

From Partners to Parents: The Gender
Division of Domestic Work, Parenthood, and
Relationship Quality of British Couples

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A thesis submitted to the Department of Social Policy
of the London School of Economics for the degree of
Doctor of Social Policy, London, April 2009

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Abstract

This thesis explores changes in the division of paid and domestic work when British couples become parents. It investigates whether the increase in gender inequality that often occurs may be an obstacle to childbearing and relationship quality. Previous research concentrated on mothers' labour market interruptions and connections between female employment and low fertility or high family instability. Considering the division of domestic labour, however, is central to understanding how economic inequalities between men and women are interdependent with women's greater involvement in unpaid work.

This thesis also provides the first UK evidence on how domestic work matters to childbearing and relationship quality of new parents in the context of trends towards more egalitarian gender role identities but lagging practice. The theoretical framework combines a rational choice approach to family behaviour with explanations based on gender role identity. The empirical investigation uses event-history analysis and regression models based on fourteen waves (1992-2005) of the British Household Panel Survey.

In contrast to neo-classical economic predictions, the change in the division of labour after couples become parents does not depend on women's relative earnings. Instead both partners' gender role identities are more significant. The association between the domestic labour division and childbearing or relationship quality, however, does not vary by women's gender role identities. Men's housework contributions are associated with a higher probability of having a second child for dual-earner couples, although traditional male-breadwinner families are still more likely to have a first and second child. Gender equality in housework and childcare after couples have a child is associated with lower satisfaction with the partner for most mothers but greater relationship stability. Despite emergence of some egalitarian trends, relatively traditional practice and expectations therefore seem to persist among new parents. The gendered UK policy context also favours more traditional arrangements around parenthood.

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Acknowledgements

This thesis would look, to put it positively, very different without my supervisors, Wendy Sigle-Rushton and Jane Lewis. I thank both of them for their detailed comments and their support with every step of the process. Wendy's ability to disclose any inconsistencies in my argument even if hidden in two sentences, one at the beginning and one at the end of a chapter, has fascinated me throughout. Jane's outstanding ability to see the bigger picture and at the same time be precise in every word has taught me a new way of questioning the links between different pieces of a research puzzle.

This thesis also would not have been written without the financial assistance from the Economic and Social Research Council and the LSE Social Policy Department. Furthermore, I want to thank all the people responsible for making the British Household Panel Survey into the user-friendly and well-documented data set that it is. In particular, I am grateful to Chiara Pronzato for cleaning and compiling the BHPS fertility and relationship histories and making it available for other researchers to use. Over the course of my MSc and PhD at Edinburgh University and at the LSE, I was fortunate to be able to discuss research issues and receive advice from fellow PhD students and other researchers who share with me an interest in gender and family issues or quantitative methods. Thank you to Paul Mathews, Paul Norris, Chris Pallas, Marc Rooney, Almudena Sevilla Sanz, Alexandra Skew, Alison Smith, Athina Vlachantoni, and Lisa Warth. In particular, I want to thank Elizabeth Seeley and Heejung Chung for sharing with me the ups and downs of our common PhD experiences, and Sarah Mohaupt for her constructive feedback on all my chapter drafts.

I owe my interest in gender inequalities and their consequences for women, men, and families to my parents who were innovators in terms of their gender division of labour in their generation. I am very grateful for all the support I have received from them. Most of all, I thank my husband Nikolaus for always encouraging me to pursue what I am most interested in and for questioning the gender division of labour in our household even more often than I do.

1 Gender role change, domestic work, and the new risks of parenthood

‘Someday there will be girls and women whose name will no longer mean the mere opposite of the male, but something in itself, something that makes one think not of any complement and limit, but only life and reality: the female human being. This advance (at first very much against the will of the outdistanced men) will transform the love experience, which is now filled with error, will change it from the ground up, and reshape it into a relationship that is meant to be between one human being and another, no longer one that flows from man to woman. And this more human love will resemble what we are now preparing painfully and with great struggle: the love that consists in this: the two solitudes protect and border and greet each other.’

Rainer Maria Rilke, *Letters To A Young Poet*, Letter Seven
Rome, May 14, 1904

Gender roles and relationships between men and women have undergone profound change since Rilke expressed these visionary thoughts at the beginning of the 20th century. The stark increase in female employment from the 1960s played an important role in the move away from women’s role being complementary to those of men, as did the availability of contraception, the drop in fertility rates, and the associated changes in social values and norms that took place (Lesthaeghe 1995). Rilke talks about the trend towards greater gender equality as an advance but foresees that it will take place against the will of men who are left behind. While Rilke assumes men’s resistance to be temporary, there may still be signs of this today with men on average still holding less egalitarian gender role attitudes than women (Crompton, et al. 2003; Crompton and Lyonette 2008). Also the increase in the contribution of men to housework and childcare has been found to lag behind the expansion of female labour market participation (Bianchi 2000; Bianchi, et al. 2000; Bittman and Pixley 1997; Gershuny 2000; Hochschild and Machung 1990; Robinson and Godbey 1997).

Central to Rilke’s vision is how gender equality will transform romantic relationships. He seems to have imagined a transformation where two independent yet lonely individuals form a close bond based on mutual respect but also a commitment to look after each other. While it is not clear how far he imagined the trend towards gender equality and new relationships would go, similar ideas of greater empathy and emotional closeness in more symmetrical relationships have frequently been expressed by scholars in the second half of the twentieth century (e.g. Scanzoni 1978; Simpson and England 1981). The rise in divorce rate during the 1970s and 1980s and the stability at a relatively

high level ever since, however, have cast doubt on the belief that gender role change would have only positive effects on the quality of relationships between men and women. This poses questions around the extent to which we are still struggling with gender role transformation and what the consequences for couple relationships have actually been.

The increase in female labour market participation over the past thirty years has largely eroded the male breadwinner/female full-time carer model. Women's earnings have become essential contributions to the household income, especially among low income families (Crompton 2006; Smeaton 2006). Social theorists have conceptualised the diversification of family arrangements in terms of individualisation, whereby people's lives come to be less constrained by tradition and custom and more subject to individual agency (Beck 1992; Beck and Beck-Gernsheim 1995; Giddens 1992). Men's contributions to domestic work, however, have not compensated for women's increased hours in the labour market; and women still do most of the unpaid household and care work (Bianchi and Casper 2004; Bianchi, et al. 2000; Gershuny, et al. 2005; Hochschild and Machung 1990). We have seen a trend toward the dual-earner family model, both in terms of its prevalence and the aspiration of many policy-makers and individual men and women. As a result, women's expectations of their partners' contribution to domestic work and, once couples become parents, care contributions may be changing. Men's expectations may be also changing though possibly at a slower pace. It has often been assumed - simplistically - that what happens in the home will mirror women's participation in paid work. What happens in the public and private sphere is strongly interdependent, since, for instance, the availability of suitable childcare by fathers, other family members, or formal providers is often a crucial factor for mothers' ability and willingness to participate in the labour market. However, how a couple divides housework and childcare responsibilities when they become parents may have different determinants than mothers' labour market participation. By considering the domestic work responsibilities of new mothers and exploring pre-parental influences, this thesis aims to contribute to attempts to understand short-term and long-term gender inequalities in terms of economic resources and bargaining power. This adds to the wider literature that seeks to explain why the change in women's and especially men's behaviour has not been as rapid as feminists expected a few decades ago.

Women's career aspirations have increased, and working for pay has become more of an economic necessity. As a result, having children poses a greater challenge for couples in terms of combining work and care. Couples where both partners continue to work full-time after having children face particularly long total hours (Bittman and Wajcman 2000). There is also evidence among mothers and fathers of an increase in stress spilling over from work to home, and jobs with flexible work hours but 'boundless time demands' are more common (Crompton, et al. 2003; Ellingsaeter 2003; White, et al. 2003). In several Continental European countries, differences in fertility rates have been attributed in part to difficulties for women in combining employment and childcare (e.g. Del Boca, et al. 2004; Del Boca, et al. 2006; Kreyenfeld 2004; Meulders and Gustafsson 2002; Oláh and Fraczak 2004). Women's economic independence has also been accompanied by greater instability in relationships and larger diversity in family forms (e.g. Rogers 2004; Rogers and Amato 1997; 2000; Sayer and Bianchi 2000; Spitze 1988), even though some recent studies find positive associations between women's employment and marriage formation and stability (Schoen, et al. 2002; Schoen, et al. 2006; Sweeney 2002).

There has been more research on the consequences for family outcomes of the increase in women's participation in paid work than on the role played by men's contributions to domestic work. Demographic trends of high rates of family breakdown and below replacement-rate fertility - and their association with families' ability to combine employment and family care - have become more important to researchers and policy-makers concerned with an ageing population and how to fund the welfare state. The question of whether a 'care deficit' can be avoided by rebalancing unpaid work between the market, the state and men and women within families has received increasing attention (Himmelweit 2005; Lewis 2001a; Lewis and Giullari 2005). The gender division of domestic work has not been a topic of policy relevance until recently. However, it now seems to have entered the debate through the back door, since women may increasingly connect decisions to have children and their assessment of the quality of their relationships to more egalitarian expectations of continuous employment and help with domestic work and care (Esping-Anderen 2002; European Commission 2005; McDonald 1997). This thesis contributes to this debate by exploring whether the expectations of men and women regarding domestic work have changed to such an

extent that more egalitarian arrangements are associated with a higher probability of having children and greater relationship quality.

This chapter presents existing evidence on gender inequality in domestic work, parenthood, and relationship quality and gives an assessment of what is and what is not known about their interrelationship to-date. Previous studies which are central to the research questions will be elaborated at the beginning of the individual empirical chapters (Chapters 4, 5, and 6). In the next section, I present estimates of the value of domestic work in Western countries and evidence of continuing gender differences in women's and men's allocation of time to paid and domestic work in the UK. Section 3 discusses the importance of parenthood as a point at which men's and women's time allocations in different spheres diverge. Section 4 then reviews the evidence on how this increase in gender inequality may matter for British couples' childbearing decisions and their relationship quality. The research questions and the contribution of this thesis are summarised in Section 5. To set the scene, I then give a brief overview of the UK family policy context in which British couples make their decisions about paid and domestic work after having children. Section 7 concludes by discussing how this study can inform policy analyses.

1.1 The value and distribution of domestic work

In contrast to Quentin Crisp, who famously said that there was 'no need to do housework...since the dirt doesn't get any worse after the first four years' (Crisp 1968), most households appear to regard the physical and emotional involvement in household labour worth spending a considerable amount of time on. The distribution of this unpaid work between household members, however, is far from equal. Compared to market work, the value of domestic work and care and the consequences of its unequal distribution within families has received less attention by mainstream researchers and policy-makers (Folbre 2001; Himmelweit 2002; 2005; Lewis and Giullari 2005). As representative data on time use in households became more widely available, researchers found that in the 1990s the time spent in unpaid household work was equal or slightly higher than the time spent in paid work by adults in most industrialised countries, including the UK (Eurostat 2004; Goldschmidt-Clermont and Pagnossin-Aligisakis 1995; Organization for Economic Cooperation and Development 1995). Results regarding the value of what is produced within the home vary depending on the earnings assumptions but amount to between 50 and 90 per cent of the market economy (Eisner 1989;

Ironmonger 1996). Based on calculation from the UK Office for National Statistics (2001), unpaid domestic work including all housework and childcare was estimated at about 70 per cent of market production in 2000. A large part of this is informal childcare, which amounted to about 25 per cent of the GDP excluding imputed rent (Holloway and Tramplin 2001). The gap between the actual time spent and the value attached to paid and unpaid activities is due in part to the difference in estimated average wages between women and men (the former being lower).

While men and women report about equal total paid and unpaid work hours in the UK and most other Western countries over the past decade (Bittman and Wajcman 2000; Eurostat 2004; Gershuny and Sullivan 2003)¹, women do significantly more domestic work and less paid work than men. The unequal distribution is important because it has repercussions for the earnings of men and women, and the value attached to paid versus unpaid work. Confirming Rilke's expectation that women will be the ones to transform, trends in the division of paid and domestic work resemble each other insofar as women have been experiencing significantly more change than men. As women's participation in paid work went up, they reduced the time spent on housework. Men's reduction in paid work time and increase in domestic work have been of a smaller scale.

Women's labour force participation in the United Kingdom increased by more than 20 percentage points between 1970 and 2005 and was, at 67 per cent in 2005, well above the Lisbon target (Lewis, et al. 2008; Plantenga and Remery 2005). However, much of this increase was in part-time employment (Pfau-Effinger 2004). Measured in full-time equivalent (FTE), the female employment rate was only 52 per cent in 2005 (Lewis, et al. 2008). Men's participation rates have decreased by over 10 percentage points to about 79 per cent over the same period. There is still a substantial gender gap of 22 percentage points in FTE employment across the whole working-age population (Plantenga and Remery 2005).

At the same time most of the gender convergence in domestic labour has been due to the continuous decline in time women spend on housework. The contributions of British men to routine housework tasks also rose significantly, albeit from a very low level (Gershuny, et al. 1994; Gershuny and Sullivan 2003; Sullivan 2000). Fathers' childcare

¹ In some Eastern European countries women seem to work longer hours (Eurostat 2004).

time has increased substantially, while mothers' childcare time remained constant or increased slightly despite higher female labour force participation (Gershuny 2000; Sullivan 2000; Sullivan and Gershuny 2001). Yet as a result there has been some gender convergence also in time spent on childcare. Across the whole adult population, British women, however, still spend about twice as much time on domestic work including childcare than men (Eurostat 2004).

Considerable qualitative and quantitative cross-sectional research has concentrated on identifying factors that correlate with the way in which couples divide paid and domestic work and often found women's time availability, both partners' economic resources and normative expectations of gender roles to be among the most significant (e.g. Barnett and Baruch 1987; Baxter 1993; Berk 1985; Blood and Wolfe 1960; Deutsch, et al. 1993; Greenstein 1996b; Hochschild and Machung 1990; Lamb 1986; Pleck 1985; Spitze 1988). As more longitudinal data became available, there has been greater investigation into the reactions of each of the partners to changes in the other's employment or income (Bianchi and Cohen 1999; Bittman, et al. 2003; Brines 1994a; Gershuny, et al. 2005; Solaz 2005). This suggests the contribution of both partners to domestic work does respond to increases in the other partner's employment and earnings, even though the linearity of this relationship remains contested (Gupta 2007; Gupta and Ash 2008; Kan 2008). A few studies have also investigated the importance of parental influences for the way in which people divide up paid and domestic work as adults (Cunningham 2001; Gershuny, et al. 1994; Goldscheider and Waite 1991; Sigle-Rushton 2008). Furthermore, the increasing availability of international comparative data has generated substantial evidence on cross-national variations in the division of paid and domestic work within couples and associated contextual factors (Baxter 1997; Brandth and Kvande 2002; Cooke 2006; Cooke 2007a; 2007b; Del Boca, et al. 2006; Evertsson and Neramo 2004; Pronzato 2007b; Smith 2004). Despite these advances, there remains a considerable amount of unexplained variation in the persisting gender difference in the time allocated to paid and domestic work. Only recently have scholars focussed on understanding the emergence of these gendered patterns from a life course perspective, which may be a fruitful step towards explaining the disproportionate changes in terms of gender inequalities at certain life course events. As differences in paid and unpaid work time of men and women in couples are relatively small before having children and also increase

only slightly with cohabitation and marriage (Gauthier and Furstenberg 2002; Gupta 1999), parenthood appears to be a particularly crucial junction for gender inequalities.

1.2 Parenthood and its gendered consequences

The gender gap in time spent on paid and domestic work is even more pronounced between mothers and fathers than among the rest of the adult couple population. While men's paid work hours seem largely unaffected by the arrival of children (Cully, et al. 1999; Dermott 2006; Lader, et al. 2006), motherhood is still associated with a considerable reduction in time spent on paid work (Harkness 2003; Smeaton 2006; Vlasblom and Schippers 2006). The FTE employment rate for women in the UK fall from 72% for those without children to 56% and 42% when they have one or two children respectively (Del Boca, et al. 2002). Based on comparisons of two cohorts of British women born in 1958 and 1970, women's return to work rates, however, seem to have increased and employment interruptions have become shorter (Smeaton 2006).

Compared to the evidence on the employment penalty for mothers, there has been less research on how responsibility for domestic work changes for women and men around parenthood. A recent UK study by Gershuny (2003) finds that routine housework time increases for both women and men as they become parents, but more for women. For childcare, the absolute increase in both women's and men's time is even more profound (Gershuny 2003). The finding that on average parenthood leads to a substantially more traditional division of labour within couples is in line with results from the US, Sweden and Germany (Cowan and Cowan 1992; Dribe and Stanfors 2009; Fox 2001; Sanchez and Thomson 1997; Schulz and Blossfeld 2006; Singley and Hynes 2005).

Across all Western countries, the unequal division of labour after becoming parents also has profound long-term financial consequences in terms of earnings. British mothers' accumulated earnings are significantly lower than men's and than those of childless women (Rake 2000; Sigle-Rushton and Waldfogel 2007). This confirms other findings of the high costs of motherhood in terms of lower employment hours and pay and higher job segregation in the UK compared to other European countries with similar living standards (Henau, et al. 2002; Uunk, et al. 2005; Van der Lippe 2001). The extent of the 'family gap' - a term coined by Waldfogel (1998) - in terms of earnings or occupational segregation is lower for British women with higher levels of education, who interrupt their employment for a shorter period of time and are more likely to return to work full-

time than part-time (Dex, et al. 2008; Ratcliffe and Smith 2006). Childless women also have significantly lower accumulated lifetime earnings than men in the UK (Sigle-Rushton and Waldfogel 2007), which points to other factors such as women's choice of occupations and direct and indirect discrimination accounting for some of the earnings differences. However, that most mothers have primary responsibility for childcare and domestic work is likely to be a major factor underlying the long-term accumulation of economic inequalities between mothers on the one hand and fathers or childless women on the other. Women's domestic work hours have been shown to be significantly associated with the gender wage gap (Bryan and Sevilla Sanz 2008; Hersch and Stratton 1994).

There is evidence that inequalities in terms of how men and women spend their time also change disproportionately at other transition points, especially when these alter the household structure. Women's housework time increases while men's decreases at the start of a cohabitation, and in recent studies this effect does not vary by marital status (Gershuny 2003; Gupta 1999). By contrast, a change in marital status alone is not significantly associated with changes in the division of domestic work (Gupta 1999). Motherhood, however, creates the largest change in women's absolute and relative domestic work contribution. Women's domestic work time increases more than at the start of a cohabitation (Gershuny 2003) or when couples go on to have more children (Sanchez and Thomson 1997; Schulz and Blossfeld 2006). The focus of this thesis is therefore on the transition to first-time parenthood and its interrelationship with domestic work.

One contribution of this thesis is to investigate possible explanations for the persistent trend towards a more traditional gender division of labour for most couples as soon as they become parents. I will extend the existing literature on women's labour market return after having a child (e.g. Smeaton 2006; Uunk, et al. 2005; Vlasblom and Schippers 2006) by exploring in more detail the changes in the division of domestic work that occur throughout the transition to parenthood. So far, we know little about factors that influence how couples adapt their division of paid and domestic work to the needs of a child. Economists (e.g. Becker 1981; 1985) have assumed that men's productivity advantage in the labour market before couples have children explains why the division of labour becomes more traditional on becoming parents. Other theoretical perspectives have emphasised the importance of gendered motherhood and fatherhood identities

(Thompson and Walker 1989; West and Zimmerman 1987). A number of qualitative and small-scale studies concentrating on couples' transition to parenthood (Barclay and Lupton 1999; Deutsch, et al. 1993; Fox 2001; Singley and Hynes 2005) explore the importance of individual-level as well as contextual influences such as policy entitlements. With the exception of a US study (Sanchez and Thomson 1997), the assumption that couples make decisions based on an economic rationale compared to normative factors, however, has not been tested in a large-scale sample of Western populations. I aim to add to that literature by examining factors that might explain partners' relative and absolute contributions to paid and domestic work once British couples become parents.

1.3 Domestic work inequality: birth strike or exit as possible responses?

Gershuny et al. (2005) have argued that employed women who are also responsible for most of the domestic work can respond to their dual burden by (a) tolerating it, (b) leaving the labour market, (c) leaving their husbands, or (d) renegotiating the domestic division of labour. Since most women's domestic work burden increases significantly with each child they have, another possible response may be to forgo having children or reduce the number of children they go on to have. If women do not succeed in changing their husbands' housework contributions to a satisfactory extent, gender inequality in domestic work may impact negatively on their childbearing and on the quality of the relationship with their husbands. Tolerance of a dissatisfactory status quo may also reduce a women's wellbeing. Alternatively, they may leave the labour market especially after having children. In order for this not to result in frustration, this action may require a change in their gender role identities. In light of the policy relevance of high family instability and differences in fertility between population groups, but also in part due to data limitations, this thesis will focus on two possible responses to an unequal division of domestic labour: the extent to which women reduce the number of children they go on to have and potential effects on the quality of couples' relationships.

There is some evidence showing significant association between changing gender relations (in particular women's employment, and issues of combining employment with family work) and trends in fertility and marital stability. In the late 1990s, the discussion around the very low fertility levels in Continental Europe centred on increasing female labour market participation and the lack of sufficient institutional support for mothers who want to combine employment and childcare as possible explanations (e.g. Brewster

and Rindfuss 2000; Castles 2003; Hoem, et al. 1999; McDonald 1997; McDonald 2000; Quesnais 1996). Some scholars have since brought consideration of men's domestic work back into the picture (Bernhardt and Goldscheider 2008; Cooke 2003; Cooke 2004; Duvander and Andersson 2006; Olah 2003; Torr and Short 2004). However, existing studies focus on Sweden, the US, and low fertility countries in Continental Europe. There is no evidence specifically for the UK, which provides a quite different policy context in terms of childbearing and mothers' employment participation compared to these countries.

Existing research also provides some evidence of a significant association between women's domestic work and perceived relationship quality or stability, especially when women's employment, earnings or gender role attitudes are taken into account (Chan and Halpin 2002; Cooke 2004; Frisco and Williams 2003; Helms-Erikson 2001; Wilkie, et al. 1998). Most of these studies, however, focus on all couples, dual-earner couples or couples with older children. As there is widespread evidence that the first years of parenthood constitute a particularly difficult time in terms of relationship satisfaction for both men and women (for review see Twenge, et al. 2003), the association between couples' domestic work arrangement and relationship quality in this phase of the family life cycle deserves particular attention.

Another stream of research has focussed on the relationship between domestic work and mothers' or fathers' psychological wellbeing or distress, happiness and perceived stress (Baruch and Barnett 1986; Cast 2004; Crompton 2006; Des Rivieres-Pigeon, et al. 2002; Pleck 1995). However, so far there is a lack of adequate measures of dissatisfaction with specific areas of life such as paid and domestic work and the combination of the two in connection with longitudinal data that allow for the observation of British couples over time and as they become parents. General measures of life satisfaction might make it difficult to attribute variations between groups of women to their division of labour or the time spent on different tasks. While the same problem exists for general measures of relationship satisfaction, the combination with the behavioural indicator of separation should reduce that risk. There is evidence of women changing their gender role identities after becoming mothers or after changing their employment status in response to contradicting circumstances or differences with their partners' identities (Berrington, et al. 2008; Himmelweit and Sigala 2004; Johnson and Huston 1998). More detailed

analyses of the adaptation of identities in terms of gender roles in paid and domestic work, however, would require information on partners' communication patterns and decision-making power, which are likely to be important influences (Scanzoni 1978). Given these data limitations, this research concentrates on possible consequences of domestic work inequality for childbearing and relationship dynamics. However, investigations of these other reactions in terms of any negative effects on women's and men's wellbeing or increased distress, and adaptations of their expectations, may be fruitful extensions to this research.

