummies		Yes		Yes		Yes	
Constant		0.59	1.012	-0.529	1.278	0.337	1.046
Observations		587		887		587	
R-square (adjusted)		0.344		0.085		0.351	

*** 1%, ** 5%, * 10% significance level   Standard errors in brackets, clustered by observation
Years: 'Before' 1990-1993, 'After' 1996-1999
Source: GSOEP 1990-1999

Appendix 12 – DiD (z-score SWB), sample: LTC users by income and education

		2nd quartile		3rd quartile		Q 1 + Q 2		Q 2+ Q 3		Education >9 years	
		Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE	Coef.	SE
Treatment group (after)		1.107***	0.298	0.521*	0.312	0.285	0.224	0.580***	0.206	0.417**	0.298
After		-0.674*	0.365	-0.260	0.373	-0.213	0.248	-0.542**	0.242	-0.466	0.365
Treated		-0.601	0.220	-0.354*	0.189	-0.055	0.150	-0.350**	0.148	0.014	0.220
Sex	Male	-0.118	0.133	0.064	0.154	0.004	0.112	-0.102	0.109	-0.084	0.133
	Female					reference category					
Age		0.051	0.033	-0.071**	0.029	0.014	0.022	0.002	0.024	0.034	0.033
Age2		0.000	0.000	0.001***	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Health status	Very poor					reference category					
	Poor	0.761***	0.194	0.910***	0.233	0.778***	0.119	0.804***	0.141	0.761***	0.194
	Fair	1.076***	0.250	1.252***	0.297	1.377***	0.138	1.166***	0.182	1.076***	0.250
	Good	1.386***	0.370	1.958***	0.350	1.664***	0.292	1.591***	0.299	1.386***	0.370
	Very good	1.903***	0.420	2.884***	0.650	1.951***	0.334	2.042***	0.335	1.903***	0.420
Marital status	Married	-0.263	0.225	-0.202	0.163	-0.074	0.166	-0.242*	0.136	-0.196	0.225
	Single	-0.106	0.259	-0.085	0.445	0.093	0.200	0.103	0.246	0.213	0.259
	Widowed					reference category					
	Divorced	-1.443***	0.370	-0.529	0.530	-0.191	0.237	-1.111***	0.299	-1.225**	0.370
	Separated	-0.944**	0.248	0.168	0.397	-0.836***	0.272	-0.746**	0.345	-1.287**	0.248
Job status	in work	-0.081	0.395	-0.073	0.433	0.297	0.285	0.552**	0.268	0.081*	0.395
Education ISCED	0	0.136	0.544	0.044	0.515	0.024	0.634	0.269	0.415	0.487	0.544
	1	-0.29	0.460	-0.019	0.456	-0.062	0.535	-0.020	0.330	0.118	0.460
	2	-0.315	0.403	0.226	0.393	-0.217	0.511	-0.004	0.285	0.185	0.403
	3	-0.593	0.440	0.177	0.377	-0.284	0.518	-0.214	0.277	-0.187	0.440
	4	-0.323	0.607	0.955*	0.551	0.448	0.564	0.457	0.400	0.560	0.607
	5	-0.202	0.285	-0.001	0.503	-0.019	0.530	0.027	0.340	0.306	0.285
	6					reference category					
Monthly income (log)		0.216	0.579	-1.518***	0.569	0.040	0.131	-0.157	0.201	0.216	0.579
Household size	1					reference category					
	2	0.233	0.195	0.072	0.277	-0.007	0.161	0.024	0.151	-0.049	0.195
	3	0.099	0.232	-0.309	0.309	0.066	0.220	-0.197	0.194	-0.023	0.232
	4	-0.405	0.290	0.340	0.337	-0.530	0.335	0.061	0.213	-0.484	0.290
	5	0.719*	0.447	-0.015	0.337	0.609	0.378	0.133	0.270	0.287	0.447
	6 or more	no obs		-0.056	0.562	no obs		-0.128	0.532	no obs	