1.4 Childbearing in the UK and the role of domestic work

From the late-1990s, several studies have found that the previously positive cross-national correlation between fertility rates and women's employment rates² had reversed (Brewster and Rindfuss 2000; Castles 2003; McDonald 1997). MacDonald (1997; 2000) suggested that the further decline from replacement-level fertility to very low fertility is associated with a combination of high levels of gender equity in individual-oriented institutions, such as education and market employment, and low levels of gender equity in the family and family-oriented institutions. In recent years, several researchers have applied this explanation to gender equity in the home (Bernhardt and Goldscheider 2008; Cooke 2003; 2004; Duvander and Andersson 2006; Olah 2003; Torr and Short 2004). They find that men's contributions to either housework or childcare are positively associated with the probability of a second birth among dual-earner couples in Germany, Hungary and Sweden (Cooke 2004; Olah 2003). There is less evidence of such an effect in Italy and Spain (Cooke 2003). In the US, Torr and Short find a curvilinear effect with very traditional couples and those with a relatively equal division of housework being more likely to have a second child than the middle group (Torr and Short 2004). In Sweden consistency between the division of domestic labour and couples' gender role attitudes, in a traditional or egalitarian way, predict a higher likelihood of a second birth compared to couples where practice does not match their ideals (Bernhardt and Goldscheider 2006). So far there is no evidence on the association between domestic work and childbearing for the UK. Existing studies also mostly focus on the decision to have a second child. An exception is Henz (2008) who finds a greater probability of first-time parenthood among German couples that practise a traditional division of housework. Overall, we know less about the importance for first childbearing decisions,

² It should be noted that the inclusion of Scandinavian countries plays a central role in this correlation at the macro-level.

whether women already anticipate the increase in gender inequality before they have children and whether this might reduce their likelihood of becoming mothers. This thesis therefore investigates the association between British couples' domestic work division and the probability of having a first or second child.

In the UK, the total fertility rate started to decline in the early 1970s from a level of 2.5 to just below replacement-level³ and stayed between 1.5 and 1.9 children per woman since the early 1990s (Office for National Statistics 2007a). British fertility therefore has always stayed above the very low fertility levels of many Continental European countries. While fertility levels are generally not considered alarming, there are sizeable variations in completed fertility between women with different levels of education and occupational status. Various studies find that college-educated women have earlier transitions to a first birth and a smaller achieved family size than women with lower levels of education over all the cohorts born since the 1950s (Ekert-Jaffé, et al. 2002; Rendall, et al. 2005; Rendall and Smallwood 2003). Women in managerial or professional jobs are also more likely to remain childless or have smaller families even if they become mothers (Ekert-Jaffé, et al. 2002). While mothers with a university degree are more likely to have a second child soon after the first (Rendall and Smallwood 2003), this is not enough to compensate the delayed start of childbearing in terms of completed fertility. Over time, highly-educated women have delayed the timing of their first births much more than other women (Rendall, et al. 2005). There has also been a marked increase in childlessness especially for highly-educated men and women, with a rise of 37 per cent for men and 31 per cent of women between the 1958 and 1970 cohorts (Simpson 2006).

Before age 30, fertility intentions do not vary significantly by educational attainment (Ratcliffe and Smith 2006), which is in stark contrast to the difference in realised family size. Women in the thirties, however, start to show larger differences in their expectations by education, with better-educated women lowering their expectations more than the less-educated group (Joshi 2002; Smallwood and Jefferies 2003), probably in part to align them with their postponed childbearing. To date the evidence on how childbearing desires, intentions, and behaviour adapt to each other is insufficient to determine the extent of unrealised preferences among highly-educated women. Therefore

³ Part of the decline in the TFR in the 1980s and 1990s has been due to delays in childbearing between generations (Office for National Statistics 2007).

the extent to which the lower childbearing of highly-educated women is due to choice or difficulties in combining employment and motherhood is also unknown. As highly-educated women are most likely to aspire to full-time employment and gender equality, men's domestic work contributions may be particularly important to their childbearing decisions. While this thesis will not be able to shed more light on the question of unrealised childbearing preferences, it aims to explore whether the division or amount of domestic work matters for the likelihood of having a first or second child among some groups of couples.

Recent studies find considerable diversity among British women in their preferences and attitudes towards combining market work and having a family (Hakim 2000; Wall 2007). At the beginning of the 1990s, Kiernan (1992b) found a large discrepancy between the, on average, quite egalitarian aspirations of individuals in respect of how they thought domestic work should be divided, and how they actually divided it. While there is no recent information on this for the UK, other evidence suggests that women's and men's gender role attitudes and their practised division of housework and childcare have become only slightly more egalitarian (Crompton, et al. 2003; Crompton and Lyonette 2008). Since in addition, women continue to hold on average still more egalitarian attitudes than men (Crompton and Lyonette 2008), a discrepancy between ideals and practice is likely to persist among some groups. The incongruence between the practised division of domestic work and women's expectations may be of importance for their childbearing decisions. Existing research has mainly examined the differential association of domestic work with childbearing for traditional male breadwinner/female homemaker couples versus dual-earner couples. This thesis will add to this literature by providing a more detailed analysis of how the importance of domestic work for childbearing decisions depends on women's gender role identities⁴ in addition to their employment status and other economic circumstances.

1.5 Domestic work and parents' relationship quality

Changing gender roles - in particular, women's entry en masse into the labour market - have been a cause and a consequence of rising divorce rates. The divorce rate in the UK rose from 5 to around 13 divorces per 1000 people between 1970 and the mid-1980s and remained relatively stable thereafter. Over the past decade, Britain has had one of the

⁴ Gender role identity is understood as the role which an individual devises for him/herself as an occupant of a gendered social position.

highest divorce rates in Europe (Eurostat 2006; Kiernan and Mueller 1998). Due to declining marriage rates, the divorce to marriage ratio has been rising. Wilson and Smallwood (2008) calculated that, based on 2005 divorce rates, 45 per cent of current marriages are likely to end in divorce, up from one third for 1979 divorce rates. High rates of family breakdown have been a concern to policy-makers in the UK due to the dependency of many lone mothers on state benefits (Drenth, et al. 1999; Duncan and Edwards 1999; Standing 1999) and the adverse short-term and long-term consequences of parental conflict and separation for children's educational, labour market, and relationship outcomes (for reviews see Amato 2001; Amato and Keith 1991; McLanahan and Sandefur 1994; Sigle-Rushton and McLanahan 2004). The association between parental separation and children's outcomes also seems stronger when children experience their parents' divorce at younger ages (Lyngstad and Engelhardt 2007; Steele, et al. 2007).

Since the median duration of marriages ending in divorce has been around 10 years over the past decade, the number of children affected by their parents' divorce is largest in the five to ten years age category. However, the percentage of children aged below five who experience parental divorce has increased following a reduction of the minimum period after which one partner can petition for divorce in the mid 1980s. While 4 per cent of children born in 1970 experienced divorce of their parents by age five, this doubled to 8 per cent for children born in 1989 (Haskey 1997). During the 1990s, the increase in the proportion of children affected by divorce from one birth cohort to the next has slowed down (Haskey 1997). However, the percentage of children born to unmarried cohabiting couples has risen to about one in four (Barlow, et al. 2008) and these face on average a higher risk of relationship breakdown (Gershuny and Berthoud 1997; Haskey 2001; Kiernan and Mueller 1998). A child's risk of experiencing parental separation and living in a one-parent family at some point in their life has therefore increased further (Haskey 2002).

This rising risk that couples with young children will separate is surprising given earlier findings that pre-school children in general, and first births in particular, have a strong stabilising effect on the parental relationship (e.g. Heaton 1990; Lillard and Waite 1993; White, et al. 1986). However, recent evidence for the UK suggests that the previously negative association between the presence of children and relationship stability has

reversed among those people who got married between 1985 and 1989 (Chan and Halpin 2005). This complements widespread findings of a decline in the reported levels of relationship satisfaction or happiness of both men and women and in the frequency and quality of couples' interactions after becoming parents (Glenn and McLanahan 1982; Belsky, Spanier et al. 1983; White, Booth et al. 1986; Cox, Paley et al. 1999; Twenge, Campbell et al. 2003). Considering previous findings that pre-school children have a stabilising effect, White et al. (1986) argued that part of this negative effect is due to some couples delaying divorce despite poor marital quality. Although Steele et al (2005) still finds a positive association between pre-school children and parental relationship stability in the 1970 birth cohort, other recent studies suggest an insignificant or even negative effect of the presence of children (Böheim and Ermisch 2001; Chan and Halpin 2002; 2005). The stabilising effect, hence, appears to have lost some of its significance among recent cohorts in the UK.

The transition to parenthood seems to be the start of a difficult phase for couple relationships. Over the past decade this seems to have translated into more parental separation than previously with potentially negative consequences for the ever-younger children in these families. Based on a comparison of existing results on differences in the effect of becoming a parent on relationship satisfaction across different groups of the population, Twenge et al. (2003) suggest that the explanation with the greatest support is that some sort of work-family role conflict lowers relationship satisfaction of fathers and especially mothers rather than an increased financial burden or sexual dissatisfaction. In connection with the large shift towards a more traditional division of paid and domestic work found for most couples, this suggests that a more detailed investigation of the association between different aspects of the gender division of childcare and housework and relationship quality after couples become parents is warranted. Apart from a few earlier US studies which explore the link between the division of labour and relationship satisfaction shortly after the birth of the first child (Belsky, et al. 1986; Ruble, et al. 1988), so far there is little evidence on this phase of the family life cycle. Another contribution of this thesis, therefore, is to investigate how the division of labour within couples after the transition to parenthood is related to relationship quality in the UK. Specifically, I aim to extend the knowledge base by focussing on the first years of parenthood when many mothers have returned to the labour market and by considering measures of satisfaction and relationship stability.

1.6 Research questions and contribution of the thesis

The literature documents how gender role change in domestic work has been lagging behind the expansion in the rate of female employment during the second half of the twentieth century. This raises the question of whether or not the transition in the roles of men and women at work and at home has progressed to a point where a significant percentage of people expect a relatively egalitarian division of domestic labour and link these expectations to their childbearing decisions or satisfaction with their partner. Most previous studies concentrate on the importance for family formation and relationship dissolution of variations in either partner's employment status or earnings. Unless women's larger domestic work burden especially after having children are considered, gender inequalities in women's economic position and resulting power disadvantages are not adequately portrayed as interdependent with their role within the family. Furthermore, the importance and value of domestic work and care can remain hidden, leading us to overestimate the financial self-sufficiency of people with caring responsibilities.

The focus on couples' transition to parenthood allows me to explore how gender inequalities in the division of paid and domestic labour increase disproportionately around this life event, often with long-term consequences in terms of differences in time allocations and wellbeing of women and men. The other aim of this thesis is to extend our knowledge on how the gendered allocation of paid and domestic work, which accompanies parenthood for many couples, is associated with childbearing behaviour and relationship quality after couples become parents. The analysis therefore contributes to investigations of how changing expectations regarding gender, motherhood, and fatherhood may impact on the size and structure of the British population.

This thesis addresses the following main research question:

To what extent do British couples follow a relatively traditional sex-specialised gender division of domestic work around parenthood, as opposed to more egalitarian collaborative arrangements; and how is this division of domestic work linked to their childbearing decisions and relationship quality?

For the analysis, the question is broken down into three subquestions:

1. What pre-parental factors can explain how couples adapt their division of paid and domestic work when they become parents?
2. How is the gender division of domestic work associated with the likelihood that couples have a first and a second child?
3. How is the gender division of domestic work associated with relationship quality after couples become parents?

An exploration of the first research question will enhance our understanding of the process which results in the more traditional division of labour observed among most couples when they become parents. By comparing the significance of economic versus normative explanations, the empirical analysis will test the explanatory power of different theories for what happens to couples during this life course transition. Since the transition to parenthood appears to be a critical junction in terms of gender inequality, the findings contribute to the evidence on the long-term increase in social and economic inequalities between men and women over the life course.

The different ways of coping with and combining paid work and family care may have different impacts on the wellbeing of parents and children, and more generally, on demographic trends. A few previous studies have considered the importance of couples' domestic work arrangements for second childbearing, but so far there is no evidence on this relationship in the UK. I will also examine the likelihood of a transition to a first birth rather than just focussing on the second child, in contrast to most existing studies. Furthermore, I will explore more in detail why the division of domestic work may matter to childbearing decisions by including considerations of women's gender role identities.

The third part of this thesis focuses on couples' relationship quality after they become parents and how it relates to new parents' division of housework and childcare. There is some evidence that couples' relationship quality correlates with differences in their division of paid and domestic work. However, we lack knowledge specifically about the expectations regarding each partner's domestic contribution of parents with young children, whose division of labour is particularly affected by family care demands. Hence, the analysis presented in this part of the thesis provides the first evidence for British couples with pre-school children, these children being the group for whom parental divorce or separation may have the most severe developmental consequences. A

focus on this group is of interest also given the increasing rate of relationship breakdown amongst them in addition to longstanding evidence that relationship satisfaction declines with the arrival of children. Since the conflicting demands of employment and family care have been identified as one probable reason for the drop in satisfaction, I will provide a more detailed analysis of how different aspects of a couple's division of domestic work are associated with relationship quality in this challenging phase.

1.7 The institutional context of domestic work and family outcomes in the UK

This section gives a brief overview of the history of policy development in the areas of relevance to the thesis – namely the division of paid and domestic work, childbearing, and relationship quality. This provides an introduction to the particularities of the context in which British couples make choices about having children and how to combine paid work, housework, and childcare. Due to lack of available data about individuals' policy preferences or availability of different family friendly measures, the individual and couple-level analyses in this thesis cannot make any inferences about the effects of different policies on the behaviour of men and women. It can only inform policy analyses by providing evidence on individual and couple-level associations in terms of predictors of the increase in gender inequality after transition to parenthood and possible effects on childbearing decisions and relationship quality. In the conclusion to this thesis, I propose some tentative implications by comparing the findings of the empirical analysis with the assumptions currently underlying the relevant policies around parenthood in the UK. These, however, can only represent a starting point for more detailed policy analyses and comparative cross-national research designs. Regarding possible explanation for the change in the division of labour between men and women after having their first child, I compare the empirical results of this thesis with those from an earlier US study by Thompson and Sanchez (1997), which applied a very similar research design. This comparison allows me to draw some conclusions regarding the probable effects of the different family policy contexts, similar to a cross-national research design.

1.7.1 Contextualising the gender division of paid and domestic work around parenthood

Like most other Western countries, Britain has considered gender equality a lower priority compared with other policy objectives such as children's welfare or economic growth. Legal foundations against discrimination on grounds of gender and sex,

introduced by the Equal Pay Act 1970 and the Sex Discrimination Act 1975 for employment, education, and the provision of public goods and services, were important prerequisites for the expansion of female employment (Fredman 2001). Subsequent policy measures facilitating the combination of paid work and family care then became a crucial factor for parents' work and care choices. Maternity rights were introduced by a Labour government as part of the Employment Protection Act 1975. Amendments by successive Conservative governments did not significantly improve the comparatively low level of provision and strict eligibility criteria until the EC Pregnant Workers Directive in 1994. The implementation of this directive gave pregnant British employees the right to payment and leave for a minimum of 14 weeks, irrespective of length of employment (Kamerman and Kahn 1997). Maternity leave policy aside, the Conservative governments before 1997 mainly encouraged employers to be flexible and provide arrangements for workers with children especially where they can be justified on economic grounds (Dickens 1999; Kamerman and Kahn 1997). The arrangement most frequently used by mothers in the UK has been part-time employment, mostly with relatively short hours. Other flexible work arrangements were only available to employees in certain sectors and often only to a limited range of staff (Ringen 1997). The assumption underlying these policy developments was that the main role of mothers would be to provide most of the care for pre-school children and, if at all, to re-enter paid work on a part-time basis as the children get older (Harding 1996; Lewis 1992). In the mid-1990s, part-time working seemed to match the preferences of the majority of mothers. However, one in four part-time working mothers would have liked to increase their hours if suitable childcare was available. Three in four mothers who did not work for pay also said that childcare issues kept them from working at all (Thomson 1995).

Compared to many other European countries, state support for childrearing has been limited in Britain. In 1984, the Conservative government declared at the UN conference on population that it 'does not pursue a population policy in the sense of actively trying to influence the overall size of the population, its age structure, or the components of change, except in the field of immigration' (Office for National Statistics Editorial 1993). In the statement, the UK government also adds that so far it sees no cause for general anxiety but it monitors demographic trends. In the government's view 'decisions about fertility and childbearing are for people themselves to make' (Office for National Statistics Editorial 1993). It sees its responsibility mainly as providing information about

family planning through the National Health System. This position was reconfirmed by the New Labour government in 2000 and 2005 (Dunnell 2000; UN Population Division 2005).

Children, however, have become more central to government policy with New Labour's 1999 objective to eradicate child poverty in two decades (Blair 1999; Henricson and Bainham 2005; Lister 2006). As part of the 'social investment state', a term coined by Anthony Giddens (1998), New Labour developed a number of policies to promote investment in children alongside more regulatory policies designed to encourage responsibility among children and their parents. The fundamental assumption of the autonomy of the family has not changed. However, there was a visible shift towards more intervention among low-income families through financial assistance (for details of UK child benefit system see Bennet 2006; Bradshaw 2006) and general support with childrearing in terms of extended leave policies, flexible working and pre-school education.

As part of the support for parents with small children- working mothers in particular - in combining work and family responsibilities, the Blair government launched a number of legislative initiatives. From 2003, maternity leave was extended from 26 to 52 weeks and the period of paid maternity leave extended from 18 to 26 weeks (Moss and O'Brien 2006).⁵ The government also introduced two weeks paternity leave (for a more detailed policy discussion see Crompton 2006; Dex 2003; Moss and O'Brien 2006). Apart from the short period of paternity leave, there are no other policy initiatives that specifically facilitate fathers' involvement in caring.⁶ While fathers and mothers are now allowed to take three months of unpaid parental leave, it was predictable that the percentage of fathers taking such leave would be low, since adequate compensation levels have been found to be crucial for fathers' leave take-up in other countries (Brandth and Kvande 2001; 2002). At the same time, albeit following a declining trend, British fathers still work some of the longest hours in Europe. The New Labour government has not taken any steps to reverse the individual opt-out to the EU's 1993 Working Time Directive to permit individuals to work longer than a 48-hour week. In combination with the

⁵ In April 2007 paid maternity leave was extended further to 39 weeks, of which 6 weeks are paid at 90% and the remaining 33 weeks at a flat-rate.

⁶ Transferability of leave rights from mothers to fathers have been planned in the form of additional paternity leave in cases when the mother does not take her full entitlement for April 2009 or April 2010 but implementation is continuously being postponed.

extension and non-transferability of paid maternity leave for mothers, these measures do not suggest a radically different view of fathers' caring role but rather reconfirm the assumption of mothers as the main carer.

As part of the national childcare strategy, the government also provided more funds for formal childcare (HM Education and Employment and HM Social Security 1998; HM Government 2009; HM Treasury 2003). However, it has been criticised for providing too little specifically for day-care of children under three, for which provision was especially lacking in the past (Harker 1998, Hirsch and Millar 2004). The government's approach with a focus on education rather than care has also been criticised for being too investment-centred (Hirsch and Millar 2004; Lister 2006; Moss 2006) and for not conforming with parents' preferences for care within the family (Houston and Marks 2005; Lewis, et al. 2008). For a considerable proportion of working class couples, the relatively high cost of formal childcare in combination with fathers' atypical hours and mothers' part-time work seem to have resulted in a high degree of shift-parenting (Calderwood, et al. 2005; Warren 2003).

The policy shift under New Labour does suggest changing assumptions regarding the benefits these family-friendly measures have for parents and their children and a stronger recognition of the potential value of pre-school education. However, specifically with respect to the division of domestic labour and care, it is doubtful that the change constitutes a 'critical juncture'; i.e. a point at which a significant policy change occurs which is likely to have an impact on subsequent behaviour (Neyer and Andersson 2008; Thelen 1999). The extension of paid and unpaid maternity leave and fathers' paternity leave entitlement, together with the growing availability of formal childcare, may have improved mothers' choices in combining paid work and family care by facilitating continuous employment (Pronzato 2007b) and slightly changing social norms about fathers' role. However, it is unclear whether this is sufficient to challenge the general assumption of mothers' role as the main carer. There are still clear limitations for families who want to deviate in their work and care arrangements from these main assumptions and they will have to bear the cost of this choice themselves. In many respects, although state responsibility has increased, combining employment and parenthood is still considered a matter for private arrangements between men, women, relatives, childcare institutions and employers. This is also reflected in a continuing

uneven distribution of available family-friendly arrangements between public and private sector and between people with different occupational status (Crompton 2006; Dean 2001). Furthermore, as under previous governments, the priority has been to improve the situation of children and families at risk of poverty and deprivation rather than providing universal support with parenthood for all families.

1.7.2 The institutional setting of family breakdown

Family law provides the legal framework for resolving issues around income and care responsibilities in case of family breakdown. The implicit or explicit assumptions of family law regarding couples' arrangements of breadwinning and caring within relationships are not only central to how financial and custody entitlements and responsibilities are divided after the relationship has ended. They also guide expectations and provide behavioural incentives during the duration of a marriage. Since the introduction of partial no-fault divorce in the Divorce Reform Act 1969 (Office for National Statistics 2007b), the emphasis of the legal regulation of relationships generally shifted from external morality to practical considerations of child-wellbeing, risks of poverty and increased individual choice (Lewis 2001b). After the 1984 Matrimonial and Family Proceedings Act, courts placed greater emphasis on the desirability of the parties becoming self-sufficient whilst also giving primary consideration to children. This signalled a tendency to assume that women would be completely individualised within marriage which has been criticised as out of touch with the reality of most women's role as the main carer (Lewis 2001b). At the same time, however, law started to enforce private responsibility of parents more strongly. This was strengthened further, particularly in respect of fathers' maintenance payments, by the 1991 Child Support Act (Kiernan, et al. 1998), which may on the contrary point to greater recognition of the responsibility of the male breadwinner. Property division rules and fathers' child-related payments, however, usually take less account of the negative effects of many mothers' reductions in paid work in order to care for children on future earnings and retirement benefits (Harding 1996).

In divorce law, British governments seem to have moved further away from assuming that women have the main caring responsibility than in most of the policy provisions for combining paid work and family care. Compared to marriages, current regulations for cohabiting couples reflect even stronger assumptions of individualisation. Despite

widespread social acceptance of cohabitation and preference for marriage-like treatment (Barlow, et al. 2008; Barlow, et al. 2001), the question of whether cohabitants should receive more marriage-like legal treatment on relationship breakdown or death of one partner remains contested in England and Wales⁷. Although Jenkins (2008) finds that the short-term reductions in income for separating wives and children relative to separating husbands have declined over the 1990s, women still experience a large fall in their income immediately after separation. Despite a tendency to recover from the immediate decrease, women's incomes remain on average about 10% below their pre-separation levels five years after separation. Unemployed women or those who do not find a new partner, however, do much worse than this. Overall, these findings cast doubt on the extent to which regulation of family relationships can assume both partners to be individualised within a marriage and able to become self-sufficient relatively quickly after a relationship breakdown. Especially among couples with small children, existing divorce law and the lack of cohabitation legislation may be seen as in conflict with mothers' role as the main carer for small children as assumed by policy entitlements to family leave, flexible work arrangements and existing provision of childcare.

1.7.3 The gender division of domestic work and family outcomes: a policy matter?

Gender equality has not been an explicit policy objective in the UK. Recently the government has aimed at promoting mothers' employment as a means to reduce child poverty and families' welfare dependency, and to increase productivity. However, maternity and paternity leave policies still reflect quite traditional assumptions about the division of labour within families. This thesis will provide evidence on some of the factors that explain how couples change their division of paid and unpaid work around parenthood. Understanding new parents' decisions about the division of labour is crucial for policy design, as most people make some use of institutional support such as maternity and paternity leave in order to be able to provide and care for their family after childbirth. Policy differences in terms of leave, childcare and flexible working arrangements have been shown to be significantly associated with mothers' employment (Del Boca, et al. 2006; Pronzato 2007b). By comparing the results from the empirical analysis with a similar study from the US, Chapter 7 will suggest some conclusions on the significance of family policies which facilitate or hinder certain arrangements of combining paid and unpaid work more than others.

⁷ In Scotland, the Family Law Act 2006 has given cohabitants some marriage-like remedies on relationship breakdown or death of one partner (Barlow, Burgoyne et al. 2008).

Fertility levels have not been a concern to British policy makers, even though higher rates of childlessness and the lower completed family size of women with high levels of education or those in managerial occupations raise some questions regarding the extent to which this is voluntary or the result of difficulties in combining employment and childcare. While this study is not able to answer this question, these groups of women who aspire to a career are also likely to identify with relatively egalitarian gender roles in the home and expect their partners' to contribute to housework. The examination of the association between a couple's division of housework and the likelihood of a first and a second birth contributes to existing evidence on whether the issue of combining paid and family work is important in women's decisions about childbearing. This also allows a tentative assessment as to what extent the currently quite traditional assumptions of family policies around parenthood match people's practice in the division of labour and their expectations regarding childbearing.

So far gender inequality in the division of domestic work has been widely accepted as necessary or even desirable as far as policies regarding mothers' labour market participation are concerned. Family law sometimes showed a slightly stronger tendency to assume women's economic self-sufficiency and ignore women's role as the main carer. The analysis of how couples' paid and domestic work arrangements in the early years of parenthood are associated with relationship quality explores the extent to which couples with young children expect relatively egalitarian or quite traditional arrangements of domestic work and care within the family. This allows a comparison with current policy assumptions regarding paid and unpaid work arrangements within families and legal regulations in the case of family breakdown.

1.8 Chapter overview

Chapter 2 outlines the theoretical framework for this thesis. I contrast rational choice theories which assume the division of labour and family decisions to be based mainly on economic considerations with those perspectives arguing for the increasing importance of people's identities in making these decisions. I propose a rational choice framework which takes into account the heterogeneity in the gender role identities of both men and women. This framework is used to formulate more detailed research questions and derive hypotheses for the empirical analysis. Chapter 3 presents the details of the British Household Panel Study, the panel data set used for the empirical investigation, and

discusses its limitations. I also discuss the operationalisation of the main variables for the statistical analyses. To increase the number of couples that can be observed before and after becoming parents, all the time points from 1992 to 2005 will be pooled for the analysis. This increases the risk of spurious correlations between the dependent and independent variables due to time trends as well as qualitative changes in the social and political context. I therefore examine the extent of changes in the main variables over the observation period.

Chapter 4 to 6 form the core of the empirical analysis. Research question 1, which explores explanations for the change in the division of labour after couples become parents, and question 3, which investigates relationship quality among new parents, both focus exclusively on samples of couples that experience the birth of their first child during the observation period. Question 2 examines how couples differ in the probability that they will have a first and second child according to their division of domestic work. The first part of this analysis therefore provides an investigation of various selection factors into parenthood. Since these may be important to consider in the analysis and interpretation of the other two questions which focus purely on the selected parent sample, Chapter 4 first examines the association between the division of domestic work within couples and the probability of their having a first or second child. Chapter 5 then describes the change in the division of labour between men and women during the transition to parenthood and investigates its pre-parental predictors, as formulated in question 1. In Chapter 6, I explore what happens to the quality of couples' relationships in the first few years after becoming parents and how this is associated with the division of paid and domestic work they practise. The conclusion in Chapter 7 discusses the findings of the core analysis against the background of previous studies in the UK and other Western countries. I provide an assessment of the theoretical framework and methodological limitations of this study. I then conclude by considering to what extent the findings from the empirical analysis confirm or challenge the behavioural assumptions underlying current UK family policies concerning parenthood and relationship breakdown.

2 Developing a theoretical framework: Rational choice and gender role identity

2.1 Introduction

This chapter develops a theoretical framework for exploring the main research question as to how traditional versus more egalitarian expectations of the gender division of domestic work are associated with the change in the division of labour after British couples become parents, their childbearing decisions, and the quality of their relationships⁸. A deductive research design seems appropriate to test existing theories on these questions, since a range of economic and sociological theories have been proposed to help explain the gender division of paid and domestic work, family formation and dissolution. Our knowledge about the theoretical links between gender relations in the home and childbearing decisions or relationship quality is still sketchy, partly because they have been undergoing change. Further empirical evidence on these changing family dynamics is therefore needed.

Both a rational choice perspective and constructivist approaches focussing on identity can be applied to the main thesis questions concerning couples' childbearing, division of labour and relationship quality. However, there are considerable differences between them in terms of generality versus context dependence, the role of objective external circumstances versus subjective interpretations, and the data requirements for application. Among rational choice approaches to the family, the neo-classical economic theory provides a general framework to explain individual and household behaviour of childbearing, the division of labour and partnership decisions (e.g. Becker 1981). Bargaining models, often based on game theory, have been developed to model negotiation mechanisms and power differences between household members (e.g. Lundberg and Pollak 1993; 1994; Manser and Brown 1980; McElroy and Horney 1981). While rational choice theories have contributed to understanding individual decision-making in terms of costs and benefits of different alternatives, some of the underlying assumptions impose strong restrictions. In particular, this chapter will suggest that

⁸ Expectations are understood in a wider sense and include expressions of preferences or values and inferences drawn based on associations between couples' observed division of labour and their childbearing decisions and relationship quality after becoming parents.

assumptions of unobservable exogenous or even homogenous preferences for gender arrangements of paid and domestic work during couples' transition to parenthood are very strong assumptions. Individuals' reflexive self-identities have been suggested to be of increasing importance for designing their life paths (Beck and Beck-Gernsheim 1995; Giddens 1991). Empirically, there is considerable diversity especially in how women feel they want to or should combine paid work and family care (Hakim 2000; Wall 2007). A large number of studies also find normative conceptions regarding gender roles to be significantly associated with the division of labour of labour, often beyond economic factors (e.g. Baxter 1997; Berk 1985; Crompton, et al. 2005; Greenstein 1996a; Hochschild and Machung 1990). In the UK, historical developments of men's and women's roles have been perpetuated by gendered policy structures. Their normative assumptions often impose external constraints on families' work and care arrangements and are likely to have affected people's expectations (Kremer 2005). As a result, a theoretical framework of couples' parenthood and division of labour decisions should account for the heterogeneity in gender role identities between men and women and within each gender. One micro-sociological perspective which focuses on construction of the self through interactions is symbolic interactionism. Within this perspective, I draw on identity theory (Stryker 1968; Turner 1978) to derive predictions for the empirical analysis. It assumes that people (re)produce their identities or self-images in terms of affiliations with various social groups and understands men's and women's gendered interactions as constructed by their identities and as embedded in social structures.

The next section first considers the strengths and weaknesses of rational choice explanatory approaches of family decisions. Section 3 discusses why these models' assumptions of unobserved exogenous preferences, or little variation in the subjective interpretation of available options, are unrealistic in the context of an analysis of couples' transition to parenthood. Section 4 suggests that one way of overcoming this is to explicitly incorporate women's and men's gender role identities into a rational choice model. Section 5 discusses the details of the gender role identity concept and the employed rational choice assumptions before reflecting on the limitations of the framework and its implications for the empirical findings of the whole thesis. Section 6 describes the formal details of the models and the underlying assumptions for each subsection of the analysis. I adopt a model by De Laat and Sevilla Sanz (2006) to the issues addressed in this thesis to derive hypotheses for the statistical analysis. Since the

emphasis of this thesis is empirical, the details of different models in the literature are not derived mathematically. The conclusion summarises the main theoretical ideas and the hypotheses for the empirical analysis.

2.2 Benefits from specialisation, family change, and heterogeneity in identities

2.2.1 Rational choice theories of family decisions and the gender division of labour

Gary Becker (Becker, et al. 1977; Becker 1965; 1974; 1981) pioneered the application of theoretical rational choice model to family topics. The theoretical predictions of neo-classical models and other rational choice theories are based on the assumption that people make rational decisions by weighing benefits and costs. Evaluations of costs and benefits are purely based on external circumstances, since individuals' underlying preferences or tastes are assumed to be stable, unobserved and exogenous to the current behaviour of interest. In addition, rational choice models assume a utility maximising individual, which usually has the ability and full information to find the optimal solution that maximises the net benefits. These economic inputs and outputs are coordinated by implicit or explicit markets. One of the strengths of the rational choice approach is that it represents the regularities of human behaviour within a systematic framework, which allows making formal predictions under explicitly stated assumptions. It is therefore relatively general in the sense that the underlying behavioural mechanisms are assumed to be independent of the context.

Becker (1991) shows that if two members of a household have different comparative advantages, the household's income is maximised if one specialises in market work while the other one specialises in household production. Different comparative advantages are the result of at least one member's higher productivity in one of the sectors due to differences in biological characteristics, human capital investments (Becker 1985) or wage discrimination (Joshi 1998). However, the persistence of a strongly gendered division of domestic work, even among couples where women earn more than their partners, has cast some doubt on the specialisation argument (e.g. Brines 1994b; Greenstein 2000; Hochschild and Machung 1990).

Another central aspect of the neoclassical framework is the concept of opportunity costs, in particular forgone earnings, which are assumed to affect childbearing decisions. With respect to divorce, Becker et al. (1977) argue that women's employment reduces gains

from specialisation and hence the benefits of staying in a relationship. Economists therefore attributed the reduction and postponement of childbearing since the 1960s and the increase in divorce rates among other factors to the expansion of female employment (Becker 1981; Brewster and Rindfuss 2000; Schultz 1974). These neo-classical economic models, however, cannot explain the reversal of the association between fertility rates and women's employment at the country level and the relative stability of divorce rates despite rising employment among mothers since the mid-1980s.

In addition to these empirical inconsistencies, the assumptions of self-interested utility maximisation and complete rationality have provoked a lot of criticism (England 1993; Kahneman, et al. 1982; Sen 2002; Simon 1955; Tversky and Kahneman 1986). Furthermore, the assumption of exogenous preferences revealed only by observed behaviour has been criticised for not adding to the explanatory power of the framework, since any behaviour can be automatically understood as in line with preferences (Frank 2006; Stigler and Becker 1977). In response to this criticism, Stigler and Becker (1977) have argued for a different interpretation of preferences in economic models suggesting that '...tastes neither change capriciously nor differ importantly between people' (Stigler and Becker 1977, p.76). They further claim that '...no significant behaviour has been illuminated by assumptions of differences in tastes. Instead, they, along with assumptions of unstable tastes, have been a convenient crutch to lean on when the analysis has bogged down. They give the appearance of considered judgement, yet really have only been ad hoc arguments that disguise analytical failures.' Becker and Stigler and some other scholars therefore argue that non-selfish behaviour and variations in preferences can be best represented by advantages in some material sense (Schelling 1960; Stigler and Becker 1977). This view has been countered by various sociological and psychological theories which focus on differences in people's identities and perceptions of external circumstances.

2.2.2 Changes in the gender division of labour and the importance of identity

Common preferences among people with similar characteristics or circumstances as in conventional rational choice approaches are a strong assumption, since the contextual particularities of people's perceptions of domestic work during the transition to parenthood cannot be captured. As a result differences (i) between men and women and (ii) within each gender are likely to be underestimated.

On average, significant gender differences in the time people spend on paid and unpaid work remain and some of these are not well explained by differences in economic resources. Many studies find that the association between a person's economic resources and outcomes in terms of division of labour, fertility and relationship quality among couples are more gendered than supposed by economic theories (Berk 1985; Brines 1994a; De Henau 2007; Ekert-Jaffé, et al. 2002; Greenstein 2000; Hochschild and Machung 1990; Sanchez, et al. 1998; Voydanoff and Donnelly 1999; Wilkie, et al. 1998). This has been theoretically addressed by the sociological 'doing gender' perspective (West and Zimmerman 1987) and by Sen's concepts of perceived entitlements and contributions which vary by gender (Sen 1991). During the transition to parenthood most couples move towards a more traditional work distribution (Gershuny 2003; Sanchez and Thomson 1997). At this life course event, gendered expectations with respect to the amount of paid and unpaid work men and women are supposed to do are likely to be particularly important. Considerable cross-national variations in these normative assumptions with respect to gender suggest that people's expectations are shaped in part by historical trends of people's practice and by institutions (Cooke 2006; 2007a; Kremer 2005).

Although gender remains an important aspect of most people's identity, women's and men's time spent on paid and domestic labour has converged. This has resulted in more diverse identities within each gender, especially among women. Sociologists have proposed several arguments for why preferences for a sex-specialised division of labour have been losing importance. Some scholars have suggested that greater empathy and companionship among partners with symmetrical roles in market work and household production can enhance partnership satisfaction (Scanzoni 1978; Simpson and England 1981). Oppenheimer (1994; 1997) argued that, as a result of the rise in male unemployment since the 1970s, risks involved in specialisation and the advantages of a collaborative division of labour have increased. Furthermore, the benefits from specialisation are likely to be lower in a world of high family instability, especially for the partner investing in less transferable relationship specific skills, which are usually involved in childrearing and housework than in market work (England and Farkas 1986). In addition to their potential effect on the practised division of labour, these trends are likely to alter people's mating preferences in a way that makes symmetrical roles and a

collaborative division of labour even more likely. Since social change does not happen overnight, this may imply considerable diversity in preferences at least for a transition period.

Both partners' identities may be of increasing importance for their division of labour, childbearing decisions, and relationship quality. Social theorists (Beck 1992; Beck and Beck-Gernsheim 1995; 2001; Giddens 1991; Giddens 1992) have suggested that the profound social changes associated with late modernity including the progression towards gender equality, reduction of external moral boundaries and perceptions of new risks result in greater individualisation of life courses and constant self-reflexivity. According to Giddens (1991; 1992), individuals have to continuously (re)create their self-identity through their reflexive activities, which do not follow an institutionalised or formalised life-course. This implies plurality of opportunities in which individuals have to choose and design their own life path. For Giddens, the concept of self-identity is central to contemporary Western societies, referring 'not to a distinctive trait or a collection of traits possessed by the individual but to the self as reflexively understood by the person in terms of her or his biography' (Giddens 1991, p.52). As a result of these fundamental changes in family life, relationships and individual life courses, the conflicting advantages of a sex-specialised versus more collaborative gender division of labour are likely to be reflected in considerable diversity in people's identities and corresponding actions in terms of involvement in market and domestic work.

In the empirical literature, the concepts of preferences, attitudes, and identities are frequently used to capture the values people attach to certain actions. Values represent 'a person's beliefs about ideal modes of conduct and ideal terminal goals' (Rokeach 1970, 124). Since values are difficult to observe directly, preferences are often expressed in terms of a relative ranking of behavioural choices and as such reflect the underlying values (Alwin 2005). A person's identity with regard to certain actions is often thought to refer to their self-image in terms of affiliations with various social groups or categories (Stets and Burke 2000). In contrast to preferences, which are often used in a way that assumes a relatively unidirectional effect on behaviour (Hakim 2000; 2007), the concept of identity captures the social embeddedness and self-reflexivity of identification with social groups. Identities affect behavioural choices which again recreate social identities (Sen 1999; Stets and Burke 2005). Due to the reflexive theoretical link with behaviour

and social structures, measures of identities would be ideal for this study. However, little representative information is available about people's identities which are complex, multidimensional constructs. Surveys asking people about personal work-lifestyle preferences or attitudes provide the only available evidence on differences in the values people attach to different combinations of employment and family care. In contrast to identities and personal preferences, attitudes are relatively stable general beliefs around an object or situation (Rokeach 1970, 112). They capture less well what people think is right for themselves. Attitudes are therefore less closely linked to people's subsequent behavioural decisions than statements of personal preferences (Hakim 2000) or identities (Kroska 1997).

Recent empirical evidence suggests considerable diversity in the work-family preferences or attitudes of women in many Western countries. Hakim (2000; 2003) has shown that the majority of women in Western countries prefer some combination of work and family life over specialisation in either area. According to her preference theory, however, there are also sizeable groups of women at either end of the work-family balance spectrum who either see themselves mainly in the role as mothers and homemakers or as pursuing a career. Based on attitudinal questions regarding work-family articulation, Wall (2007) also presents evidence of considerable diversity in couples' attitudes in several European countries. In most countries, one or two attitude groups still make up larger clusters than the others. Groups with relatively modern attitudes prevail for instance in Sweden and France and more traditional groups in Germany. However, no specific attitudinal group seems to predominate in Britain (Wall 2007). Overall, the UK seems to display greater diversity in attitudes (Wall 2007) and preferences (Hakim 2003) towards work-family articulation than some other Western countries. It is therefore a particularly interesting case to examine whether diversity in women's and men's expectations regarding gender roles can explain childbearing and division of labour decisions and resulting relationship quality. An increasing number of quantitative studies on related questions have started to take people's gender role identities or attitudes into account. Most of these, however, do not spell out their assumptions of the interaction between people's normative conceptions or gender identities and behaviour, economic circumstances and the wider social context. The next two sections will explain in detail how this thesis will theoretically capture the

interdependence of economic and psychological costs and benefits by drawing on the concept of 'gender role identity' and combining it with a rational choice approach.

2.2.3 Social constructivist theories of gendered interaction and identity

Social constructivist theories have focussed on people's subjective evaluations of lifestyle choices and changes over time and how they are constructed by and construct people's (inter)actions. One important micro-sociological tradition which attempts to understand individual behaviour in connection with people's self-identity is symbolic interactionism (Blumer 1969; Mead 1934). The main premises of symbolic interactionism are that 'human beings act towards things on the basis of the meaning things have for them... This meaning is derived from the social interaction with others and modified through an interpretative process' (Blumer 1969, p.2). Arlie Hochschild applied and developed this perspective further in her well-known work on couples' subjective experiences of their paid, domestic and emotion work (Hochschild 1997; 2003; Hochschild and Machung 1990). While West and Zimmerman (1987) argued that gender can be 'done' in various situations, some of which may not involve interaction, a focus on interactions seems suitable for research on the division of labour, family and relationship outcomes of couples.

Most symbolic interactionists apply qualitative methods and aim at inductive theory building. Some authors have formulated principles of how people's interactions are constructed by and construct meanings and social reality. Nevertheless, these perspectives still result in great predictive uncertainty in absence of detailed knowledge of people's subjective experience in a specific context. Within the various interpretations and extensions of the symbolic interactionist perspective, identity theory appears to be best suited to develop a framework for how people's identities may influence their expectations regarding the domestic labour division with their partner. It is based on the work of Stryker (Stryker 1968; Stryker and Statham 1985) who combined Mead's understanding of psychological processes with role theory to develop a framework bridging social structure and individuals' actions. Identity theory assumes the self to be a multifaceted and organised construct. The multiple components of self are referred to as role identities. A role identity is defined as 'the character and the role that an individual devises for himself as an occupant of a particular social position' (McCall and Simmons

1978, p.65).⁹ Through identification with several social groups, individuals are assumed to take various roles and occupy different positions within each of these groups (Stets and Burke 2000).

The main difference to other theories falling under the symbolic interactionist category is the connection with social context. It assumes that individuals and their actions are always embedded in the very social structures which are at the same time being created by them (Stets and Burke 2005). In contrast to Mead's conceptualisation of social structures as being continuously transformed (Mead 1934), Stryker's structural approach assumes that social structures are relatively stable (Stryker 1968; Stryker and Statham 1985). This is of relevance to this research, since I am interested in exploring the interdependence of people's identities and economic circumstances and constraints rather than detailed emotional processes or daily conversational practices. As a result of its assumptions of slightly greater stability of self-identities and interrelationships with social structures, identity theory is better suited to formulating hypotheses for the empirical analysis than other social constructivist theories. Its general premise is that members of a group will aim to behave in line with perceived expectations in relation to that group, since this is assumed to strengthen their self-esteem, activate their conception of self-efficacy and self-consistency and contributes to their self-worth (Stets and Burke 2000). Violation of one's social identity through others' interactions or external constraints of one's behaviour are assumed to lead to emotional distress, anxiety or cognitive dissonance, which set incentives to change either one's behaviour, one's own identity or frame someone else's identity differently.

A very similar theory on the social nature of the self-concept and how it affects and is affected by behaviour – social identity theory - has been developed in psychology. Previous economic models incorporating heterogeneity in people's identities have largely followed the psychological tradition (Akerlof and Kranton 2000; 2005). However, recent theoretical work in this area proposed that the sociological conceptions have advantages in terms of theorising the impact of social structures (Davis 2007). It has been suggested that future attempts should combine the strengths of both approaches (Stets and Burke 2000). Even though the differences between these theories cannot be tested with the data used in this analysis, understanding the similarities and differences

⁹ This contrasts with the concept of an individual's personal identity as used by psychologists and philosophers, which refers to the self as being distinct from other people in general (Davis 2007).

between sociological and psychological approaches to identity theory is important for specifying the mechanisms of how individuals' behaviour is assumed to be connected to their gender identities.

Both identity theory and social identity theory assume a reflexive self that mediates the relationship between social structure and individual behaviour. Although the dividing lines between the two theories are often blurred and they are complementary in many ways, there also remain important differences (for a detailed comparison see e.g. Hogg, et al. 1995; Stets and Burke 2000). Social identity theorists assume that a social category into which one falls and to which one feels one belongs provides a self-definition that is part of the self-concept. People have a range of discrete category memberships that vary in relative importance for the multidimensional self-concept. Each of these memberships is represented in the individual's mind as a social identity which prescribes what to think or how to behave as a member of a certain category. In social identity theory, this process of identifying with a social category is called self-categorisation (Turner, et al. 1987). One difference between the two approaches is that in social identity theory individuals are subsumed into classifications of social categories which usually simply distinguish between in- and outgroups, whereas the sociological approach sees individuals as having multiple roles in relations to social groups which cannot be captured only by a single in- or out-criterion. Since gendered behaviour in terms of motherhood and fatherhood is better conceptualised as enactment of a variety of roles represented by a continuum of identity perceptions rather than just dichotomous classifications based on a person's sex (Evans 2003), I will base my framework on the sociological identity theory. However, it is worth noting that the two theories would generally give rise to similar predictions for the empirical analysis.

In the context of families and gender, identity theory has been applied to explore hierarchies of different identities (e.g. as spouse, parents, and worker) and their influence on emotions and behaviour, including negative emotional responses to incongruence between one's identity and behaviour (Cast 2004; Ellestad and Stets 1998; Thoits 1992; Tsushima and Burke 1999). Changes in identities after life course transitions such as the one to parenthood have also been investigated (Burke and Cast 1997). Identity theory is well suited to explore feedback processes of changes in individuals' behaviour which impact on their own identity and the norms within a group, which again can lead to

changes in other individuals' actions (England 1993; Himmelweit 2001). In comparison to rational choice theories, identity theory, however, requires considerable knowledge on people's identities with regard to various activities and groups as well as their salience in different situations. Due to variations in people's subjective evaluations depending on the context, predictions as to how access to resources, like education or earnings, influence behavioural decisions are more difficult to generalise. Exploring inconsistencies between people's actions and their identities would require further information on positive and negative emotional responses which are particularly difficult to obtain. All this information is not available in longitudinal format which is needed to explore the research questions with respect to the transition to parenthood and the division of labour within couples. By contrast, data capturing income and price effects, as needed by rational choice theories, can be either measured directly or indirectly in the form of demographic characteristics and are more widely available.

2.3 Combining rational choice and gender role identity

The growing evidence of gendered effects of resources on family decisions, and of heterogeneity in women's work-family identities on the division of labour couples practise suggests that differences in identities between men and women and across different groups of women are crucial to the research questions. Rational choice theories offer considerable advantages in predictive clarity, and identity theory cannot be tested rigorously without longitudinal information on people's various identities. Therefore, I draw for the most part on the simplifying assumption that individual behaviour is regular enough to be captured in a model of reactions to incomes and prices. This view does not dispute that human behaviour involves more complex conscious or subconscious reflection. However, it assumes that people at least act 'as if' they were making decisions based on cost and benefit evaluations and therefore can be systematically captured in that way (Friedman 1953). To combine this view with heterogeneity in identities, I will suggest an extension of the rational choice framework by incorporating men's and women's gender role identities and relaxing the assumption of relative homogeneity of preferences made in conventional rational choice models. Although men's and women's gender role identities are still treated as exogenous in the models, observed differences in people's identities and discrepancies with their behaviour and circumstances permit capturing some psychological costs and benefits which are usually hidden in economic models. Homogeneous or at least unobserved exogenous preferences are still assumed with regard to all other identities. Therefore, the limitations of this assumption still apply

but a person's gender role identity is arguably the most salient identity during the transition to parenthood. Accordingly, its consideration is expected to improve the models' explanatory power in this particular context.