Federal state	Berlin					reference category				
	Schleswig-Holstein	0.318	0.419	-0.524	0.675	0.61	0.399	-0.018	0.287	-0.272	0.419
	Hamburg	0.229	0.679	-0.479	0.491	0.056	0.382	-0.377	0.357	-0.213	0.679
	Lower Saxony	0.454	0.380	-0.268	0.458	0.172	0.361	-0.002	0.259	-0.184	0.380
	Bremen	1.211*	0.767	No obs.	No obs.	1.032*	0.542	0.834	0.579	0.873	0.767
	N Rhein Westfalen	0.341	0.356	-0.524	0.374	0.177	0.328	-0.089	0.231	-0.198	0.356
	Hessen	-0.575	0.540	-0.113	0.793	0.519	0.369	0.200	0.422	-0.080	0.540
	P Pfalz Saarland	-0.11	0.586	-0.28	0.385	0.218	0.354	0.038	0.265	-0.100	0.586
	Baden Wurttemberg	0.243	0.381	-0.663*	0.398	0.358	0.332	-0.023	0.234	-0.121	0.381
	Bavaria	0.575	0.377	-0.548	0.405	0.227	0.336	-0.005	0.258	-0.186	0.377
Year dummies		Yes		Yes		Yes		Yes		Yes	
Constant		-3.271	4.689	17.879***	5.876	-0.959	1.440	1.843	2.205	-2.453	2.343
Observations		203		147		473		403		379	
R-square (adjusted)		0.396		0.348		0.313		0.353		0.384	

*** 1%, ** 5%, * 10% significance level　　　　　　　　　　Standard errors in brackets, clustered by observation
Years: 'Before' 1990-1993, 'After' 1996-1999
Source: GSOEP 1990-1999

Appendix 13 – DiD and DDD (z-score SWB), sample: LTC users by availability of informal carers

Part 1: DiD models

		Divorced/separated		Single household		Married	
Treatment group (after)		0.884***	0.798***	0.720**	0.637*	0.051	0.015
		(0.263)	(0.255)	(0.363)	(0.637)	(0.221)	(0.217)
After		-0.651**	-0.601**	-0.257	-0.232	-0.172	-0.091
		(0.288)	(0.278)	(0.352)	(0.358)	(0.291)	(0.273)
Treated		-0.472**	-0.411**	-0.124	-0.149	-0.110	-0.104
		(0.189)	(0.181)	(0.239)	(0.276)	(0.183)	(0.167)
Sex	Male	-0.064	-0.04	-0.088	-0.005	-0.002	-0.043
	Female			reference category			
Age		-0.007	-0.010	0.018	0.011	-0.062**	-0.068**
Age2		0.000	0.000	0.000	0.000	0.001**	0.001**
Health status	Very poor			reference category			
	Poor	0.805***	0.798***	0.479***	0.599***	0.805***	0.798***
	Fair	1.339***	1.322***	1.122***	1.246***	1.339***	1.322***
	Good	1.681***	1.684***	1.570***	1.854***	1.681***	1.684***
	Very good	2.103***	2.183***	1.234***	1.491***	2.103***	2.183***
Job status	in work	-0.534*	-0.386	-0.536*	-0.677	0.343	0.337
Education	0	-0.275	-0.698**	-0.558	-0.793	0.099	0.176
ISCED	1	0.221	-0.205	0.334	0.124	0.273	0.258
	2	0.261	-0.11	-0.03	-0.191	-0.103	-0.078
	3	0.228	-0.126	-0.067	-0.24	-0.082	-0.074
	4	1.128**	0.648	0.847	0.743	0.765	0.36
	5	0.746*	0.397	0.305	0.146	-0.286	-0.157
	6			reference category			
Monthly income (log)		0.001	0.028	-0.001	0.074	0.013	-0.001
Household size	1			reference category			
	2	0.13	0.197	0.14	0.193	-0.191	-0.164
	3	-0.114	-0.091	-0.112	-0.093	-0.560**	-0.482*
	4	0.022	0.021	0.025	0.023	-0.083	-0.083
	5	0.063	0.097	0.066	0.091	-0.248	-0.26
	6 or more	0.097	-0.009	0.094	-0.005	-1.204***	-1.114***
Federal state	Berlin			reference category			
	Schleswig-Holstein		1.206***		0.800		-0.047
	Hamburg		1.041***		0.766*		-1.057***
	Lower Saxony		0.877**		0.925*		-0.592*
	Bremen		1.223**		1.350**		1.110**
	N. Rhein & Westfalen		0.858***		0.495		-0.342
	Hessen		1.321***		1.019**		-0.377
	P Pfalz Saarland		1.000***		0.730*		-0.536*
	Baden Wurttemberg		0.847***		0.596		-0.459*
	Bavaria		0.921***		0.748*		-0.782***
Year dummies		Yes	Yes	Yes	Yes	Yes	Yes
Constant		-0.397	-1.238	-1.225	-2.121	1.827	2.595
		(1.863)	(1.918)	(1.690)	(1.171)	(1.912)	(1.962)
Observations		400	400	247	247	345	345
R-square (adjusted)		0.402	0.414	0.364	0.383	0.268	0.306