In his more recent work, Becker qualified his earlier assertion of stable and homogeneous tastes somewhat by saying it refers mainly to the meta-preferences underlying individuals' utility function. In line with classical economists, he therefore assumes that individuals strive in general for similar goods or states such as good health and reputation but their preferences for achieving them may vary and depend on an individual's personal and social capital (Becker 1996). The latter two concepts extend Stigler's and Becker's earlier models of capital established during an activity, which as a result of growing skill and experience in that activity, increases one's appreciation for that activity (Stigler and Becker 1977). Becker defines personal capital as the sum of past consumption and personal experiences which affect one's current and future preference towards goods and activities. Social capital incorporates the influence of past actions by peers and others which act as an individual's social control system. Both together form a person's stock of human capital (Becker 1996). Since personal and social capital can change over time, sub-utility functions may be unstable.¹⁰ This new approach allows for endogeneity of preferences which may vary across people and time periods, even though preferences do not directly enter the utility function. By doing so, he aims to find a systematic and general way of representing the central mechanisms of choices, not to explicitly incorporate individuals' motivations for behaviour.

While psychological theories and empirical evidence (e.g. Goldscheider and Waite 1991; Golombok 2000; Kiernan 1992a; 1997) on the importance of past experience especially during childhood support Becker's approach to include it as central endowments, often information on all relevant past experiences is not readily available especially reaching as far back as early childhood. In the context of this project, evidence suggests that differences in women's and men's attitudes with respect to women's employment and the gender division of labour are strongly related to their socialisation experiences with parents and peers (Cunningham 2001; Goldscheider and Waite 1991; Park, et al. 2004).

¹⁰ Becker (1996) assumes an extended utility function that depends only on household produced goods like health, social standing and reputation, or pleasures of the senses, which does not vary over time or between people. The production of these commodities, however, depends on various goods as well as a person's stock of personal and social capital. These sub-utility functions can vary as personal and social capital change over time and differ between people.

Without available data on past experiences, one way to take people's heterogeneity in experience into account is by incorporating differences in their identities directly. Cunningham (2001) finds that the effect of parental division of paid and domestic work on children's division of labour as adults are partially transmitted through the children's gender role attitudes, even though there is also evidence of small direct effects of parental characteristics on children's division of labour choices. Sen (2002) argues that people may also act according to goals and values other than those focussed on self-welfare. Subjective realities may well vary even between people with the same characteristics and childhood experiences. Explicitly considering differences in people's values of different ways to balance work and family life and gender equality also seems one way of incorporating this argument.

Considering characteristics of childhood and other past experiences might be preferable for policy matters. They provide more information as to which external circumstances may be altered to improve people's welfare, which is often more difficult to predict for identities. Inequalities in economic resources such as education and earnings between social groups are likely to affect identity formation but seem insufficient to capture the full extent to which past experiences impact on people's gender role identification. Empirical evidence points to significant correlation of various measures of gender identity with the division of labour within couples (for review see Coltrane 2000) and the importance of congruence between identities and practice for individual wellbeing and family outcomes (e.g. Crompton 2006; Kalmijn, et al. 2004; Pina and Bengtson 1993). Including social identities relevant to the present behaviour, therefore, is likely to add significantly to the explanatory power of rational choice models.

Relatively little theoretical work has been done on how diversity in identities with respect to work and family articulation can be incorporated into the widely used rational choice framework. Recently, a few authors have developed models which combine concepts of identities or attitudes with a rational choice framework (e.g. Akerlof and Kranton 2000; 2005; De Laat and Sevilla Sanz 2006). This has evoked a number of contributions discussing the usefulness of such models and their theoretical deficiencies (Davis 2006; Davis 2007; Kirman and Teschl 2006). In response to these debates, the present theoretical framework is based on sociological identity theory rather than identity concepts developed by the psychological tradition which most rational choice models

have followed so far (Akerlof and Kranton 2000; 2005). The main aim is to contribute to empirical testing of such combined models in the area of work-family life articulation. Due to lack of information on multiple identities this thesis will not be able to explore issues of interrelatedness between different identities of the same person or shed light on how these identities make up someone's personal identity. These theoretical aspects will need further refinement.

Despite the extension, my framework will also not be able to investigate the endogeneity of women's or men's gender role identities, e.g. the extent to which they are constructed by structural inequalities and external constraints. Also interdependencies with other people's identities or behaviour and power relations cannot be explored. This is important because issues of social justice, in particular gender inequalities, are often a result of gendered identities. These are influenced by structural constraints and the unequal distribution of power between men and women or between social groups. These issues are difficult to address e.g. by policy measures when the origins of identities are unknown. One example of a recent debate in the literature focuses on Hakim's preference theory (Hakim 2000) and the origins of women's work-family life preferences. Hakim emphasises the importance of biological differences and women's freedom of choice in their preference formation. By contrast, other scholars argue that women's (and men's) preferences are constructed also by their past and present opportunities and situational constraints such as their earnings and availability of family leave and childcare (Crompton and Harris 1998; 1999; Kangas and Rostgaard 2007; McRae 2003). A theoretical framework combining a rational choice perspective with identity theory could, however, provide a starting point for future explorations of interdependencies and reverse effects of economic constraints on identity formation.

People's decisions to have children and cope with the new care responsibilities after a birth are likely to be made within a relatively short time-frame - from before to a few years after transition to parenthood. Furthermore, the thesis' focus is not on feedback processes of changes in norms and behaviour of groups across society. The application of a rational choice framework therefore seems acceptable. In the short to medium term, people's decisions to have children, cope with the new care responsibilities, stay in a relationship or leave are likely to be based on evaluations of the options that seem available to them at the time. However, Sen (2002) has argued that self-reflection and

scrutiny of one's own values and ideals is what distinguishes humans from rational fools assumed by neo-classical economic models. While identity theory would lead us to assume that most people will first seek coherence between their actions and their supposedly quite stable social identities, changing their identification with certain social groups or categories may well be a conscious or subconscious option for some people. Existing evidence also points to some changes in identities when couples become parents (Berrington, et al. 2008; Burke and Cast 1997). Burke and Cast (1997) find a general tendency of women to describe themselves more in terms of stereotypically feminine personality traits such as warmth, kindness, or insecurity and less in terms of independent, aggressive or competitive behaviour after becoming mothers, whereas the opposite trend towards more 'masculine' identities is found for new fathers. However, the correlation between a person's gender identity, as they measure it using data on self-description before and one year after birth, at 0.71 is still relatively strong. It is worth keeping in mind that people's identities may be less stable than assumed and may change for some people e.g. to reduce distress from conflicts with the practised division of paid and domestic work. This would increase the risk of incorrectly estimating the effects of previous gender role identities on the division of labour adaptations around birth and of the influence of couples' current domestic work division on childbearing behaviour and relationship quality. I will examine the frequency of changes in people's gender role identities. However, interdependencies with couples' adaptations in practice and external constraints would represent an interesting area of future research. The next section will discuss in detail the operationalisation of the gender role identity concept as well as the theoretical assumptions of rational choice behaviour and their limitations.

2.4 Conceptualising the central dimensions and assumptions of the framework

2.4.1 Gender role identity

In terms of the operationalisation in this framework, a person's gender role identity will be broadly defined as the role that an individual devises for him/herself as an occupant of a gendered social position. This is assumed to be influenced by social norms regarding gender behaviour which people have come to accept and which confirm their affiliation with certain social groups. Specifically, I will focus on people's gender role identities regarding work and family life articulation, which narrows down the relevant role behaviours to various differences in how mothers and fathers ought to combine paid and domestic work and care. The central idea I want to incorporate is that differences in

people's gender role identities influence how attractive different division of labour arrangements between men and women will seem to them, depending on whether they see themselves as adhering to relatively egalitarian or more traditional gender roles.

One central notion in identity theory is that people hold multiple identities. A critical question is how they compete with one another and which one will be activated in a particular situation, which is referred to a salient identity. There may well be competing identities in terms of individuals' self-images as workers, mothers or fathers, domestic cleanliness standards, roles within the family or within friends networks. I expect gender role identity in terms of combining paid work and care to be one salient identity in the context of the transition to parenthood. The operationalisation of gender role identity will cover various aspects to do with the gender division of paid and domestic work but cannot account for competing identities such as husband or wife, or membership in family networks, or friendship groups.

One could also argue that people can hold different identities concerning their market work and their family life which may add up or contradict each other and hence may not be well represented along the same dimension. This theoretical framework will treat a person's gender role identity as just one overall role identity, since commitment to employment and domestic labour and care in the home have often been presented as two strongly interdependent and opposing ends, especially for mothers with pre-school children. Subsuming several identities under one is not ideal but seems acceptable in order to simplify the theoretical model. In the empirical analysis, the combination of various measures into a broader underlying construct is supposed to capture some of the variations in the extent to which people hold contradicting values for different aspects of gender roles.

Sociologists distinguish between the probability of a role being activated (salient) and a role being actually played out in a situation, which they assume to depend on the commitment to this identity. The commitment increases with the number of people an individual is tied to through this identity and with the strengths or depth of these ties (Stets and Burke 2000). While Kroska (1997) suggested a heuristic model of the division of domestic work in which commitment to an identity holds a central role in predicting behaviour, the importance of commitment cannot be considered given the available data.

One of the limitations of the theoretical model and the statistical analysis is that the relationship between commitment to a social identity and behaviour cannot be explored. Furthermore, it is possible that competing identities which are not directly related to people's gender role such as other aspects of their role as parents or spouse are equally salient during couples' transition to parenthood. When presenting the model in the following sections, the most relevant alternative identities are considered for each research question. In the conclusion of the thesis, I will further reflect on how the empirical data support the salience of people's gender role identities, and on possible reasons for variations in their explanatory power. Before presenting the detail of the models for the empirical analysis, the next section discusses a number of issues regarding rationality assumptions in the models and further limitations of the empirical findings.

2.4.2 Parenthood, division of labour, and relationship quality: rational choices?

Three assumptions of rational choice models, which are contested based on empirical evidence of individual decision-making in families, concern i) what form of welfare is being maximised, ii) by whom, and iii) how realistic are the rationality assumptions underlying mathematical maximisation. I will understand rational choice as behaviour that is regular enough to allow it to be seen as maximising behaviour with an identifiable maximand. Sen (2002) makes the case for including the possibility of goal and value based maximisation behaviour rather than just pursuit of pure self-interested welfare or self-welfare goals. Sen argues that in some cases people may follow moral rules or goals to which they are strongly committed irrespective of their own welfare and even if the benefits to themselves do not outweigh the costs. Utility will be understood as goal-centred welfare as defined by Sen (2002), which is slightly wider than Becker's conception of whatever is conceived as providing personal welfare (Becker 1996).

The question of who is maximising is complex in the context of families. There are many different models which vary by their assumption of how family decisions are made. The main distinction is between unitary models, which assume one altruistic partner maximising aggregate utility for all family members, and cooperative bargaining models, which take account of each partner's threat points in case of non-cooperation (inside or outside the relationship) for how allocation decisions are made. In line with many authors who argue that cooperation is a realistic assumption in families, I will start with the main assumption of cooperative behaviour within families.

I will begin the discussion of the theoretical predictions based on a relatively simple model developed by De Laat and Sevilla Sanz (2006). I will mainly draw on this model to derive hypotheses for the importance of different factors. They assume cooperation, efficient allocation and transferable utility between partners. Some scholars (Beblo 2001; Ott 1992) argue that these assumptions are questionable regarding decisions like childbearing which, as a result of the frequent employment interruption of one partner, have long-term implications for this person and for bargaining relations in the future. I will discuss how the results are likely to vary if these assumptions are altered. The model presented is static based on just one time period. However, alternative model specifications in the literature are discussed to consider how results would change in a dynamic bargaining framework.

There is a large body of literature which demonstrates that the rationality assumptions usually applied in microeconomic models - including full information, a clear preference order and the ability to find the optimal solution - are frequently violated by human behaviour (Simon 1955; 1957; Tversky and Kahneman 1986; 1991). Among the frequently discussed failures are significant differences in knowledge and ability to process information regarding the likelihood of an outcome and how it can be best achieved, the dependence of the choice on how the decision is framed and the tendency to simplify the problem instead of considering all possible choices. For the benefit of simplicity, I nevertheless assume that people are rational actors (or act as if they were rational) in the following models and do not specifically take into account bounded rationality. It is impossible to point out all possible sources of bias as a result of this. However, I mention some aspects where these assumptions may be particularly problematic and may reduce the predictive power of the models: i) predicted change in the division of labour after having children, ii) anticipation of future utility from having children and caring for them, and iii) predicted separation risk.

Previous research suggests that people frequently underestimate the increase in the total amount of domestic work and care after the arrival of the first child, which requires a greater adaptation in the division of labour than anticipated (Belsky, et al. 1986). Couples probably do not sufficiently consider sequential habit formation of domestic work and attachment of the child to one person which favours an even stronger specialisation in the

division of domestic labour. They may also restrict the range of choice, e.g. in terms of childcare and employment they consider possible or morally acceptable (Duncan and Edwards 1999; Finch and Mason 1993; Himmelweit and Sigala 2004). Furthermore, in reality, people often aim only for a satisfactory outcome, not necessarily for the optimal one, and take the first satisfactory choice that comes along (Simon 1955). In the context of relatively traditional institutions, e.g. in terms of maternity leave, this may mean that if couples do not feel considerable dissatisfaction with the more traditional division of labour during the maternity leave period, there may be little incentive to redistribute the tasks again later. If all women underestimate the negative effect of parenthood on gender equality but if this matters only to women with egalitarian gender role identities, the model will underestimate the importance of women's gender role identities and the significance of domestic work for childbearing (Chapter 4) among the most egalitarian group.

Theoretical critiques of neo-classical economic models (Himmelweit 2001; Jefferson and King 2001) stress the distinct nature of caring labour which transcends the distinction between work and non-work. Various qualitative studies (Fox 2001; Hays 1996; McMahon 1995) find that the emotional attachment and feeling of responsibility to one's child grows with the time spent on caring for it. This new and constantly developing bond with the child may provide parents and in particular the main carer - usually the mother - with greater satisfaction than anticipated. This might contribute to many women being less dissatisfied with the change towards a traditional sex-specialised division of labour than they anticipated before having children. As the result, the effects of domestic work inequality on relationship quality may be more positive than expected in the model predictions (Chapter 6).

Another area where incomplete information and limited processing capacity is likely to be an issue is the risk of family breakdown (Chapter 6). Couples have generally been found to underestimate their own separation risk (Ermisch 2003) and those with young children are probably quite likely to not even consider separation a possible option to choose from. To reduce stress or cognitive dissonances, this may lead them to attributing their dissatisfaction, for example with the division of labour, less to the partner and more to external circumstances. As a result, people may exaggerate how satisfied they are with their partner. If the extent of this irrationality is similar across individuals and

uncorrelated with their gender role identities, it would only reduce the extent to which the division of labour practised by couples can explain changes in their relationship quality. If women with an egalitarian gender role identity were more likely to consider the divorce option and less likely to overstate their own satisfaction, the model might overestimate the importance of gender role identity as a moderating factor between the division of labour and the quality of couples' relationships.

2.4.3 Defining the central concepts

Household labour or domestic work has generally been conceptualised as 'all unpaid work done to maintain family members and/or a home' (Shelton and John 1996, 300). As opposed to paid work which can be defined as every activity that generates an income, domestic work is understood as the whole spectrum of reproduction work performed in households. Theoretically, this comprises care work for children as well as the elderly, all types of routine (e.g. cooking, washing, cleaning, grocery shopping, paying bills), and non-routine (repairs and maintenance) household work. This broad definition often also includes emotional labour and household management such as taking responsibility for organising and planning activities even if someone else carries them out. Like most quantitative studies, this thesis will apply a more narrow definition focusing mainly on the time allocation to housework by a man and a woman living in the same household. For care work, the focus is on the division of childcare, since it is the most time consuming part among parents with young children, even though in reality this may coincide with care demands for elderly or sick relatives for some families.

When I refer to the transition to parenthood, this describes the first time women and their current partners become parents through the natural birth or adoption of a newborn. Childbearing and fertility more generally include also higher parity births. It is important to note that childbearing may not involve an active decision, as it may happen unplanned and reduced childbearing may also be a 'non-decision decision' by continuing routines (Leibenstein 1981; Micheli and Bernardi 2003). By contrast, some couples that want to have a child may encounter physiological problems in realising this desire. Since I do not have enough information on people's desires to have a child or on their fecundity, the focus of this research is on observed childbearing outcomes only.

The second family outcome I look at is couples' relationship quality after becoming parents. This is usually conceptualised as the combination of many different factors, which vary by discipline. In most sociological studies, important dimensions of relationship quality are thought to include satisfaction with the partner and the relationship, conflict frequency and resolution behaviour, communication patterns between partners, thoughts of separation and occurrence of relationship breakdown (e.g. Bradbury, et al. 2000; Gager and Sanchez 2003; Rogers and Amato 2000; Wagner and Weiss 2007). In this thesis, I cannot give such a comprehensive evaluation of couples' relationship quality after becoming parents due to a lack of available measures. I will capture one component relating to the current satisfaction in the relationship, which is based on women's and men's reports of satisfaction with their partners, and complement this by observing the stability of the relationship over the first five years of parenthood.

2.5 Modelling couples' gender division of domestic work, the transition to parenthood, and relationship quality

2.5.1 Domestic work and childbearing

According to neo-classical household economics, a person derives utility from consumption of goods and leisure. Children are usually assumed to be a public good, since more consumption by one parent does not reduce utility of the other (Becker 1991). The number (quantity) of children a couple has is limited by the opportunity cost of having children, e.g. foregone earnings or schooling, and the preferred level of care and expenditures per child (quality). Higher quality refers to children who have more spent on them and whose parents are assumed to obtain additional satisfaction from this expenditure. Becker argues that the income elasticity of the number of children is small compared to the income elasticity of child quality, which essentially means that an increase in income is likely to raise expenditure in the area of quality more than quantity (Becker 1981). While an increase in either partner's income is predicted to have a positive effect on child expenditure, at the same time the cost of childrearing (quantity and quality) is closely related to the main carer's forgone earnings. Since the main carer is assumed to be the person with lower market productivity or higher productivity in the home, which in most couples is the mother, her higher earnings potential is generally predicted to lower the number of children a couple has. This negative substitution effect of higher wages on childbearing is assumed to outweigh the positive income effect (Becker 1981; Schultz 1974).

Identity theory would predict a greater likelihood of a first or second birth in couples where the anticipated changes that accompany childbirth are more in line with people's identity conception of parenthood and gender. Changes in the amount of paid and domestic work and the roles men and women play in the workplace and at home are central to this transition. However, there are likely to be other important adaptations especially of an emotional nature (Burke and Cast 1997) which cannot be captured based on the existing data.

In this thesis, I conceptualise the relationship between children, domestic work and a person's gender role identity in a rational choice framework similar to the one presented by De Laat and Sevilla Sanz (2006). The woman's (w) and the man's (m) utility functions can be written as follows:

$$U_w(k, h_w, c_w, x_w) = U(k) - f(G_w)V_w(h_w, c_w) + x_w \quad (1)$$

$$U_m(k, h_m, c_m, x_m) = U(k) - f(G_m)V_m(h_m, c_m) + x_m \quad (2)$$

Both partners derive utility from having children $U(k)$, and utility is monotonically increasing and concave:

$$\partial U(k)/\partial k > 0 \text{ and } \partial^2 U(k)/\partial k^2 < 0 \quad (3)$$

The number of children k is assumed to be an increasing function of the sum of time both partners spend on housework (h) and childcare (c):

$$k = k(h_w + h_m + c_m + c_w) \quad (4)$$

For simplicity and without compromising the main results, direct costs of children such as food and clothing are ignored. Each partner's utility depends positively on the number of children (k) and another private consumption good (x), but negatively on the time spent on housework (h) and childcare (c). $V(h,c)$ is a monotonically increasing convex cost function:

$$\partial V/\partial h > 0, \partial^2 V/\partial h^2 > 0 \text{ and } \partial V/\partial c > 0, \partial^2 V/\partial c^2 > 0. \quad (5)$$

In this specification, utility from children is traded off by the disutility from performing domestic tasks. G represents a person's gender role identity. Higher values of G imply more egalitarian identity and a higher disutility from a given amount of time spent in household labour for women and a lower disutility for men, respectively. Since we assume that the total amount of time can only be spent on either paid work or domestic labour, this also implies greater relative utility from paid work for women with more egalitarian gender role identities and for men with more traditional gender role identities.

Following a collective approach as suggested by Chiappori (1992), the model assumes that two individuals within the household with distinct utility functions arrive at Pareto-efficient allocations. The male (female) partner is assumed to maximise his (her) utility subject to his (her) partner's reservation utility U^R , technology and budget constraints in the form of men's and women's wage rate $w_{m,w}$. The model assumes transferable utility, which means that the utility of both partners in a household is equalised through transfers of private consumption at level τ and domestic work time from one to the other. In this setup, bargaining processes over private consumption become irrelevant for the efficient provision of the public good children. The result also does not depend on whether the male or the female partner is assumed to be maximising on behalf of the household (Bergstrom, 1989). The household maximisation problem can be expressed as follows:

$$\text{Max } h_m, h_w, c_m, c_w, x_m, x_w, \tau \quad U(k) - f(G_m)V(h_m, c_m) + x_m \quad (6)$$

s.t :

$$k = k(h_w + h_m + c_m + c_w). \quad (4)$$

$$x_m = (1 - h_m - c_m) w_m - \tau \quad (7)$$

$$x_w = (1 - h_w - c_w) w_w + \tau \quad (8)$$

$$U(k) - f(G_w)V(h_w, c_w) + x_w \geq U_w^R \quad (9)$$

As frequently shown, under the transferable utility assumption, the above problem simplifies to maximising the joint household surplus (e.g. De Laat and Sevilla Sanz 2006; Ermisch 2003). Although under transferable utility the marginal rate of transformation between income and the number of children is the same for both partners, the marginal rate of transformation between the time devoted to household labour and the number of children can vary between the two partners. Thus, the model allows for a possibly higher productivity of many women in domestic work compared to their

partner. As derived by De Laat and Sevilla Sanz (2006), the optimum is defined as the point where both spouses equalise the marginal utility of time spent on the provision of the public good (children) to the combined marginal cost of time spent on both domestic and paid work.¹¹

Based on the derived comparative statics (see De Laat and Sevilla Sanz 2006), the optimal number of children is negatively related to women's wages, since they increase the opportunity costs of domestic work, which is in line with Becker's prediction. In addition, the optimal number of children is decreasing in women's egalitarian gender role identities, since the latter raise the shadow price of women's domestic work, thereby reducing the female partner's optimal amount of household labour and the number of children. At the same time, men's egalitarian gender role identities should be positively associated with childbearing. Given that the male and female partners' time are substitutes in the production of domestic work, the male share of the total domestic work time would be increasing in women's egalitarian gender role identities, since the latter decreases her domestic work time and increases her partner's. As a widespread discrepancy between many women's gender role expectations and their more traditional domestic labour practice remains, frustration due to this inconsistency are quite likely. By contrast, the sample of men with relatively traditional gender role identities but quite equal division of housework and childcare is likely to be very small. Therefore this identity violation is difficult to test in the empirical analysis. The reverse inconsistency of men or women having to do less domestic work than expected based on their gender role identities is less likely to invoke feelings of frustration. Hence, I assume that the match between women's relatively egalitarian gender role identities and domestic work division will be more important for childbearing decisions than moderating effects of men's identities.¹² Empirically, these predictions generally apply to the analysis of first and second births.

This model assumes similar negative utility derived from childcare and housework. While existing evidence generally confirms that many people perceive housework as burdensome and repetitive (Coltrane 2000; Twiggs, et al. 1999), the empirical evidence for childcare is partly inconsistent with the model predictions. Childcare is often

¹¹ For formal proof and derivation of the comparative statics, see De Laat and Sevilla Sanz 2006.

¹² This may change, however, if men start to show similarly large diversity in their gender role identities as women.

considered more rewarding than housework, as one can build up a relationship with the child. Both mothers and fathers have also been found to get more attached as they spend more time with their newborns and infants (Daniels and Weingarten 1988; Fox 2001; McMahon 1995; Pleck 1981). This may increase their utility from having children or decrease their disutility from performing childcare. At the same time, some studies also find greater frustration especially with caring for infants due to reduced autonomy (Bird 1999, Spitze and Loscocco, 2000). Existing theory and evidence are unclear regarding the difference in the effects of housework and childcare on further childbearing. The empirical analysis will examine whether the association between shared childcare (as opposed to a traditional division) and the likelihood of a second birth is indeed positive for women with relatively egalitarian identities and whether the effect is of similar importance as couples' division of housework. One caveat is that the available measures of housework and childcare in the data are not comparable. They are also not detailed enough, especially for childcare, to allow a more in-depth analysis of how the effect of an (un)equal division on childbearing may vary between the two types of activities.

Apart from the gender role identity specifications in both partners' utility functions, the model assumes homogeneous preferences. There may be other motivations which affect the desire for children such as a individualist or materialistic value orientation (Liefbroer 2005; McDonald 1997; Mitchell and Gray 2007) or affective values attached to having children (Henz 2008), which I cannot capture with people's gender role identities. Mitchell and Gray (2007) find differences in conceptions of career versus parenthood to be more important in explaining variations than selfishness or materialism in childless people's desires and intentions of having children. Liefbroer's (2005) results also suggest that anticipated costs of women's careers and individual autonomy are the most important factors for women's childbearing decisions. Hence, a model representing people's perceived trade-off between parenthood and a career including their preferences for domestic work and opportunity costs in terms of foregone wages is assumed to cover the most central aspects of differences in people's desires to have children. A notable exception is emotional fulfilment people expect from parenthood, which may also vary between partners. This would not make a difference if utility is assumed to be transferable but without that assumption differences in partners' child preferences can lead to an inefficient provision of the number of children or to lower consumption of private goods of one partner (Ermisch 2003).

The model is based on cooperation and a certain degree of altruism between partners, since it includes an assumption that each person maximises his/her utility under consideration of the partner's reservation utility. It is debatable whether or not the assumption of a cooperative allocation of public and private goods is realistic. This has been criticised for underestimating the extent of self-interest and negotiation going on within families (e.g. England 1993; Nelson 1995; Ott 1992). Cooperative and non-cooperative bargaining models have been proposed to capture the significance of bargaining power that can vary between people and over time. For instance, a cooperative Nash bargaining solution would add a weight to the individual partners' utility function in determining household decision-making. However, in absence of information on partners' relative bargaining power or decision-making rules, such weighting is impossible to implement defensibly. With respect to most day-to-day family situations, many scholars have argued that cooperation between spouses or partners is generally realistic (Ermisch 2003; Lundberg and Pollak 1993; 1996; Ott 1992).

However, some authors suggest that having a child has more severe long-term negative consequences for the carer's bargaining power than most other day-to-day decisions. Ott illustrates the decision to have a child in the form of a prisoner's dilemma, where in absence of non-binding contracts none of the partners will agree to interrupt market work for the care the child needs despite the large welfare gains of a child for the family as a whole (Ott 1992). The solution to such a non-cooperative game will depend on the assumptions of bargaining power, on whether the threat point is a traditional division of labour within the existing relationship¹³ or separation (Lundberg and Pollak 1993), and on other factors that help enforce implicit or explicit contracts e.g. trust, social norms, legislation (Ermisch 2003; Lundberg and Pollak 1994). Trust between partners may be fostered by reaching mutually satisfying agreements on many small issues in advance of big decisions like childbearing. Cheating will be unattractive for each subsequent decision as long as either partner recognises the value of maintaining trust in order to achieve continuing future sequences of agreements which outweigh the one-off gain (Schelling 1960). Without strong assumptions with respect to enforceability of contracts it is quite likely that the result of an uncooperative bargaining model, as this would imply

¹³ Lundberg and Pollak (1993) present a model where partners' threat point is a traditional division of labour within marriage, which minimises cooperation between partners. This separate sphere bargaining model differs in its distributional implications from divorce threat bargaining models.

an inefficiently low level of domestic work (Lundberg and Pollak 1994) which would result in a fertility decline and an overprovision of labour force participation. It is debatable whether the decline in fertility rates and housework time between the 1960s and 1980s may be interpreted as signs of inefficiency, or whether the stability (or even slight increase) of UK fertility rates at levels just below replacement-rate since the mid-1990s and the stability in parental childcare time provide more support for assumptions of efficiency. In this research, relative efficiency is assumed in the number of children couples have.

Transferable utility between partners through transfers of private goods' consumption is based on the assumption that the marginal utility of transfers by the higher earning partner to the partner with lower earnings exceeds the marginal utility of an increase in the 'richer' partner's income. This assumption may be violated if a person is not very altruistic or if the income difference between partners is relatively small, making the positive difference in marginal utility from a transfer insufficient (Ermisch 2003). The assumption of income pooling has been questioned based on empirical evidence that found a positive association between women's higher incomes and greater spending on their own and children's clothing (Lundberg, et al. 1997), even though this was only found for families with more than one child. Browning and Lechene (2001) suggest that the distribution of incomes affects expenditure patterns in couples mainly when partners' earnings are similar, while it does not for couples with relatively large differences in incomes. The data do not provide information on the distribution of partners' control over resources. While there is some strong evidence against the income pooling assumption, it may be acceptable in particular for couples with just one young child where the distribution of incomes is often quite unequal. If the shared income assumption is violated, this would lead to lower consumption of the private good for the partner with lower earnings and therefore unequal utility (Ermisch 2003). Even if incomes are shared, utility may still be unequal between partners, e.g. due to gender differences in perceived entitlements (Sen 1991).

Beblo (2001) develops a dynamic model of family time allocation, which assumes that current time spent in the labour market is likely to provide greater long-term returns than current time spent on domestic work. In such a model, even the partner with lower earnings would not specialise in domestic work. Such a model is likely to predict a

stronger negative effect of women's domestic work share on the number of children, if the longer-term losses exceed those in the short-term. Since the general predictions are likely to be the same, the static model appears to be an acceptable approximation for deriving hypotheses regarding the next childbearing decision.

A rational choice model that incorporates gender role identity captures identity theory's prediction that women's egalitarian gender role identities should reduce couples' childbearing, while men's domestic work share should increase it. In addition, the model suggests influences of external circumstances, such as women's wage rate, and captures the trade-off between positive utility from having children and disutility from domestic work. The opportunity cost argument and this trade-off may be two explanations for why some people's housework time and relative contribution do not match their gender role identities. By contrast, the social constructivist perspective alone provides very limited explanations for an inconsistency between identities and behaviour, except for competing identities which are not available in the data. These may also be dependent on situational circumstances such as wage or educational differences.

2.5.2 The gender division of labour after couples become parents

When couples actually do become parents, one perspective of neo-classical household economics would predict that couples' household consumption of private and public goods is generally maximised through complete specialisation with one partner being only active in the labour market and the other engaging exclusively in domestic work. The way in which partners divide up the work is assumed to depend on their comparative productivity in market work and household labour, respectively. Assuming constant or increasing returns to market work and household production, even small differences between partners would justify complete specialisation and investment in sector-specific human capital. Only when productivity in household production varies over the life cycle, e.g. as a result of childbearing, Becker (1991) also shows that it may be efficient for one partner to allocate time to both market and household work, as in many families consisting of a main breadwinner and a part-time worker. This would be the case before and after the main childbearing years when the marginal product of time spent on household production is lower than their wage rate. Without information on housework and childcare productivity, conventional neo-classical models suggest that the direction of specialisation is determined by relative productivity in market work often measured as

partners' relative wage rate (Becker 1991; Ermisch 2003). However, as Becker (1991) already pointed out, preferences for collaboration in housework would reduce the benefits of specialisation. Similarly, we would expect the result to vary if heterogeneity in women's and men's gender role identities is considered.

Identity theory would predict men's and women's identities in terms of gender and parenthood to influence each partner's own contribution to childcare, housework and paid work. Furthermore, each person's identity may also affect the partner's paid and domestic work time through role taking, which refers to a cognitive process that involves taking another person's identity into account when acting (Mead 1934; Stryker 1957; Turner 1962). More egalitarian gender role identities of either partner are expected to result in a more equal division of childcare, housework and paid work after the birth of the child. Generally, identity theory also predicts social norms of motherhood and fatherhood which are often more gendered than those for childless couples to lead to a more traditional division of labour for most couples, which over the medium or long-term may then be reflected also in adaptations of identities for mothers and fathers (Ellestad and Stets 1998). However, identity theory provides little theoretical suggestions as to how economic resources may impact on the division of labour within couples after they become parents. The earlier model encompasses the main predictions of identity theory and neo-classical economic theory.

I assume again that women's and men's utility is a positive function of consumption of a private good (x), a public good (k) which are the number of children, and is negatively related to the time spent doing housework (h) and childcare (c):

$$U_w(k, h_w, c_w, x_w) = U(k) - f(G_w)V_w(h_w, c_w) + x_w \quad (1)$$

$$U_m(k, h_m, c_m, x_m) = U(k) - f(G_m)V_m(h_m, c_m) + x_m \quad (2)$$

Again the disutility of domestic work for women is greater, the more egalitarian their gender role identities (G_w). For men, egalitarianism is assumed to reduce the disutility compared to men with more traditional gender role identities (G_m).

Assuming the same income and time constraints and transferable utility between partners, the model predicts the female partners' domestic work share after birth to be

decreasing in their wage rate, holding everything else constant, including men's wage rate. By contrast, the male partner's share of time spent on domestic work is expected to rise in women's wages (De Laat and Sevilla Sanz 2006). Furthermore, women's domestic work share would be decreasing and their paid work share increasing in their egalitarian gender role identities. The opposite relationship is assumed between men's egalitarian gender role identities and their share of paid and unpaid work.

Whereas the effects of women's relative wage rate are in line with neo-classical economic theory, the inclusion of gender role identity creates more ambiguity regarding the extent of specialisation in the division of labour that will take place. For couples in which the husband earns more and both partners hold relatively traditional gender role identities, women's disutility from doing all the housework and childcare is very small at most. Hence, it is unlikely to outweigh the benefits of specialisation. Equally for couples where both partners identify with egalitarian gender roles and where a woman earns more than her partner, specialisation based on reversal of traditional roles is assumed to be optimal. However, for couples where gender role identities are not situated at the extreme ends, vary between partners or contradict the couples' relative wage constellation, the extent and direction of total change in the division of labour when couples become parents are ambiguous from the outset.

Time investment in paid work or other marketable human capital has been argued to have long-term advantages over investment in domestic work, since the former is more easily transferable in case of relationship breakdown (England and Farkas 1986). In a dynamic model which takes into account current investment in human capital on future returns to paid work or on future bargaining power, the direction of the effects of women's relative wage rate and either partner's gender role identity would be the same. However, the size of the effect is likely to differ from those in a static model which underestimates the disadvantages that time spent on household labour has for bargaining power in future periods. The effect of women's relative wages on specialisation would be smaller given the greater importance of wages for future bargaining power. The effect of gender role identity in particular would be larger if women with egalitarian gender role identities were putting more emphasis on maintaining their human capital and their future bargaining power because they are aiming for a career and want their husbands to do more domestic work than those with more traditional identities.

A lot of criticism has focussed on assumptions of effective altruism within the families. Several scholars have suggested that the selfish motives of individuals within the family are of growing importance in the context of high family instability and non-binding contracts (Beck and Beck-Gernsheim 1995; England 1993; 2005; Lewis and Giullari 2005). A variety of cooperative bargaining models have been developed which consider each person's pay-off in comparison with alternatives inside (Lundberg and Pollak 1993) or outside the relationship (Manser and Brown 1980; McElroy and Horney 1981; Ott 1992), both of which are thought to influence each person's bargaining power. Cooperative bargaining models often consider differences in partners' economic resources, but less attention is given to bargaining skills or differences in perceived interests and contributions which are quite likely to be gendered (Katz 1997; Sen 1991). Without any information on decision-making rules within the couple relationship or gendered differences in perceived contributions and bargaining skills, the implications regarding the effects of relative wages and gender role identities are the same in cooperative bargaining games as in a unitary framework.¹⁴ Differences in women's gender role identities may capture some variations in the perceived value of their own contributions and the resulting confidence in negotiations with the partner (Hawkins, et al. 1995; Valian 1999)¹⁵. However, data limitations unfortunately do not allow me to consider these factors directly in the empirical analysis of how men and women adapt their division of labour within the household.

Beblo (2001) has suggested that the effect of gendered social norms and policies around the transition to parenthood and as a result the non-symmetric bargaining power gained through resources for women can be modelled in a Stackelberg leader/follower game. This type of game is uncooperative as it assumes that partners take turns in maximising their utility taking the other partner's choices as given. A Stackelberg game of the division of labour after a birth assumes that men will be the first to take their decisions about allocation of time to the labour market and women will then have to follow taking

¹⁴ One difference is that the unitary framework results just in a single solution, while bargaining models identify a set of pareto-efficient arrangements from which one is chosen based on the conflict point. In many static models, the conflict point is assumed to be a fixed and exogenous outcome for each partner in case of relationship breakdown.

¹⁵ These studies suggest that women's gender role identities shape their comparison referents. Women who identify with egalitarian gender roles are more likely to compare themselves to their male partners, while relatively traditional identities result in mothers making more comparisons with other women.

men's allocation as given (Beblo 2001). The assumption of men's first mover advantage is justified based on partners' age difference giving them more professional experience and on social norms and institutional context such as maternity leave legislation which support men's labour market participation. Even if partners earn the same wage before parenthood, these assumptions will lead to a gendered outcome in the division of labour after birth.

Including men's and women's gender role identities before becoming parents may capture some of these contextual factors, since they are influenced by established social norms and acceptance of institutional structures. They have the advantage of better representing the differences in people's acceptance of norms and institutions and may in part provide a substantive explanation for the leader/follower relationship assumed in the bargaining games. However, a drawback is that they cannot capture any additional direct effects of structural inequalities and policy entitlements, e.g. gender differences in the entitlement to leave after the birth of the child. Given the gendered policy context in the UK with much longer maternity leave compared to paternity leave, the family division of labour model presented above may underestimate the extent to which a shift towards a more traditional, sex-specialised division of labour takes place after couples become parents. If I find strong evidence of a change towards a more traditional role specialisation, even among couples where women's wage rates exceed those of their partners or where both partners adhere to egalitarian identities¹⁶, this could provide support for the rather strong assumptions of an un-cooperative leader/follower game with the male partner taking the first move.

The model extends predictions based on economic considerations in particular partners' relative wage rate and education to also include people's gender role identities. The mechanisms of economic factors are assumed to be general enough to not vary significantly across people with different types of identities, e.g. regarding materialism. Attitudes or identities of gender roles, motherhood, and fatherhood, appear to be particularly important factors during the transition to parenthood (Deutsch, et al. 1993; Ellestad and Stets 1998; Fox 2001; Thompson and Walker 1989). However, omitting other normative influences as well as structural inequalities resulting from gendered

¹⁶ The sub-sample of couples where both partners have relatively egalitarian gender role identities is likely to be very small for drawing generalisable inferences and can only give an indication.

policy entitlements in the UK may limit the model's explanatory power for how couples divide paid and unpaid work after becoming parents.

2.5.3 Domestic labour and relationship quality after transition to parenthood

Economic models of separation and divorce are generally based on a comparison of the discounted stream of utility from a relationship at specific relationship durations with alternatives after relationship dissolution (Becker 1991; Ermisch 2003; Hoffman and Duncan 1995). Changes in (discounted) utility gained from the relationship are assumed to be due to surprises or new information about the partner which are at odds with a person's expectations (Böheim and Ermisch 1999; Ermisch 2003; Weiss and Willis 1997). Most formal models so far have focussed on changes in the financial consequences of separation in terms of women's wages or institutional safety nets such as child maintenance or benefits levels (Becker 1991; Ermisch 2003; Hoffman and Duncan 1995). In their game theory model of the marriage market, Breen and Cooke (2005) assume that partners reveal only after the start of marriage how much they will contribute to domestic work. In their model, this can increase divorce in case of incongruence with expectations. Since the amount of paid work and housework women and men do changes less after the start of a cohabitation or marriage than after the first birth (Gershuny 2003; Gupta 1999), the necessity to adapt the division of labour after becoming parents is at least as likely to give rise to new information in how well expectations of either partner are met.

In contrast to the growing literature on couples' time allocations to paid and domestic work and childbearing decisions, fewer theoretical models have been developed on the importance of the division of housework and childcare for relationship quality. Economists and sociologists have long concentrated on the consequences of the expansion of female employment on divorce risk. Neo-classical economic models predict that a specialised division of labour will lower the risk of divorce, since the gains from staying in a relationship are larger than in one with a more symmetrically structured division of labour (Becker 1991). Since the latter kind of division of labour implies greater financial independence for women, this is often referred to as the 'economic independence hypothesis' (Oppenheimer 1997).

Sociologists have proposed two counter arguments. Oppenheimer has argued that women's employment nowadays is attractive as a family strategy to reduce economic risks of unemployment and increase couples' flexibility (Oppenheimer 1994; Oppenheimer 1997). Since financial pressures are often positively associated with the risk of relationship dissolution (Kiernan and Mueller 1998; Ono 1998; Poortman 2005b), dual-earner couples would be expected to have more stable relationships. Theoretically, more symmetrical roles have also been suggested to provide more shared experience and empathy among partners (Scanzoni 1978; Simpson and England 1981) and more democratic relationships (Beck and Beck-Gernsheim 1995; Giddens 1992).

Empirical evidence is mixed regarding the economic independence hypothesis as well as the benefits of women's employment and symmetrical roles. While some studies find a significant positive association between women's earnings or employment and divorce risk (Hoffman and Duncan 1995), others suggest employed women are more likely to get married (Sweeney 2002) and have more stable marriages (Schoen, et al. 2006). In general, many studies find the effect of women's employment or earnings on relationship stability to depend on other factors such as their partners' income (Ono 1998; Rogers 2004), women's gender role attitudes (Kalmijn, et al. 2004; Sayer and Bianchi 2000) or their additional domestic work burden (Chan and Halpin 2002; Hochschild and Machung 1990; Pina and Bengtson 1993).

Recently the division of domestic work has also in itself received some attention in relation to its effects on relationship quality, since women who participate in the labour market are assumed to expect greater contributions to domestic labour from their partners in order to stay in the relationship. Following sociological identity theory, men's and women's identities regarding their roles as male/female partner in a relationship and as mothers or fathers are assumed to constitute the identity standards for their division of labour (Burke and Cast 1997). Discrepancies between these standards and the actual division of childcare, housework and paid work are expected to result in increased levels of stress, frustration or anxiety. Dissolution of the relationship is one strategy to reduce this. Existing research has provided some support for gender role identity as a moderating variable for the effect of couples' division of paid and domestic work on relationship quality (Greenstein 1995; Kalmijn, et al. 2004; Pina and Bengtson 1993; Wilkie, et al. 1998), even though a few studies find no effect (Chan and Halpin 2002;

Ruble, et al. 1988). Another strategy to reduce anxiety or frustration due to violation of one's gender identity is to adapt one's identity to the present situation or one's partner's identity. There is also some evidence of such a response, especially for women (Berrington, et al. 2008; Himmelweit and Sigala 2004; Johnson and Huston 1998).

Other studies (Frisco and Williams 2003; Voydanoff and Donnelly 1999; Wilkie, et al. 1998) have conceptualised people's subjective evaluations of the domestic work division in terms of unfairness perceptions based on the distributive justice perspective (Deutsch 1985; Walster, et al. 1978). However, consequences of violation of one's identity are varied and complex; and perception of unfairness is just one possible reaction among several that can lower couples' relationship quality. Given the lack of specific information of how men and women perceive the division of domestic work, women's gender role and motherhood identities seem acceptable for capturing important differences in expectations in terms of their own and their partners' domestic work involvement.

To capture subjective evaluations of the division of labour as well as effects of changing circumstances after the first birth on couples' relationship quality, I will draw on a model similar to the one presented in the previous sections. Women's and men's utility from the relationship is positively dependent on the number of children (k), since children represent relationship specific goods which should strengthen the bonds between parents. The number of children is again assumed to be an increasing function of the sum of time both partners spend on housework and childcare, as in equation (4) above. The total effect of children on relationship satisfaction is ambiguous, as satisfaction from the relationship is at the same time negatively related to men's and women's own housework (h) and childcare time (c) with the effect size depending on their gender role identities (G). Women's and men's utility from the relationship is the same as given in equations (1) and (2) above.

The effects of the transition to parenthood on the utility from the relationship are not modelled directly but only through the changes in the respective components of the model. For simplicity, I do not consider discounting of expected utility in future periods. Since the transition to parenthood results in an increase in housework time and a reduction in paid work for most British women (Gershuny 2003), I would expect this to

impact more negatively on the utility from the relationship for women with egalitarian gender role identities. Most men generally experience little change in either housework or paid work time. Therefore surprises are less likely to occur than for women after becoming parents. Furthermore, violations of men's traditional gender role identities as a result of an equal division of domestic work are relatively rare at this life-cycle stage. In addition, the sample of such couples is not large enough to explore this effect.

The model assumes the effects of time spent on housework and childcare to be similarly negative for the utility of men and women and for the effects to vary by their gender role identities. While there is some empirical evidence in line with this assumption for housework (Pina and Bengtson 1993; Wilkie, et al. 1998), views in the literature on the effect of childcare are more complex. On the one hand, some scholars conjecture that when fathers and mothers both spend time with their child, this may enhance empathy and closeness of both partners as a result of the shared parenting experience (England and Kilbourne 1990; Scanzoni 1978; Simpson and England 1981). This is supported by a recent study which reports a positive association between shared childcare and relationship satisfaction among parents of school-aged children (Kalmijn 1999). On the other hand, various empirical studies find shared childcare to be associated with greater conflict frequency and lower relationship satisfaction (Baruch and Barnett 1986; Crouter, et al. 1987; Hoffman 1983; Russel and Radin 1983), possibly in part due to violation of mothers' carer identities (Gatrell 2007; Thompson and Walker 1989). While the former view is not captured in this model, the latter relationship would be in line with the presented model. The available measures of housework and childcare in the data are not comparable and the measure for childcare is not detailed enough to allow a direct comparison of the effect of different childcare arrangements compared to the division of housework within couples on relationship quality. Ideally, this would also include measures of how different childcare tasks are divided and how much childcare time both partners spend together as opposed to separately, since effects on bonding with the child and empathy with the partner are likely to vary.

The model supposes that time not devoted to housework or childcare is devoted to paid work. This assumes that women and men have no leisure time. Even though this is an exaggeration, empirical evidence suggests indeed that UK couples with pre-school children have a very large workload. Furthermore, there is on average no difference

between women's and men's amount of leisure time that is left after paid and domestic work (Eurostat 2004).¹⁷ Wage rates and gender role identities of mothers and fathers are assumed to be exogenous, even though mothers with unhappier marriages have been shown to increase their labour market participation already before their marriages end (Schoen, et al. 2006).

As for the decision to separate, each partner is assumed to compare the current utility from staying in the relationship with the expected utility after separation. Under the assumption of transferable utility between partners, couples will therefore separate if the combined utility from separating exceeds that of staying in the relationship:

$$(U_w^s + U_m^s) - (U_w^r + U_m^r) > 0 \quad (10)$$

The utility in case of a separation will depend on the assumptions made for each partner's alternatives outside the relationship and on the costs of dissolution. Since over 90 per cent of divorced mothers have custody of their children after divorce in the UK (Department for Work and Pensions 2008), I assume that both partners will generally expect the mother to be the resident parent on separation. I make the simplifying assumption that the father will have relatively little access to his children and will lose most of his utility from having children.¹⁸ The model formulated above would assume that this loss is independent of the division of labour within the couple. For fathers, the effect mainly depends on how the reduction in childcare is evaluated based on men's gender role identities. Alternatively, one may suggest that the utility loss from being separated from the child(ren) is greater when fathers previously spent time with them and had established a stronger bond with them compared to fathers who did not play an important part in their children's lives. The statistical analysis of relationship stability (Chapter 6) will examine the extent to which the relationship specified in the model receives support, or whether future work would benefit from considering more complex mechanisms between both partners' childcare involvement and relationship stability.

After separation, mothers' time spent on domestic work decreases on average, while their paid work time increases (Gershuny 2000). The reduction in domestic work will be

¹⁷ Note that these averages conceal some significant group differences, e.g. between employed and non-employed mothers.