Part 2: DDD models

		Divorced/separated		Single household		Married	
Treatment group (after)		0.835 (0.450)	0.585 (0.426)	1.165** (0.549)	0.650 (0.539)	0.55** (0.331)	0.590** (0.354)
After		-0.246 (0.412)	0.056 (0.256)	-0.01 (0.410)	-0.312 (0.390)	-0.091 (0.342)	-0.154 (0.318)
Treated		-0.143 (0.246)	0.066 (0.221)	0.298 (0.225)	0.154 (0.260)	0.036 (0.217)	-0.175 (0.120)
Sex	Male	-0.070	0.087	-0.069	-0.033	-0.001	0.004
	Female			reference category			
Age		-0.003	0.052	0.019	0.041	-0.073**	-0.061
Age2		0.000	0.000	0.000	0.000	0.001**	0.001*
Health status	Very poor			reference category			
	Poor	0.726***	0.726***	0.479***	0.599***	0.794***	0.897***
	Fair	1.385***	1.385***	1.124***	1.244***	1.231***	1.198***
	Good	1.714***	1.714***	1.550***	1.750***	1.572***	1.164***
	Very good	1.213***	1.213***	1.004***	1.019***	2.243***	2.916***
Job status	in work	-0.556*	-0.423	-0.542*	-0.623	0.381*	0.195
Education	0	-0.201	-0.415	-0.322	-0.846	0.182	0.322
ISCED	1	0.284	0.145	0.478	0.278	0.334	0.27
	2	0.304	-0.05	0.107	-0.167	-0.065	0.066
	3	0.266	-0.036	0.041	-0.232	-0.044	0.104
	4	1.150***	1.630***	0.921	0.554	0.811	0.231
	5	0.803**	0.34	0.469	-0.044	-0.268	0.221
	6			reference category			
Monthly income (log)		0.017	0.067	0.024	0.152	-0.003	-0.145
Household size	1			reference category			
	2	0.125	0.354*	0.22	0.124	-0.091	(base)
	3	-0.125	-0.132	-0.121	-0.134	-0.425	-0.102
	4	-0.015	-0.308	0.025	0.014	0.079	0.717**
	5	0.004	-0.067	0.122	0.005	-0.206	-0.448
	6 or more	0.041	-0.298	-0.006	0.048	-1.119***	-0.678**
Federal state	Berlin			reference category			
	Schleswig-Holstein	1.228***		0.800		-0.077	
	Hamburg	0.752*		0.666*		-1.037***	
	Lower Saxony	0.908**		0.525*		-0.892*	
	Bremen	1.141*		1.150**		1.410**	
	N. Rhein & Westfalen	0.610		0.695		-0.242	
	Hessen	1.367***		1.032**		-0.176	
	P Pfalz Saarland	0.854**		0.520*		-0.436*	
	Baden Wurttemberg	0.688*		0.597		-0.532*	
	Bavaria	0.998***		0.758*		-0.612***	
Year dummies		Yes	Yes	Yes	Yes	Yes	Yes
Constant		-0.968 (1.911)	-4.473 (1.954)	-1.777 (1.715)	-3.933 (1.696)	2.075 (1.832)	2.697 (1.934)
Observations		400	400	247	247	345	345
R-square (adjusted)		0.403	0.37	0.377	0.321	0.268	0.276