¹⁸ For an example of how this post-separation state can be modelled as a non-cooperative Stackelberg game with mothers as the leaders see Ermisch (2003).

assessed more positively by women with egalitarian gender role identities. Equally the potential increase in time many women need to work for pay after a separation will be assessed less negatively by women with relatively egalitarian gender role identities. Therefore, the risk of separation is expected to be a positive function of women's egalitarian gender role identities. As a result, to maximise the chance of a stable relationship, men's domestic work share will be increasing in women's egalitarian gender role identities. As shown in other economic models (Becker, et al. 1977; Becker 1991; Hoffman and Duncan 1995), the income reduction after separation is predicted to be smaller, the higher women's wages.

Without the assumption of transferable utility, separations would be more likely to occur, for only one partner's utility from the relationship would need to fall below what he or she expects to gain after a potential separation. However, as mentioned before, the assumption of transferable utility may be acceptable among couples with small children where incomes are often unequal. It also approximates the larger obstacles to divorce or separation most couples with pre-school children are likely to perceive compared to childless couples or those with older children.

The extended rational choice model considers outside alternatives in case of separation including the subjective evaluation of the total amount of paid and domestic work. Thus it provides a more general account of why couples may experience a drop in relationship satisfaction after becoming parents and decide to break-up than is the case if a neo-classical economic perspective is applied. There are however several limitations. To evaluate the effect of new information about the partner or the relationship after the transition to parenthood, ideally either partner's expectations would need to be known in detail. Women's gender role identities are likely to represent only some of these expectations. Other identities relating to people's role as partners or carers of the child are not known. Furthermore, other changes, e.g. in time couples spend together and in communication between partners as a result of the increased workload unfortunately cannot be captured due to data availability. I also have no information about differing alternatives in the (re)marriage market, so these aspects cannot be taken into account when comparing expectations for the potential post-separation state. This implies considerable limitations of such a model which focuses largely on division of labour processes within the relationship for exploring couples' separation decisions.

2.6 Theoretical contribution and summary of hypotheses

This chapter has developed a theoretical framework to examine whether including gender role identity into a rational choice model can improve explanations of family decisions in terms of childbearing, the division of domestic labour, and relationship quality after couples become parents. The drop in fertility rates, the expansion of female employment, and high family instability have given rise to considerable diversity in gender role identities especially among women. It is unknown whether or not this is just part of a transition in gender roles which may eventually result in more homogeneous preferences in a different equilibrium. Over the course of what is likely to be a long transition phase, explicit consideration of this diversity in subjective realities of paid and domestic work involvement may represent a fruitful extension of conventional rational choice models.

The proposed framework draws on sociological identity theory to better understand the importance of women's and men's identities for childbearing and division of labour decisions as well as perceived relationship quality. It provides one possible explanation for why a traditional division of domestic work may be negatively associated with childbearing and relationship quality for some but not all women. Furthermore, it allows comparing normative versus economic explanations for the shift towards a more traditional division of labour most couples experience as they become parents for the first time. At the same time, the model retains the advantages of the neo-classical framework considering relatively general mechanisms based on income and price effects which can account for the situational trade-offs couples face and for possible incongruence with their gender role identities. However, combining rational choice theory with a social constructivist perspective regarding gender roles and identities associated with motherhood and fatherhood requires some strong assumptions. It is based on the assumption that people's gender role identities regarding paid work and care are at the top of the identity hierarchy and therefore salient for the behavioural decisions studied. This seems justified based on widespread evidence confirming that differences in expectations regarding gender roles are of particular importance for the gender division of housework and childcare (Coltrane 2000), especially among mothers and fathers (Arendell 2000; Thompson and Walker 1989). However, due to this context specificity, the framework may imply greater limitations and fewer benefits for other areas of gender and family behaviour and other life course stages. Before generalising it

to other questions or contexts, the heterogeneity in people's identities and their salience for the issue at hand need to be examined. Another important limitation of this framework is that it cannot explain how differences in people's gender role identities are (re)created by past experiences and structural constraints. While I assume that gender role identities are exogenous and change at most slightly in the relatively short time frame of this analysis, this does not deny that past experiences and current external constraints shape people's identities. This approach should be understood as but one possible way to systematically capture differences in people's subjective parenthood experiences in view of data constraints on many relevant external influences.

Based on this theoretical framework, I can narrow the main research questions for the empirical analysis down to:

1. To what extent can both partners' relative earnings and their gender role identities explain the shift in their division of housework, childcare, and paid work after becoming parents?
2. How does the association between domestic work and the likelihood that couples have a first or second child vary by women's gender role identities?
3. How does the association between the division of domestic labour and relationship quality after couples become parents vary by women's gender role identities?

For each question, I have presented a model assuming transferable utility, cooperation between partners, and Pareto-efficient outcomes. Restrictions to these limiting assumptions and how the results might differ if some of them were relaxed have also been discussed. Based on these models, the following hypotheses have been derived for each of the three questions which will be tested in the empirical analyses in Chapters 4 to 6.

As for the effect of couples' division of domestic work on childbearing (Chapter 4), the optimal number of children is expected to be lower, the more egalitarian women's gender role identities and the higher their wages. To maximise couples' likelihood of a first or second birth, men's share of housework and childcare is expected to be an increasing function of their female partners' egalitarian gender role identities.

In terms of how men and women change their contributions to paid and domestic work after becoming parents (Chapter 5), men's share of domestic work is expected to be increasing in both partners' egalitarian gender role identities and in women's relative wage rates.

For the analysis of relationship quality (Chapter 6), egalitarian gender role identities for women are expected to be negatively associated with their levels of satisfaction with the partner and the stability of their relationships. To maximise relationship satisfaction and stability, men's share of childcare and housework will be an increasing function of their partners' egalitarian gender role identities.

3 Methodology and research design

This chapter outlines the details of the research design and the data sources used to investigate the research questions. This includes considerations regarding the level and unit of analysis and the kind of data sources to be used. In Section 2, the strengths and weaknesses of the main data set, the British Household Panel Study, are discussed in relation to the research questions. Particular attention is given to sample selection and potential sources of bias, especially through non-response. Section 3 evaluates the limitations of the BHPS indicators for the division of housework and childcare by comparing them to measures based on time use diaries. Section 4 presents the operationalisation of the other main dependent and independent variables to this analysis. It also highlights important limitations to be kept in mind when interpreting the results from the statistical analysis and discusses strategies to deal with item non-response in the variables. In the final section, I examine whether there have been significant changes in the main variables over the observation period from 1992 to 2005 which may cause problems in an analysis where all the years of data are pooled.

3.1 Research design choices

Questions of how to combine employment and domestic work arise mainly in households with caring responsibilities, i.e. households that need to provide more than just maintenance of adults. The arrival of every newborn child is a major event that involves profound changes in terms of care work. The changes in the division of labour have been found to be greatest when the domestic work load is still relatively low and hence, the need of adjustment greatest, as is the case when couples have their first child (Cowan and Cowan 1992; Sanchez and Thomson 1997; Schulz and Blossfeld 2006). Therefore, most of the analysis will focus on couples' transition to parenthood. I also include couples' likelihood of having a second child in the first empirical analysis to enable a comparison of the results with previous studies, which have mostly examined second birth probabilities. Furthermore, the decision to have a second child is an important issue for many couples that just experienced parenthood for the first time. Couples often want a second child within a relatively short time (Miller and Pasta 1994.). When choosing the right time, couples seemingly aim at ensuring that children can be playmates while limiting the burden of infant care (Westoff, et al. 1961).

Given the increasing percentage of children born to unmarried couples (Chan and Halpin 2005; McConnell and Wilson 2005), I include all couples living in the same household irrespective of marital status. This study will therefore focus on married and cohabiting men and women who become parents. Although on average single mothers and fathers face even greater work-family conflict, as they have nobody to share the work with, they are not included, since the negotiations of division of unpaid work between two people of opposite sex is of particular interest to this analysis of changing gender roles. The contrast with cohabiting couples of the same sex would be interesting, but is left out from the analysis because the number of such couples with children in the available data is very small.

The problem of finding suitable earning and caring arrangements affects all parents, although social groups vary by the constraints they face, including differences in state or employer provision of family-friendly policies. Secondary data analysis of a large sample of a Western country's population seems suitable to examine the issue across population groups, even if detailed differences in perceived constraints cannot be taken into account. While primary data collection would have the advantage of tailoring the interview questions to the specific project, it would be relatively costly and time consuming to gather longitudinal data following couples over time as they become parents. Therefore, I opted for a statistical analysis of secondary longitudinal data covering a wide range of couples to observe sequential events in people's lives and to produce findings that are generalisable to a larger population. However, this naturally limits the information available to the range of questions asked by the survey.

A comparison of two or more welfare states would allow a better interpretation of different policy contexts. However, links between the cross-country differences in the gender division of family work and welfare policies are difficult to establish. Moreover, availability of cross-nationally comparable longitudinal data containing information on the division of housework and childcare, as well as people's gender role identities is very limited. For these reasons, cross-national comparison has been dismissed in favour of a more in-depth analysis of men and women in couples, while considering behavioural and attitudinal factors in one country.

Great Britain has been chosen as the country of analysis since, as illustrated in Chapter 1, there has been little evidence so far on how couples' domestic work division may matter to childbearing decisions and relationship quality. Furthermore, the UK is one of the few countries where suitable longitudinal individual level data is available. Whereas Hakim (2000) has argued that the relatively few employment regulations and family-friendly policies makes the British case particularly suitable for exploring the expression of unrestricted preferences, I rather take the view that historically embedded institutional frameworks always provide incentives and constraints. Britain will be regarded as just one example of a relatively liberal welfare state, where despite general trends towards more liberal gender and family values, policy assumptions around the transition to parenthood remain gendered. Generalisation to other national contexts can be made only with caution, keeping in mind the context in which British couples make their choices.

3.2 Main data source

The British Household Panel Survey (BHPS) provides the main data source for the statistical analysis. The BHPS was launched in 1991 with a nationally representative sample of more than 5,500 households. It has no predetermined end date and at the time of writing, the latest wave available for research was from 2005. The BHPS re-interviews the same individuals once a year, which makes it suitable to study life course transitions at the individual and household level. Furthermore, every adult household member is interviewed, which is crucial for this thesis as it permits exploring the intra-household allocation of paid and unpaid work (Taylor et al. 2005). Waves 2 and 11¹⁹ of the BHPS include one-off questions to elicit retrospective information on relationship and fertility histories of the panel members before joining the panel (Pronzato 2007a). A core of questions on employment, income, and family structure have been asked each year alongside a component of 'rotating core' questions, e.g. on gender role attitudes, which have been repeated every other year. However, some questions that are important for this study are not asked every year. For instance, the question about the division of childcare responsibility was interrupted or changed at waves 2 and 3. Therefore, the parts of the analysis containing the childcare variable will only start from wave 4. Information on satisfaction with the partner has been collected only from wave 6 and was interrupted at wave 11. The analysis for the third sub-question of this thesis focussing on satisfaction

¹⁹ For most of the respondents, the histories were collected at wave 2. At wave 11 these data were collected only for the extension samples for Scotland and Wales which joined the panel at wave 9.

with the partner after the transition to parenthood is therefore based on data from wave 6 onwards.

3.3 Sample selection

The original sample was designed to be representative of Great Britain (England, Scotland and Wales) but excluded Northern Ireland. The BHPS incorporated a sample of over 2,000 individuals from the UK European Community Household Panel between 1997 and 2001. This subsample is excluded from this analysis, since it over-sampled low-income households, which would increase the risk of bias. In 1999, additional samples of over 1,500 households each for Scotland and Wales were added to the BHPS, as was a sample for Northern Ireland in 2001. I include the extension samples for Scotland and Wales to increase the sample size of couples becoming parents, which otherwise would be very small especially for the third part of the analysis. However, I exclude the extension sample from Northern Ireland, since the latter provides a quite different cultural and historical context for childbearing and family breakdown (Office for National Statistics 2009).²⁰ For the sections focussing on couples that become parents during the observation window, I apply the condition that both partners need to have responded at least one year before and two years after having their first child (for which the date of birth is available). As a result, couples that start living together after a pregnancy occurred or who have children very quickly after the start of the cohabitation are likely to be underrepresented. Since parenthood may be particularly challenging for some of these couples, this may lead to an underestimation of the negative effects of parenthood on the division of labour and relationship quality. To gain some understanding for this effect, differences in the characteristics of couples entering the panel only during the year when they have their first child with those observed for longer are examined in Chapter 5. The loss from excluding couples from the ECHP sample and the Northern Ireland sample is approximately 5 per cent of the couples. Including the Scotland and Wales extension samples increases the total couple sample by about 8 per cent for the first and second part of the analysis (Chapters 4 and 5) and by 15 per cent for the third (Chapter 6). As a result of including the extension samples for Scotland and Wales, there are about 2.5 times as many individuals for Scotland and 4 times as many for Wales in the analysis sample compared to their actual proportion of the UK

²⁰ Northern Ireland is the only region with predominantly Catholic population. Even though some recent demographic trends have been similar to the other regions, it still has a higher birth rate and lower rates of cohabitation and divorce.

population (Taylor, et al. 2005). The next section discusses strategies to reduce the bias due to economic and social differences between the three regions using weights.

3.4 Sample design, attrition and wave non-response in the BHPS

Sampling errors, attrition and wave-non-response represent three sources of bias in a panel survey. Sampling errors refer to discrepancies at the design stage between the survey sample achieved and the population it is supposed to represent. Wave non-response includes missed responses at one or more waves by survey members who respond again at a later wave. Attrition refers to non-response without return at a later wave, which is particularly acute in an indefinite life panel survey like the BHPS. Although the starting sample in 1991 was supposed to be based on an equal probability selection mechanism, some deviation from a truly equal probability selection occurred, due mainly to the method of selection of households within addresses in Scotland and to a lesser degree in England and Wales (Taylor, et al. 2005). A comparison of the 1991 BHPS sample and a sample of anonymised records from the 1991 census showed differences mainly in the area of economic activity (Crouchley and Oskrochi 1999; Taylor 1994), Men in full-time employment and economically inactive people were underrepresented, while women in part-time employment were over-represented. One option to correct for this bias would be to use sample design weights, which however are unavailable separate from attrition adjustments in the BHPS. The latter are calculated as the product of the design, household non-response and individual non-response within households.

If wave non-response or attrition occurred completely at random, it would reduce the sample size and would therefore lead to lower confidence levels of the estimators. Given the sample size, this would be a relatively small problem. Non-response, however, usually occurs systematically resulting in a biased sample, which is not representative of the underlying population anymore (Rose 2000; Ruspini 2000). Often a person's availability and willingness to give interviews at several consecutive time points is not independent of their characteristics (lifestyle, mobility, social stratum etc). The BHPS organisers have made considerable effort to keep the rate of participation high by sending a short letter of thanks to each of the interviewees along with a gift voucher as well as maintaining regular written contact throughout the year (Taylor et al. 2005). The wave-on-wave response rate among eligible adult respondents was about 90 per cent for

each year²¹ (Jäckle 2006). Nevertheless, any sample excluding people who did not give at least a certain number of consecutive interviews is likely to result in some bias and reduced representativeness.

Specifically for non-response in the BHPS, Uhrig finds the following to be predictive of subsequent non-response: physical impediments to contact, multi-flat accommodations, less time spent at home because of long or odd working hours, and geographic mobility. By contrast, respondents with children, particularly young children, are significantly more likely to remain in the BHPS study (Uhrig 2008). This suggests that the sample of childless couples used in the first part of the analysis may under-represent people working long hours, while there might be less danger of bias through attrition for the other parts that focus on parent couples with small children.

The BHPS provides longitudinal non-response weights (LRWGHT) only for a balanced sample starting in wave 1 (a sample following all members of the original sample who stay in the panel since wave 1 up to the most recent wave). Using this balanced sample, however, would reduce the sample of couples to less than half the couples compared to an unbalanced sample that includes the Scotland and Wales extension samples. Although not ideal, I use an unbalanced sample without weights for the analysis to take advantage of the larger sample size. This seems acceptable based on evidence from a number of studies using the BHPS as well as other household panel surveys²² to compare estimates based on unbalanced and balanced samples correcting for non-response by using inverse probability weights. They find no or very small substantive differences in the magnitudes of the average partial effects of most variables such as education, race, health status and labour market participation, even when there is an association with non-response (Jones, et al. 2005; Lillard and Panis 1998; Watson 2003; Ziliak and Kniesner 1998). In each part of the analysis, I have tried to rerun the final models using the longitudinal weights based on a balanced sample provided by the BHPS team. If longitudinal weights for wave 15 are used, this reduces the sample size to less than 100 couples for the second and third questions (Chapter 5 and 6), which makes it very difficult to identify significant relationships. I also tried a balanced sample up to wave 9, which permits a better comparison of the significance of the main variables for question 1 and 2 but again, the

²¹ 55 per cent of the original sample gave a full interview at wave 13.

²² Most of these studies are based on the ECHP (European Community Household Panel) and the PSID (Panel Study of Income Dynamics), which follow a similar design as the BHPS.

sample size becomes too small for question 3. Since these comparisons are problematic, I will assess in each of the empirical chapters the likely risk and direction of bias by examining whether wave non-response or attrition is significantly correlated with any of the main explanatory variables for the samples of childless couples or those with one child respectively. Since studies of BHPS non-response find that long working hours, lower income and education levels, health status and joining the survey in more recent years are significantly correlated with a higher risk of non-response (Lynn, et al. 2005; Uhrig 2008), controls for these are included or at least tested in the models.

Longitudinal weights for the Scotland and Wales extension samples plus the BHPS original sample are only available from wave 9 (LRWTSW1). They are based on all respondents in wave 9 irrespective of their previous response pattern, which means that they are different from the weights based on the original respondents, which have responded continuously from wave 1 onwards. Hence, I cannot use the existing weights to adjust for the over-sampling of Scotland and Wales. To account for this shortcoming, I include controls for whether the respondent lives in England, Scotland or Wales. However, including regional control variables is not as effective as reweighting and I cannot be absolutely sure whether the results are generalisable to the whole UK population. To test for bias in a different way, I also rerun all the final models in the analysis separately for the regional subsample of England and compare the results with those based on the whole sample. The subsamples for Wales and Scotland are too small for a separate check.

3.5 Other potential sources of bias

During the duration of the panel, respondents only have to recall events that happened within the one-year period between two waves. Although this might lead to some recall errors and mismatch of answers given at two subsequent waves, recall errors are generally smaller than in surveys that rely only on retrospective questions, which look further back (Rose 2000). However, the retrospective questions on past employment histories and family events before joining the panel asked in wave 2 and 11 are likely to suffer from some recall error, as respondents have to recall events from a long time ago. For my analysis, this may introduce bias due to underreporting of separations and childbearing especially from men who fathered children in a previous relationship (Greene and Biddlecom 2000; Rendall, et al. 1999; Vere 2008). Repeated participation in longitudinal surveys might also change respondents' behaviour or attitudes as a reaction

to the questions, referred to as panel conditioning. This has been found to be problematic for voting behaviour, as panel respondents increased their likelihood of voting apparently as a result of participating in the study. However, there has been no evidence so far that respondents change their gender role attitudes, relationship or childbearing behaviour (Rose 2000).

To create a sufficient number of couples, I pool all available waves from the BHPS which contain the necessary variables. In other words, couples' behaviour will be measured around the birth, disregarding the year in which the event takes place. This may be problematic if there have been changes in the values of the main dependent and independent variables over the fourteen year period, which may alter their correlation purely as a result of time trends. Large changes may also point to altered social contexts and qualitatively different meanings of the respective family behaviours. Section 8 in this chapter will examine the extent of changes in the main variables more closely.

As with every survey, there are also risks of considerable measurement error due to misunderstanding of question meanings, faulty assumptions about the validity of the concepts, or mistakes on the part of the interviewers in classifying the answers or influencing the respondent. Unfortunately, I cannot consider the extent of most of these errors. However, for the most central indicators on housework and childcare, gender role identities, and relationship satisfaction, I will discuss their potential weaknesses more in detail.

3.6 Operationalising the main variables

As measures of the division of domestic work within couples are vital for the research questions, this section first discusses the available information on household labour in the BHPS. I then compare these indicators for a BHPS cross-section of couples for the year 2000 with housework and childcare time measures based on the UK Time Use Study 2000. Next, measures of gender role identity are developed, since they are crucial to testing the hypotheses derived from identity theory in Chapter 2. Then, I briefly discuss issues relating to the measurement of the other dependent and independent variables, such as couples' likelihood of having a first or second birth, women's relative and absolute paid work time, both partners' absolute and relative earnings and finally, indicators for satisfaction with the partner and the likelihood that couples separate.

3.6.1 The gender division of housework and childcare

The BHPS contains a few different questions on housework activities and intra-household task allocation. From wave 2 onwards, respondents are asked to give an estimate of the total time spent on housework during a normal week. As a result of the question wording, which is ‘About how many hours do you spend on housework in an average week, such as time spent cooking, cleaning and doing the laundry?’, respondents’ estimates are likely to include mainly time on routine housework. They may therefore underestimate men’s contributions to housework, which are usually larger when non-routine tasks such as household repairs, car maintenance, mowing the lawn, etc. are included.

There are also four direct questions on who mainly performs different housework tasks like grocery shopping, cooking, cleaning/hovering, and washing/ironing. The wording of the question for each of the four tasks is: ‘Could you please say who mostly does these household jobs here? Is it mostly yourself, or mostly your spouse/partner, or is the work shared equally?’ The answer options are ‘mainly myself’, ‘mainly partner’, ‘shared equally’, or ‘mostly paid help’ and ‘other’. For childcare, the BHPS contains only one general question on how responsibility for childcare is divided between partners. The question is ‘Who is mainly responsible for looking after the child(ren)?’ and the answer options are ‘mainly self’, ‘mainly partner’, ‘joint with partner’ or ‘someone else’. It is asked to all respondents living with their partner and with a child under age 12.

For several reasons, the accuracy of absolute time estimates is not accomplished with these measures on the division of responsibility. Firstly, couples are more likely to report their perceptions of who is doing what rather than actual practice (Gershuny, et al. 1994; Hochschild and Machung 1990). Secondly, questions on how tasks are divided are likely to mainly represent what people perceive as socially desirable (Bryant 2004). This may also vary between men and women and result in high rates of dissonance in the answers.²³ Even though time use estimates represent a greater cognitive challenge to arrive at an estimate of average number of housework hours per week (Bryant 2004; Coltrane 2000), they are likely to provide a more accurate representation of the division of domestic work time than categorical division of labour questions.

²³ In the BHPS, about 45 per cent of couples show some disagreement in the responses as to how they divide responsibility for the four different housework tasks.

Comparisons between time estimates obtained from surveys and time diary studies show that results are highly correlated, but that direct-question surveys often produce higher time estimates for frequent activities. Some studies, however, suggest that men's and women's estimates are subject to similar cognitive biases so that measures of relative time spent in household labour based on direct-question surveys approximate results from time diaries fairly well (for review see Coltrane 2000). Since the gender division of total housework is the main focus of this thesis and differentiation by task is less important, it seems that calculating relative measures from housework estimates will represent partners' relative time spent on housework more accurately than questions of the division of responsibility for different tasks. Thus I use the BHPS question asking each respondent to estimate his/her weekly housework time to calculate measures of women's and men's absolute and relative time contributions to housework. I calculate women's relative share of housework by dividing her total time by the sum of both partners' estimates of their weekly housework time.

I use a categorical measure for the division of childcare responsibility, as it is the only one available. Questions about the division of responsibility also have advantages, since the concept of responsibility covers more than the actual time spent on a task. It may also include thinking about and arranging for someone else to do housework or childcare. Feeling responsible for and organising childcare is likely to take up more of parents' energy beyond the actual time efforts; this is probably more relevant for childcare than for housework. The gender gap in time spent thinking about different tasks has been found to be similar to the gap in time spent on housework and childcare itself. When time used to think about domestic work is added to that spent actually doing it, women's relative share increases slightly (Lee and Waite 2005). Comparing responsibility and actual times spent, Warde and Hetherington (1993) also find in a small-scale study from Manchester that women often feel they have most of the responsibility even if they do not perform certain tasks themselves. The question about responsibility may result in a slightly higher estimate of women's share compared to childcare time estimates.

It is not clear whether men's or women's statements about their division of childcare responsibility are more biased due to social desirability and shared family myths. Taking the mean of both partners' responses about the division of childcare responsibility is

likely to provide the best possible approximation to couples' actual childcare arrangements. I match partners' responses in the following way: when the female answers 'mostly self' and the male says 'mostly partner', it will count for both as 'mostly female partner', and equally for 'shared' and 'mostly male partner'. If a dissonance between partners' answers occurs where the female answers 'mostly self' and the male answers 'shared' or the male says 'mostly partner' and the female says 'shared',²⁴ I still attribute this to the category 'mostly female partner' for two reasons. Firstly, while capturing more nuances on the continuum of the childcare division would be desirable, creating a separate category for couples that disagree may reflect more the underlying tensions in the relationship rather than the actual childcare division.²⁵ Secondly, my main theoretical interest is in distinguishing couples where fathers' contributions to childcare are above average from those who follow some more traditional arrangement in which the mother being completely or mostly in charge. These arrangements are likely to be the majority among couples with pre-school children. I therefore want to make sure that fathers in the 'sharing' category actually are equally or more responsible for childcare. I follow the same rule for the category 'mostly male', although this makes less difference, since the percentage of couples where at least one partner says that the father is mainly responsible is very small.

Mothers and fathers of pre-school children have been found to work significantly longer total hours on either paid or domestic work than other women and men (Eurostat 2004). The large amount of work may result in considerable work-family conflict during the early years of parenthood, especially for the increasing number of dual-earner couples where women continue full-time work soon after having a child (Bittman and Wajcman 2000). One important limitation of this analysis of the division of domestic work, parenthood and relationship quality is that women's and men's total workload and inequalities in leisure time cannot be considered, as the BHPS does not provide information on childcare time or perceived stress with different tasks.

²⁴ The pattern of the female partner stating she was mainly responsible, while the male partner answered they were sharing is with 9 per cent more frequent than the reverse dissonance pattern which occurred in 4 per cent of couples with children aged below three.

²⁵ In each part of the analysis, I also test whether it may be better to construct a separate category of couples that do not agree whether the woman is more responsible or whether they are jointly responsible for childcare. However, I do not find a notable difference compared to couples where both agree that the mother is mainly responsible.

3.6.2 Comparison with time diary measures

To assess the validity and the direction of potential bias of the BHPS housework and childcare indicators, I compare them with similar measures using the UK Time Use Study 2000 (UKTUS). For the UKTUS, interviews were completed with all household members aged eight and over in over 6,000 households during 2000 and 2001. The survey uses a multi-stage design involving the stratified selection of a sample of postcode sectors in the UK (Office for National Statistics 2003). At the selected addresses, each eligible household member was requested to complete two 'own words' diaries corresponding to one week day and one weekend day during a pre-specified calendar week. The diary weeks for the survey were spread out equally across the year to achieve an accurate representation of people's activities. Within each household, eligible respondents were asked to complete the diary on the same week and weekend days. Respondents were required to keep a record of all activities conducted during each of 144 ten-minute time slots comprising the diary day. In addition to the diary, respondents completed an individual questionnaire with demographic questions, and one person per household filled in a household questionnaire. Completion of the household questionnaire and the diaries were linked to separate financial incentives for respondents. The response rate at the household level was 61%, with 81% of eligible individuals completing individual questionnaires amongst responding households. 73% of eligible individuals completed at least one diary, giving an estimated net response rate of 44% for the diary component of the survey (Office for National Statistics 2003). This is probably due to the heavy 'response burden' of the diary components of the survey. Non-response is likely to be correlated with activity patterns, since busy people who work full time are less likely to be contacted by interviewers (Campanelli, et al. 1997). This may result in an under-representation of the sorts of activities such people tend to do. This bias is likely to be similar or even stronger than the attrition problems for this group in the BHPS.

Where responses are available, time diaries are generally considered to provide more accurate and detailed estimates of time spent on specific activities than survey data. One reason is that the structure of the diary helps the respondent develop a cognitive map of how time is spent over a fixed 24-hour period by asking about each time block in sequence. Being explicitly constrained by the available time, diary answers are thus not subject to the error of exceeding or not exhausting the available time. In addition, the

diary format typically focuses on very recent time periods, minimizing the likelihood of recall error or item non-response due to a too heavy perceived cognitive burden.

Since I am interested in partners' relative time spent on these tasks, only couples where both partners have valid responses are considered. To improve the comparability of the time use data to the BHPS questions that ask for housework time estimates in a typical week, only couples with two valid diary days in the UKTUS are included. In order to compare the time use data with the BHPS division of housework indicators on time spent in a normal week, I attach weights of five and two to weekdays and weekend days, respectively. I select for the purpose of comparison a cross-section of the BHPS for the year 2000. For the BHPS, I show an unrestricted couple sample, which should closely match that of the UKTUS as well as a more selective sample, which I will use for the statistical analysis. The first group of the selective sample includes childless couples that are in the panel for more than one year. The second group are couples who have become parents between 1998 and 2000 and whose first birth has been observed in the panel. Among these parent couples, I include those who are in the sample for at least one year before and two years after childbirth, as this is an important selection mechanism for the analysis in the next chapters. For assessing the measurement errors, only the comparison between UKTUS and the unrestricted sample is relevant. However, the restricted sample is included to provide an impression of how the samples differ in the domestic work variables, possibly as a result of attrition and wave non-response.

The UKTUS distinguishes between time spent on housework and childcare as primary and secondary activities. Measures including and excluding secondary time are however very similar for this group of couples, so just measures including secondary time are presented in Table 1. After generating total time indicators for cooking, grocery shopping, cleaning, ironing, and other routine housework tasks per person for both diary days, I calculate the total of both partners' absolute time and each partner's relative routine housework time share. I also contrast women's relative share of routine housework tasks with a measure that includes also more occasional tasks like repairs, gardening etc. Contrary to other surveys (Lee and Waite 2005), I find that the absolute time estimates based on the BHPS are lower than for the UKTUS. This does not change when just housework time on primary tasks is considered. However, the relative share is similar in both data sets. Childless women spend about double their male partners' time

on routine housework, while for mothers the ratio increases to three. When non-routine housework tasks are included in the relative housework time calculation, the division of labour appears more equal among both childless couples and those who have just become parents. The difference, however, is not large. Overall, the relative housework time measure does not seem to contain a significant upward or downward bias for these groups of the population. Alternatively, the bias may be similar in both surveys, which may limit the representativeness but at least does not suggest a significant disadvantage of direct survey estimates compared to time diary measures.

Table 3.1: Comparison of couples' weekly housework hours based on the UKTUS 2000 and the BHPS wave 10

	UKTUS (all couples)		BHPS wave 10 (all couples)		BHPS wave 10 (selected sample)	
	Women	Men	Women	Men	Women	Men
<i>Childless couples</i>						
Total routine housework hours (p+s) ^a	14.36	6.06	10.81	5.52	10.79	5.54
Relative routine housework share (p+s)	68.60	31.40	64.53	35.47	64.49	35.51
Relative housework share incl. non-routine tasks (p+s)	63.40	36.60				
Man contributes at least 1/3 rd of housework time		53.04		55.06		55.30
No. of couples		345		722		708
<i>Couples with children 0-2</i>						
Total routine housework hours (p+s)	21.98	6.88	16.19	5.56	16.05	4.95
Relative routine housework share (p+s)	75.65	24.36	74.20	25.80	75.25	24.75
Relative housework share incl. non-routine tasks (p+s)	71.56	28.44				
Man contributes at least 1/3 rd of housework time		37.50		36.95		30.94
Relative childcare share (p+s)	71.47	28.53				
Woman mainly responsible (%)			75.11	75.11	78.26	78.26
Partners jointly responsible (%)			22.45	22.45	18.84	18.84
Man mainly responsible (%)			2.45	2.45	2.89	2.89
No. of couples	256	256	251	251	152	152

Note: ^a (p+s) indicates primary and secondary time spent on a task.

I will use women's relative share of housework time as the main measure of the division of routine housework within couples. In addition, I will try an alternative specification of this continuous housework share variable, since the relationship between men's contributions to housework and couples' childbearing decisions or relationship quality may not be strictly linear. This may be the case for example if women expect only a certain amount of help. Above that threshold, the additional contribution of men to housework may be less important for partnership satisfaction. I create a categorical variables distinguishing between couples where the female partner spends more than

two-thirds and those where the male partner's housework share equals or exceeds one third of the total housework time. One third of the couple's total housework time is chosen as the cut-off point for contributions of the male partner since men in the UK have been found to do on average about one third of household work, while women do twice as much (Bianchi, et al. 2000; Gershuny 2000). The percentages of couples where the man does one third or more of the housework are very similar among childless couples in the UKTUS and the BHPS. For parents of pre-school children, the percentage of these couples is lower in the restricted sample than in the unrestricted one and the UKTUS. This may be due to younger ages of the children in the selective sample, or to under-representation of more egalitarian families, resulting from non-response patterns among parents of young children in the BHPS. The importance of this for the empirical findings will be tested in the non-response analysis in each of the subsequent chapters.

For childcare, women spend about 71 per cent of the couples' total time based on the UKTUS (the median is somewhat higher at 74.42 per cent). Based on the BHPS, mothers take the main responsibility for looking after the child(ren) in 75 per cent of the couples in the unrestricted sample. Although the two measures are difficult to compare directly, one can see that in 50 per cent of UKTUS couples, fathers contribute at least a quarter of the childcare time, while in the BHPS sample, only in 25 per cent of the cases both partners say that the father is jointly or more responsible for childcare. This seems to confirm that some couples report that mothers take the main responsibility even if the fathers provide substantial help with childcare. This may be due to the categorical nature of the question or the wording asking about responsibility rather than time spent. It suggests that the BHPS measure will probably somewhat underestimate the extent to which partners share childcare. This may be again exacerbated by non-response among parents, since the division of childcare responsibility appears more traditional in the restricted sample. Alternatively, some other variations in the characteristics such as the age of the child and mothers' employment may explain the difference. As will be shown in Chapter 5, there is a significant difference between the division of childcare responsibility in the first and the second year of parenthood

3.6.3 Childbearing

I determine couples' transition to parenthood or to a second birth based on the children's dates of birth. I include all partnered mothers who provide information on their fertility

history to avoid that an additional child in the household may be misclassified as being a lower parity if older children have moved out between two waves. I focus on the fertility of mothers, as children usually stay with the mother after a separation or divorce. So there will be few births in couples where in a previous relationship the mother had a child which is not living with her. Another reason is that the fertility data of fathers includes a lot of missing values and may not be as reliable, since there is evidence of men underreporting children they had before the current relationship (Greene and Biddlecom 2000; Rendall, et al. 1999; Vere 2008). Unfortunately, this analysis of childbearing behaviour cannot take into account closely related aspects such as changes in people's desires for children or their intentions. While partnered respondents are asked about their expected number of children in waves 2, 11, 12, and 13, people who did not respond at these waves or partners who join the BHPS in-between these time points give no information on this variable. Excluding them would reduce the sample sizes significantly. Furthermore, assuming stability of these expectations over several years is unrealistic (Smallwood and Jefferies 2003). I also have no information on fecundity, miscarriages or abortions and therefore have to concentrate on live births and adoptions of newborn children.

3.6.4 Relationship quality

I operationalise relationship quality of couples with pre-school children by using a one-item measure on the level of satisfaction with the partner and by observing the likelihood of relationship breakdown. The only question regarding relationship quality in the BHPS asks every respondent living in a household with his or her partner 'How satisfied are you with your husband/wife/partner?'. Respondents are expected to indicate their satisfaction on a scale from one to seven where one stands for 'not satisfied at all' and seven for 'completely satisfied'. This question has been asked from 1996 to 2000 and again from 2002 to 2005. It is not ideal to base a complex social concept, such as relationship quality, which in practice has many dimensions on just one item. On the one hand, this is likely to reduce the reliability of the measure compared to latent variables based on several relationship aspects (Twenge, et al. 2003). On the other hand, composite measures of many relationship dimensions have been found to inflate associations between relationship quality and self-reported measures of interpersonal processes within relationships (Bradbury, et al. 2000).

Questions like this one asking for general feelings of satisfaction are prone to social desirability bias and may suffer from people's tendency towards self-denial of problems. As a consequence, the measure may overestimate respondents' satisfaction with the partner. By accounting for the satisfaction before parenthood, however, I focus on the change in satisfaction with the partner since pre-birth, which should alleviate this problem. This also reduces risks of bias due to unobserved heterogeneity in this measure, which may be a problem according to scholars who argue that relationship satisfaction is like a relatively stable personal characteristic which cannot be completely explained by observable factors (Belsky, et al. 1983).

It is also important to note that the question asks about satisfaction with one's partner rather than with the relationship. This may lead to less visible reductions in satisfaction and more conservative estimates, since people who perceive relationship problems as temporary, e.g. due to the life-cycle phase, may not express any dissatisfaction with their partner while they may have done so if asked about the relationship. Most studies find that the drop in various satisfaction indicators of relationships after the transition to parenthood is gendered with women experiencing a stronger decline (Twenge, et al. 2003). Hence, I explore women's and men's self-reported levels of satisfaction with the partner separately rather than combining them into one variable.

As a second component of relationship quality, this study uses the likelihood of separation. A separation event is recorded when one partner moves out of the shared household between any two years over the observation period and the respondents who remain in the panel record their relationship status as separated or divorced. The death of one partner is not classified as separation. I do not classify a separation as having occurred when I observe that one of the partners is living as a couple or being married to a different partner now compared to the previous year, since the death of one partner may have occurred but may not have been recorded. However, in the relatively small sample of couples that have just become parents, I observe only one couple with such a pattern.

3.6.5 Gender role identity

People's gender role identities are central to testing the hypotheses derived in Chapter 2. Thus, issues with respect to measuring and interpreting gender role identities are of particular relevance for this study. Ideally, people's identities regarding the division of

paid and domestic work with their partner would be captured by asking them how important different aspects like a career or caring for their children are to them in their current situation and how they see themselves in terms of their plans and ideals as workers and parents. However, the BHPS only contains information on gender role attitudes, which have been criticised in the literature for their less direct influence on people's own decisions and behaviour compared to more specific and personal views about what people prefer or feel is right for them in specific situations (Hakim 2000; Hakim 2007; Himmelweit and Sigala 2004; Kroska 1997). Accordingly, I expect the correlation of gender role attitudes with division of paid and domestic labour within couples to be weaker than would be the case with more suitable measures of identities. Similarly, an inconsistency between attitudes and practised division of labour with childbearing or relationship quality may be more difficult to identify using these data.

The BHPS collects information on respondents' gender role attitudes as part of the rotating self-completion questions every other year. Respondents are asked seven general questions covering different aspects of gender roles in the home and at work. The wording of these seven questions is as follows:

1. Do you personally agree or disagree ...A pre school child is likely to suffer if his or her mother works.
2. Do you personally agree or disagree ...All in all, family life suffers when the woman has a full time job
3. Do you personally agree or disagree ...A woman and her family would all be happier if she goes out to work
4. Do you personally agree or disagree ...Both the husband and wife should contribute to the household income
5. Do you personally agree or disagree ...Having a fulltime job is the best way for a woman to be an independent person
6. Do you personally agree or disagree ...A husband's jobs is to earn money; a wife's job is to look after the home and family
7. Do you personally agree or disagree ...Children need a father to be as closely involved in their upbringing as the mother

In addition to general reservations with respect to attitude measures, the validity of gender role attitude measurements has raised doubts especially when they are based on

acceptance or rejection of extreme traditionalism in a narrow range of issues (Pleck 1985: 75). This criticism also applies to the BHPS set of questions, as the range of topics is relatively narrow with most focussing on female employment. This may result in a weaker association with couples' division of domestic work and in particular men's contributions to housework and childcare. Some of the statements also represent quite extreme positions from today's viewpoint. Differences between people at the more egalitarian end of the attitudinal spectrum may therefore not be captured well. A related limitation for longitudinal analyses is that people's interpretations of these questions may have changed over time and therefore they may reflect a different latent concept now than ten years ago. However, combining several questions, some of which also capture slightly more modern concerns (such as questions 3 and 4) into one latent variable should compensate for some of these limitations. Social desirability bias represents another possible problem in surveys. However, the use of a self-completion questionnaire in this section of the BHPS instead of a personal interview as for most other parts of the survey is likely to reduce this risk.

After reversing the scales of the question 1, 2, and 6, so that for all questions larger values represent greater egalitarianism, I conduct a principal component analysis separately for women and men living in couples with women aged between 20 and 45 years. As shown in Table A3.1 in the Appendix, all questions except for question 7 show reasonably high factor loadings on one factor. The increase in the Kaiser-Meyer-Olkin measure for sampling adequacy when excluding question 7 suggests an improvement by using only the first six questions. The value of 0.8 of the KMO measure provides strong evidence that these six questions are likely to represent a common underlying factor. I compute two gender role attitudes factors based on these six questions, one for women and one for men, which will be used as continuous variables in the subsequent analysis²⁶. In Chapter 4 and 6, which focus on consistency between attitudes and practised division of labour, I also try a categorical version of this variable for women to facilitate the inclusion of an interaction between women with egalitarian gender role attitudes and categorical measures of men's contributions to housework or women's employment status. Following previous literature, such as Hakim's preference theory (Hakim 2000), I divide the factor into three categories to differentiate between relatively 'egalitarian' and

²⁶ In cases where three or fewer of the six gender role attitude questions are missing for a respondent, the factor is calculated based on the remaining questions. When more than three are missing, the factor is set to missing.

'traditional' women and the large group situated between the two extremes, which I refer to as 'moderate'. I use the upper and lower quartile as cut-off points. The gender role identity factors for women and men are scaled to range between 1 and 5 as for the original questions. Women in the traditional group have an average score of 2.46. Those in the moderate and egalitarian groups have mean scores of 3.27 and 4.08, respectively.

Question 7 may be interpreted in various ways. On the one hand, it may capture differences in preferences for fathers' involvement in childcare. On the other hand, the focus on children's needs rather than mothers' or fathers' own preferences for fathers' childcare involvement may reflect people's opinion regarding the importance of intact two-parent families for child wellbeing. In addition to the weak correlation with the other six attitude questions, question 7 also shows only insignificant bivariate correlation with the division of housework and childcare within couples and paid work hours of men and women. By contrast, its association with satisfaction with the partner – reported by both men and women – is positive and significant. This suggests that it captures more of people's attitudes concerning family stability rather than equally shared parenting. In addition to causal associations between reports of relationship satisfaction and people's attitudes towards fathers' family involvement, which may run both ways, the correlation may also be due to measurement error. People who believe in the importance of stable families and both parents' involvement in family life may find it harder to admit problems in their relationships and give more positive answers to questions about satisfaction with the partner. Bearing these caveats in mind, this variable will be considered as a separate control in the analysis of relationship quality after couples become parents in Chapter 6.

3.6.6 Paid work

Often but not always the division of labour in the home mirrors how a man and a woman divide up their relative time in paid work, just with reversed roles. However, the direction of this relationship may work both ways and people's labour market activity may have a separate effect on childbearing behaviour and relationship quality. Hence, it is important to consider the parallel development in the other sphere separately. For the analysis of predictors for the change in the division of labour within couples as they become parents, women's weekly paid work hours relative to the sum of both partners' paid work time will be used as another dependent variable. In the other two parts of the

analysis, I use women's and men's normal weekly work hours in employment or self-employment as explanatory variables. These measures of weekly work hours are based on a question in the BHPS which is phrased: 'Thinking about your job, how many hours, excluding overtime and meal breaks, are you expected to work in a normal week?'. To this figure, I add the number of overtime hours based on the question: 'And how many hours overtime do you usually work in a normal week?'

3.6.7 Relative and absolute earnings

For men and women, the usual hourly wage rate from employment or self employment is used as a measure of their bargaining power and the opportunity cost of doing unpaid work or family care. It is calculated from respondents' usual gross monthly earnings adjusted for inflation using the retail price index of the respective year and divided by their normal monthly work hours. While ideally, one would like to compare net incomes, estimating the tax rate and net income would introduce a considerable amount of uncertainty into the data. Based on hourly earnings of both partners, I construct a measure of women's relative earnings as a percentage of the couple's total. The total monthly earnings of the couple are also used in some parts of the analysis as an indicator for the household's financial situation. While some respondents might take into account savings when making their work-care choices, earnings are likely to be more important for parenthood decisions and division of labour arrangements among most couples, which usually have long-term implications. The BHPS questions on people's total income including savings also contain more missing values than those on earnings, thereby increasing the risk of other bias. For low-income couples, it is possible that income from state benefits influences their childbearing decisions (Brewer, et al. 2005; 2007). There is also evidence that whether the woman or the man receives a benefit may make a differences for spending behaviour and possibly also bargaining power (Lundberg, et al. 1997). However, the size of this effect has been found to be small compared to that of an increase in the household income (Browning and Lechene 2001). Since couples' overall financial situation is not a central explanatory factor in this thesis and since the data on benefit receipt and other income sources contain even more missing observations than questions on earnings, I rely on earnings and education levels as the main controls for people's resources.

3.7 Dealing with item non-response

A number of these variables contain a significant amount of item non-response. This is most frequent for questions on men's gender role attitudes, housework hours and earnings, as well as other control variables, such as educational qualification and respondents' relationship history. In each of the subsequent chapters, I will conduct an analysis of the missing data. Overall, the percentage of observations lost due to item non-response is larger than the effects of wave non-response or attrition. Since item non-response may not be completely random, I test for potential bias by imputing some of the missing values through chained equations. This approach is appropriate especially when a lot of the information is missing at random, which refers to the assumption that missingness depends on measurable characteristics. As the BHPS provides relatively rich information on various aspects of respondents' life, I test whether these characteristics can help explain some of the item non-response. In practice, it is difficult to establish whether observations are missing at random or not at random. However, I find indeed that several characteristics are significantly associated with the likelihood of item non-response in addition to some of the other explanatory variables that are used in the models of interest. There may, however, still be other unobserved predictors. Yet, multiple imputation still seems a suitable strategy, as simulation studies have suggested that multiple imputation techniques perform well even when data are not missing at random (Schafer 1997).

The predictors of non-response are similar for the three parts of the analysis. Respondents who join the BHPS at a later wave or who are part of the extension samples are more likely to not respond to certain questions. By contrast, being married versus just cohabiting, either partner having a disability, and men's poor physical health reduces the risk of item non-response. I am not able to impute all the missing information due to non-normal distributions of some continuous variables²⁷, which may cause problems in the chained equations technique (Allison 2000). I recode some of these variables into categorical ones to allow for imputation. Furthermore, imputing a large percentage of missing information relative to the complete observations may also lead to unreliable predictions (Carpenter and Kenward 2007). Thus there are some trade-offs involved. The specific decisions which variables to impute in the model of missingness for each part of the analysis are discussed in following chapters.

²⁷ Logarithmic or other transformations do not improve the distributions for these variables.

3.8 Trends over the observation period 1992-2005

There have been vivid debates in the literature about the extent and qualitative meaning of the changing role of women and the increased fluidity of family relationships. There is general agreement that changes in the areas of female employment, fertility and divorce rates were substantial during the 1970s and 1980s. Research in the early to mid 1990s often assumed that family change would continue at similar speed as in the past decades (Beck 1992; Beck and Beck-Gernsheim 1995; Morgan 1995; Popenoe 1993). More recent evidence on demographic and attitudinal trends, however, generally finds that fertility and divorce rates in the UK have been relatively stable during the 1990s (Chan and Halpin 2002; Haskey 1999; Office for National Statistics 2007a). Moreover, the trend towards greater liberalism in family forms and gender arrangements has slowed down from the late 1980s or early 1990s onwards (Crompton, et al. 2003; Crompton and Lyonette 2008; Gershuny and Sullivan 2003; Inglehart and Norris 2003). From these reports it is unclear how much change there has been over the observation period since the early 1990s and whether it is equally visible among childless couples and parents with young children.

I am particularly interested in examining whether there has been a similar slowing change among the couples in the BHPS sample in terms of childbearing, the division of labour, gender role attitudes, and men's and women's satisfaction with the partner. If there had been relatively large changes over this period, this would pose several risks for the subsequent analysis based on pooled data. If the dependent and independent variables changed significantly over time, this would cause a spurious association purely as a result of the time trends. The subsequent individual level analysis will therefore include the year of the survey as a control variable. However, examining changes in the main variables is also of substantive interest for the interpretation of the results. Large variations in one or more variables might increase the risk of changes in contextual factors, e.g. family policies or social norms, in a way that may also involve qualitative change in the relationship between the dependent and independent variables, e.g. childbearing and the division of domestic work. As discussed in Chapter 1, a number of new family and labour market policies have been introduced under New Labour, some of which affect parents. However, they are unlikely to have had large enough effects to change the relationship between childbearing, domestic work and relationship quality in the short-term.