*** 1%, ** 5%, * 10% significance level   Standard errors in brackets, clustered by observation

Years: 'Before' 1990-1993, 'After' 1996-1999

Source: GSOEP 1990-1999

Chapter 4

Appendix 14 – Health expenditure indicators 2010 (Sweden, UK, Ireland)

	Per capita government expenditure on health (a)	Total expenditure on health (b)	Private prepaid plans (C)	Private expenditure on health (d)
Ireland	3940	9.7	34.4	20.4
Sweden	3690	9.8	1.2	16.6
UK	3399	9.4	6.7	16.4

a) at average exchange rate (US$)   c) Percentage of private expenditure on health

b) Percentage of gross domestic product   d) Percentage of total expenditure on health

Source: World Health Organisation 2012

Appendix 15 – Summary table of variables for Paper 3

Variable	Obs.	Mean	Std. Dev.	Min	Max	Detail
Self-rated social status	2844	6.18	1.54	1	10	[1] lowest level in society, [10] highest level in society
Difficulty meeting payments	3020	0.26	0.44	0	1	[1] Yes [0] No
Sex	3020	0.52	0.50	0	1	[1] Female, [0] Male
Age	3020	50.36	18.88	15	97	Age in years
Age squared	3020	2892.36	1929.64	225	9409	Age squared
Overall health care quality	2976	2.04	0.81	1	4	[1] Very good, Fairly good, Fairly bad, [4] Very bad
Experience with health care system	3020	0.41	0.49	0	1	[1] Yes [0] No
Hospital care: probability of harm	2880	2.45	0.75	1	4	[1] Very likely, Fairly likely, Not very likely, [4] Not at all likely
Occupational status	3020	4.85	2.11	1	8	[1] Self-employed, Managers, Other white collars, Manual workers, House persons, Unemployed, [8] Retired, Students
Marital status	3011	2.23	1.38	1	6	[1] (Re-)Married, Single living with a partner, Single, Divorced or separated, Widow, [6] Other
High education (yes)	3020	0.58	0.49	0	1	[1] Yes [0] No
Access to IT (yes)	3020	0.71	0.45	0	1	[1] Yes [0] No
Owns home (yes)	3020	0.31	0.46	0	1	[1] Yes [0] No
Area type	3017	2.03	0.83	1	3	[1] rural, [2] small/middle town, [3] large town
Ireland	3020	0.32	0.47	0	1	[1] Yes [0] No
UK	3020	0.34	0.48	0	1	[1] Yes [0] No
Sweden	3020	0.33	0.47	0	1	[1] Yes [0] No
Health system criteria						
Doctor proximity	3020	0.353311	0.478078	0	1	[1] Mentioned [0] Not mentioned
Choice of doctor	3020	0.141722	0.348822	0	1	[1] Mentioned [0] Not mentioned
Patient dignity	3020	0.248013	0.431931	0	1	[1] Mentioned [0] Not mentioned
Well-trained staff	3020	0.57351	0.494649	0	1	[1] Mentioned [0] Not mentioned
Clean environment	3020	0.244702	0.429982	0	1	[1] Mentioned [0] Not mentioned
Effective treatment	3020	0.327152	0.469251	0	1	[1] Mentioned [0] Not mentioned

Choice of hospital	3020	0.116887	0.321339	0	1	[1] Mentioned [0] Not mentioned
Safety from harm	3020	0.206954	0.405189	0	1	[1] Mentioned [0] Not mentioned
No waiting lists	3020	0.368212	0.482399	0	1	[1] Mentioned [0] Not mentioned
Friendly environment	3020	0.056291	0.230522	0	1	[1] Mentioned [0] Not mentioned
Modern equipment	3020	0.206954	0.405189	0	1	[1] Mentioned [0] Not mentioned
other	3020	0.003642	0.060252	0	1	[1] Mentioned [0] Not mentioned
Don't know	3020	0.01457	0.119842	0	1	[1] Mentioned [0] Not mentioned