This rest of this chapter will concentrate on examining the trends in the main variables of interest and possible bias as a result of spurious associations. It follows the structure of the subsequent empirical analysis, first examining changes in childbearing and the division of housework, then changes in couples' division of paid and domestic work during the transition to parenthood and finally investigating trends in divorce and relationship satisfaction. The regressions control for educational levels of men and women, partners' and children's ages and include regional dummy variables for whether the couple lives in England, Scotland, or Wales. To ensure an equal sample size for each of the samples, I restrict the sample to all couples with valid observations for the key variables of housework, childcare, paid work, earnings, and gender role attitudes. Since fewer controls are included, item non-response does not reduce the sample size as much as in the subsequent analyses.

3.8.1 Childbearing

After a significant decline in the total fertility rate (TFR)²⁸ for England and Wales in the 1970s, the birth rate remained relatively stable at between 1.6 and 1.8 children per woman (Office for National Statistics 2007a). Scotland's TFR followed the same trends, even though the fertility level was slightly below the levels of England and Wales. While Scottish women start childbearing on average earlier than their English counterparts, the lower total fertility seems to be in part due to a wider birth spacing (Graham 2007). Remarkably, between 2001 and 2006, the TFR increased from 1.63 to 1.84 in England and Wales and from 1.49 to 1.67 in Scotland (General Register Office for Scotland 2002; Office for National Statistics 2007a). In Table A3.2 in the Appendix, I examine whether this upward trend from the turn of the century is also visible in the BHPS data for first and second births. After controlling for age and education of both partners and the age of the first child, I find no significant association with the year of observation for the probability of couples having a first child. By contrast, the likelihood of a second birth is significantly higher in more recent years of the survey.²⁹

²⁸ The total fertility rate is an artificially calculated rate of the average number of children a woman would have if she experienced the age-specific fertility rates for a particular year throughout her childbearing life.

²⁹ The result is the same when dummy variables for individual years or for pre-2000 versus post-2000 are included instead of a continuous year variable.

3.8.2 *Housework and childcare*

For the whole adult population, Crompton et al. (2003) observe some change towards more equal sharing of housework throughout the early 1990s. Between 1994 and 2002, however, they find that the division of housework within couples has not become significantly more equal (Crompton, et al. 2003; 2005). In the BHPS sample of couples of childbearing age, I observe a significant decrease in women's share of housework over the entire observation period. As shown in Table A3.3, this is the case for childless couples but not those with one child.³⁰ As in previous decades (Gershuny, et al. 1994; Gershuny 2000; Sullivan 2000), the change among childless couples seems to be mainly due to a further decline in the absolute amount of time women spend on housework, since there is no significant increase in men's housework time for either childless or parent couples (see Tables A3.4 and A3.5 in the Appendix).

For childcare, previous studies found that from the 1970s to mid-1990s, the time fathers spent on childcare increased substantially, while mothers' childcare time remained constant or even increased slightly despite higher female labour force participation (Gershuny 2000; Sullivan 2000; Sullivan and Gershuny 2001). Yet as a result, most studies notice some gender convergence also in childcare, with continuous change towards more sharing throughout the 1990s (Crompton, et al. 2003). For the specific sample of couples with one small child who are considered for a potential second birth, I actually find the opposite to be true. In my sample, mothers seem to be more rather than less responsible for childcare in recent years (see Table A3.3 in the Appendix).

Among the couple sample which I can observe throughout their transition to parenthood, I see no significant change over time in the division of housework either just before couples become parents or in the second year after the birth. As a result, the shift towards a more traditional division of housework after the birth of a first child has not declined over time (see Table A3.7). As found above, Table A3.6 suggests that the division of childcare responsibility within couples in the second year after the first birth has actually become more unequal. Mothers appear to be mainly responsible for childcare in a larger percentage of couples in more recent years.

³⁰ The result does not change if year dummies are included instead of the continuous variable. Every couple is included only for one year, even if it is in the sample for much longer to avoid a spurious time trend, which may result from correlation between the division of labour and non-response or from attrition patterns..

3.8.3 Women's share of paid work time and earnings

Harkness (2003) finds an increase in the employment rates of mothers with pre-school children, even if mainly in part-time jobs, and also a slight reduction in average working hours of men with small children between 1991 and 2001. Based on comparisons of two cohorts of British women born in 1958 and 1970, mothers' return rates seem to have increased and employment interruptions have become shorter (Smeaton 2006). In the BHPS sample of couples that become parents, however, there is no significant change in women's share of paid work and the reduction in paid work hours of women from before birth to two years after their first birth (see Table A3.6 and A3.7 in the Appendix). Men's absolute hours in market work show a declining trend, while the upward trend for women does not reach statistical significance (not shown). As shown in Table A3.8, I also find no significant upward trend in women's relative real wage rates compared to their partners'. Women's absolute wage rates have not changed significantly either (not shown).

3.8.4 Gender role attitudes

The slowing trend in the change of gender role attitudes mirrors the notable slow down among the whole population (Crompton and Lyonette 2008). Based on the two gender role attitude factors, neither women nor men among childless or parent couples display significant change over the observation period after controlling for age and education (see Tables A3.8 and A3.9). This contrasts the finding by Crompton and Lyonette (2008), who observe a trend between 1994 and 2006 towards greater liberalism among women in their agreement with the statement 'a pre-school child is likely to suffer if his or her mother works'. However, even in a separate examination of this and other gender role attitude questions, I do not find significant change between the mid-1990s and mid-2000s (not shown).

3.8.5 Relationship quality

Evidence from the US suggests that marital conflicts have increased, while couples' interaction time decreased between 1980 and 2000. However, overall marital satisfaction stayed the same (Amato, et al. 2003; Rogers and Amato 1997). I am aware of no comparable research for the UK. I examine changes in satisfaction with the partner for couples in the BHPS in the third year after becoming parents based on BHPS data covering the period 1996 to 2005. The year of observation does not show any trend in

satisfaction with one's partner among women or men (not shown). Table A3.10, however, shows a significant decline in the average drop in men's satisfaction with their partner from the year before to three years after the first birth. For women, we see the same trend but it is only just about statistically significant. It should be noted that the sample size for this analysis is relatively small and the time period just seven years, since all couples must be observed at least for four years. While this provides some relevant information for the subsequent individual level analysis of relationship quality and the division of labour after transition to parenthood, a further investigation of a longer time horizon and a larger sample will be required to ascertain this positive trend.

The divorce rate in Britain has been relatively stable around 13 divorces per 1,000 people since the late 1980s. The increase from one birth cohort to the next in the proportion of children affected by divorce has slowed down in the 1990s (Haskey 1997). The dissolution risk of cohabiting couples in their twenties with pre-school children has also declined between the 1958 to 1970 birth cohorts (Steele, et al. 2006). Among the BHPS sample of married and cohabiting parents with pre-school children whom I can follow from birth, the number of separations is too small to examine trends over time in a meaningful way, which could be generalised to the whole population. Based on divorce statistics and birth cohort evidence, however, I would expect a relatively little change in the risk of family breakdown during couples' early years of parenthood over the observation period.

In line with other studies, I find only some discernable changes in the main variables over the observation period 1992 to 2005. The likelihood that couples go on to have a second child increases in more recent years of the survey. The division of housework shows a significant trend towards greater gender equality, but only among childless couples. In contrast with other reports, the opposite seems to be true for childcare responsibility, where recently more mothers with small children have the primary responsibility compared to the early or mid-1990s. The difference seems to be specific to parents with pre-school children, since the trend becomes insignificant when a sample of couples with older children is examined. Reductions in the decline in satisfaction with the partner for both men and women after becoming parents are other notable exceptions to the relative stability of the other key variables. These changes may pose a challenge for the subsequent analysis, especially regarding the analysis of new parents' relationship

quality based on the pooled sample. The increase in the percentage of mothers who are mainly responsible for childcare and the smaller decline in relationship satisfaction after having children may result in an overestimation of the association between these factors. I will therefore include a variable of the survey year as a control in the regression models based on the pooled data. Since overall, the amount of change in the main variables is limited, pooling the BHPS data over the fourteen years appears an acceptable strategy. There is no indication that the social and political context has altered in such a way that pooling the data will mask large qualitative changes in the associations between childbearing, the division of labour, gender role attitudes and relationship quality.

3.9 Conclusion

All of my research questions rely on the ability to observe the changes in the division of labour within couples and their experience of life course events over time. Furthermore, a theoretical emphasis is on testing hypotheses derived from a rational choice framework that incorporates gender role identities of men and women. Thus, the requirement of a longitudinal dimension and proxy measures of gender role identities have been significant criteria in the choice of the BHPS as the main data source. Important limitations of the BHPS are the restricted number and kinds of questions that can be asked in such a complex panel study. Comparing the BHPS with the UK Time Use Survey 2000, I find that the measure of women's share of housework time calculated based on both partners' estimates of weekly housework time is relatively accurate. The categorical indicator of the division of childcare responsibility, however, is likely to overestimate the time mothers spend on childcare relative to fathers. For the interpretation of the subsequent results it is worth keeping in mind that the indicator probably assumes a relatively high level of fathers' childcare involvement for fathers to enter the 'shared childcare responsibility' category.

The BHPS data are also unsatisfactory with respect to other themes. They cannot provide the level of detail or nuanced information on people's gender role identities or personal preferences regarding employment and especially domestic labour and care, which qualitative or quantitative data collected particularly for this purpose can. The same applies to measures of childbearing decisions and relationship quality, for which proxies have to be used. These cannot capture the complexity involved in the process of deciding whether to have children or in the feelings regarding one's relationship. The results of

the statistical analyses will therefore be complemented by evidence from other studies, especially based on qualitative data to help better understand the findings.

Due to its rich information about life course events, paid and domestic work, and attitudes of both partners within couples, the BHPS nevertheless is quite well suited for the research questions of this thesis. The large amount of other information on people's financial, physical and subjective well-being and living arrangements and the ability to use lagged variables allows me to control for many factors, which reduces the risk of unobserved heterogeneity bias. There are no suitable longitudinal weights available for an analysis that pools all available waves of the panel including the Scottish and Welsh extension samples. The longitudinal non-response weights LRWGHT can be applied only for a balanced sample starting in wave 1 and weights for samples including the original BHPS sample. Similarly, the Scotland and Wales extension samples can only be used for longitudinal analyses from wave 9 onwards (LRWTSW1). Using a balanced sample from wave 1 or starting the analysis only from wave 9, however, would reduce the sample size of couples to less than half. The following analyses are therefore based on unweighted data. However, I control for many characteristics related to non-response and regional differences. In addition, I conduct a separate assessment of the extent and direction of bias due to attrition or wave non-response for each part of the subsequent analysis.

Another potential problem is that the yearly data collected between 1992 and 2005 have to be pooled for the individual level analyses to increase the number of births observed. Most of the key factors like couples' likelihood of experiencing a first birth, gender role attitudes of women and men, women's relative contribution to paid work and their earnings share, however, on average have not changed significantly over the observation period. There has been some variation in couples' probability of having a second birth, the division of housework, childcare, and in the average decline in satisfaction with the partner after transition to parenthood among the sample of couples used for the subsequent analysis. Controlling for the survey year should reduce the risk of bias as a result of time trends.

4 Do women care if men care? Domestic work and childbearing among British couples

4.1 Introduction

During the 1990s and early 2000s, Britain's total fertility rate was 1.5 to 1.9 children per woman which was consistently higher than the very low fertility rates of many Continental European countries (Council of Europe 2002; Office for National Statistics 2007a). However, there is evidence of a considerable difference in childlessness and completed fertility of women by educational level despite similar childbearing intentions in their early 20s (Ekert-Jaffé, et al. 2002; Ratcliffe and Smith 2006; Simpson 2006). It seems likely that some groups of women forgo (further) childbearing, change their preferences towards childlessness or choose to have a smaller family, even if this cannot be interpreted as unmet demand for children without further evidence. One reason for differences in family size may be perceived difficulties in combining paid work, especially a career, and caring for a child. For women with such concerns, men's contributions to domestic work are likely to be an important factor to facilitate combining children and employment.

This chapter explores under which circumstances British couples' division of housework and childcare may affect their likelihood of having a first or second child. While this cannot provide an answer on the extent of unmet desires for children among certain groups of women and its correlation with work-family conflict, the analysis represents the first evidence regarding associations between domestic work arrangements and couples' childbearing behaviour in Britain. This extends the literature on other countries such as the US, Germany, Sweden, Hungary, Italy and Spain (Bernhardt and Goldscheider 2008; Cooke 2003; 2004; Olah 2003; Torr and Short 2004), which provide quite different contextual settings in terms of family and labour market policies and social norms for the division of labour and childbearing decisions.

With the exception of a German study on values of children and first childbearing (Henz 2008), most existing research considering the importance of (in)equality in domestic work has concentrated on the transition to a second birth (Bernhardt and Goldscheider 2008; Cooke 2003; 2004; Olah 2003; Torr and Short 2004). The association between

couples' domestic work arrangements and childbearing is likely to be stronger for second births, since couples that already have one child have more information about the increase in domestic work parenthood entails and how both partners dealt with this after the first birth. A separate analysis for first births, however, is of particular interest given the marked increase in childlessness in Britain, especially for men and women with post-secondary education (Kneale and Joshi 2008; Ratcliffe and Smith 2006; Simpson 2006). Hence, this analysis includes couples' transitions to having a first or second child.

Most existing studies on selection into childbearing only investigate the general importance of men's contributions to domestic work for male breadwinner compared to dual-earner families (Cooke 2003; 2004; Olah 2003). Although reduced childbearing can be understood as one option to avoid the incongruence of inequality in the division of domestic work and women's gender role identities, most scholars exploring the association with couples' division of domestic work do not account for spouses' gender role attitudes (Torr and Short 2004 and Bernhardt and Goldscheider 2008 are exceptions). In this research, I explore to what extent the likelihood of becoming parents of a first or second child may be reduced among dual-earner couples due to inconsistency between the practiced division of domestic work and women's gender role identities. The empirical analysis uses event-history modelling and is based on data from fourteen waves of the British Household Panel Survey.

The next section summarises the theoretical model presented in Chapter 2 regarding the division of labour within couples and possible effects on childbearing and the main hypotheses derived from it. Then I discuss details of the data and the statistical methods used. Section 5 presents the results of the empirical analysis. This is followed by conclusions on the limitations of this study and suggestions for future research.

4.2 Theorising the division of domestic labour and selection into childbearing

Chapter 2 presented the fundamentals of a theoretical framework incorporating the heterogeneity in people's gender role identities into an economic model of childbearing and the household division of labour. This is motivated by evidence of considerable diversity in gender role identities especially among British women (Hakim 2000; Wall 2007). The aim therefore is to consider differences in people's subjective evaluations of the division of domestic work and how they may relate to childbearing decisions. This section will first discuss the main predictions based on the neo-classical economic theory

and sociological identity theory before presenting the combined model which is used to derive the hypotheses for the statistical analysis.

According to neo-classical household economics, the number of children a couple has is limited by the opportunity costs of having children e.g. forgone earnings or schooling and the preferred level of care and expenditures per child (Becker 1991). While an increase in either partner's income is predicted to have a positive effect on child expenditure, the negative effect of increasing opportunity costs of the main carer – usually the mother - is assumed to outweigh the positive income effect (Becker 1981; Schultz 1974).

Existing evidence suggests that women's higher levels of education, which are also typically associated with higher wages and better career opportunities, have a lower probability of having a (first) child (Berrington 2001; Hoem, et al. 2006; Kneale and Joshi 2008; Neyer and Hoem 2008; Rendall, et al. 2005; Rendall and Smallwood 2003). They also have fewer children on average (De Laat and Sevilla Sanz 2006; Ekert-Jaffé, et al. 2002; Ratcliffe and Smith 2006). However, British women with higher levels of education who have one child are more likely to have a second child quickly (Ratcliffe and Smith 2006; Rendall, et al. 2005).

By contrast, identity theory would predict a greater likelihood of a first or second birth in couples where the anticipated changes in employment and domestic labour which accompany childbirth are more in line with people's identity conception of parenthood and gender. Since most of the change in paid and domestic work usually occurs for mothers, the meanings they ascribe to motherhood and being a woman are likely to be more important for childbearing decisions than men's identities. Women who identify themselves with quite traditional gender values are assumed to be more likely to have children than those holding relatively egalitarian ideals, as motherhood is more central to their identity and they are less likely to be put off by disadvantages in the labour market. For men, the theoretical positions are less clear. Men with egalitarian values may be seeking more real involvement in family life. However, for traditional men, marriage and children - in addition to a successful career - may be important to confirm their masculine identities. Empirical evidence generally supports the negative association with women's gender role attitude (Kaufman 2000; Torr and Short 2004), even though no

significant difference is found in Sweden (Bernhardt and Goldscheider 2006). For men, existing studies find traditional men to be more likely to have children than those with relatively egalitarian gender role identities (Bernhardt and Goldscheider 2006; Kaufman 2000).

To conceptualise how economic circumstances and subjective evaluations of household labour depending on women's identities affect couples' childbearing decisions, I draw on a model by De Laat and Sevilla Sanz (2006). Both partners derive utility from having children $U(k)$. As in chapter 2, the number of children k is assumed to depend on the sum of time both partners spend on housework and childcare:

$$k = k(h_w + h_m + c_m + c_w) \quad (4)$$

Each partner's utility is assumed to depend positively on the number of children k and another private consumption good x , and negatively on the time spent on housework h and childcare c . The disutility from performing domestic tasks is influenced by a person's gender role identity G . Higher values of G imply more egalitarian identity and a higher disutility from a given amount of time spent in household labour for women and a lower disutility for men, respectively. The woman's and the man's utility functions can be written as follows (see chapter 2):

$$U_w(k, h_w, c_w, x_w) = U(k) - f(G_w)V_w(h_w, c_w) + x_w \quad (1)$$

$$U_m(k, h_m, c_m, x_m) = U(k) - f(G_m)V_m(h_m, c_m) + x_m \quad (2)$$

Following a collective approach as suggested by Chiappori (1992), this model assumes a Pareto-efficient allocation and transferable utility between two individuals within the household with distinct utility functions. As discussed in Chapter 2, bargaining processes over private consumption in this model are irrelevant for the number of children and the results are the same irrespective of whether the male or the female partner is assumed to be maximising on behalf of the household.

Based on this model, I can formulate the following hypotheses regarding the expected effects of the division of housework and childcare and women's earning capacity on

couples' first and second childbearing decisions³¹. Couples' likelihood of a first or second birth is expected to be lower:

H 1: The more egalitarian women's gender role identities

H 2: The higher men's share of housework and childcare, in particular among women with egalitarian gender role identities to substitute for their higher disutility from domestic work

H 3: The higher women's earnings potential, since it raises their opportunity costs of domestic work

The model assumes that men's gender role identities also affect their evaluations of domestic work. Egalitarian men, therefore, would be more likely to have a first or second birth. However, there are too few couples in the sample where men do a greater share of domestic work than women to test the significance of interactions between the domestic work division and men's gender role identities.

4.3 Socio-economic and demographic differences

In most Western countries there are a number of important normative requirements based upon which people decide when to become parents. These usually include completion of education, secure employment, stability of the partnership and access to a home for the nuclear family (Hobcraft and Kiernan 1995; McDonald 2000). In line with this argument, demographic studies have established a strong negative association between educational attainment and likelihood of a first birth (Hoem, et al. 2006; Neyer and Hoem 2008; Rendall, et al. 2005; Rendall and Smallwood 2003).

Financial security and income are also important factors in people's parenthood decision, since the possible number of children depends on the preferred level of care and expenditures per child (Becker 1981). For the decision to become parents, a low income or precarious employment situation of the main breadwinner is likely to have a discouraging effect, since it reduces the level of provision couples can offer their child and might also increase the anticipation of future employment insecurity. Men's larger incomes would generally allow couples to increase the quantity as well as the quality of children, possibly offsetting at least in part the negative effect of women's forgone earnings. There is evidence that the effect of women's higher education varies depending

³¹ For a formal proof and derivation of the comparative statics, see De Laat and Sevilla Sanz 2006.

on husbands' qualifications and occupational level (Ekert-Jaffé, et al. 2002; Hoem, et al. 1999; Kreyenfeld 2002).

In addition to these financial factors, married couples are expected to be more likely to have children than those cohabiting, since marriage is still considered to provide greater stability. Similarly, longer partnerships may provide more stability and therefore make couples' decision to have children more likely (Ekert-Jaffé, et al. 2002). Furthermore, evidence from other countries suggests that the probability of having a child is greater if one partner in the current union already has a child with a previous partner (Henz and Thomson 2005; Thomson, et al. 2002).

4.4 Data and Methods

Using twelve waves of the British Household Panel survey from 1992 to 2005, I apply event-history analysis to model whether couples that have their first or second child during that observation window differ from those who do not in their division of domestic work under consideration of women's gender role identities. Event-history analysis is well suited to explore this kind of question, since the panel contains censored observations. Furthermore, event-history analysis also takes into account differences in time until the birth of a child occurs rather than only whether or not childbirth can be observed, as is the case with logit and probit models.

To avoid a heavy influence of teenagers having children which is likely to be linked to a different set of social factors than childbearing of older women and couples, I confine my sample to include only cohabiting couples where the female partner is between 20 and 40 years old in the first year of observation. I model separately couples' transition to parenthood and to second birth. In either case, the dependent variables are represented by a dichotomous measure that indicates whether or not the couple had a first or a second birth, respectively, at each year following the couples' wave of entry. In the estimations of couples' second birth probabilities, I also include couples where the first birth is not observable in the data, since only about one third of all couples with one child have their first child while in the panel. Excluding them would result in a very small sample and greater risk of selection bias. However, some of the cases are therefore left-truncated. Even though I control for the age of the first child, this may imply an under-representation of couples that have a second birth shortly after the first one. The sample

also includes couples where the mother had the first child in a previous relationship to avoid selection bias by focussing on well-functioning families.

Ideally, one would want to follow all couples from the start of the relationship and the time of the first birth, i.e. the onset of risk of first or second birth, respectively. However, for many couples in the sample the start of relationship and first births occur either before the initial wave of the BHPS in 1991 or before the relevant questions on housework and childcare divisions are asked. The question of housework time is asked regularly from the second wave (1992), while the question on the division of childcare responsibility is asked continuously only from wave 4 (1994). Consequently, the onset of risk is set to the year couples enter into the panel or to 1992 for childless couples and to 1994 for couples with one child that entered earlier. For first births, the duration of the relationship is controlled for. The age of the first child is included in the estimation of second births. The year when couples are first observed varies in this unbalanced panel, as new BHPS sub-samples starting in wave 9 are included and as original sample members may find new partners after entering the panel. For couples that have several intermittent response spells during the observation period, the longest of these spells is used.

Although event-history analysis of monthly birth data would allow a more precise differentiation between couples having a child at different times during the year, yearly data are used since the central explanatory variables to this study - the division of housework and childcare - can only be observed once a year. As the duration dependency of the baseline hazard is unknown and theoretically not of particular interest, I use a Cox proportional hazard model adjusting for tied survival data by the Breslow method. The proportional hazard assumption is tested for each model. To reduce endogeneity issues, I use first order lags of all explanatory and control variables i.e. they are measured at time $t-1$ for childbearing outcomes at time t .

Between 1992 and 2005, 1408 childless couples are observed for more than one year. 595 of these become parents between 1992 and 2005. However, only 945 childless couples have no item non-response in any of the independent variables, which is 67 per cent of the sample. Between 1994 and 2005, I observe 771 parent couples with one child, for whom the age of the child can be calculated. Of these, 423 couples have a second

child during the observation period. 25 per cent of the parent couples have non-response in some of the items needed for the analysis leaving 581 couples with no missing data. To test for possible bias, the missing values are imputed in the final models. I use multiple imputations through chained equations and the imputed models are based on five imputed data sets. The variables with the largest amount of missing information are the duration of the relationship, men's gender role attitudes and educational qualifications as well as housework and childcare questions. I impute all the variables except non-normally distributed continuous variables such as relationship duration, women's hours of paid work and housework, which due to their non-normal distributions may cause problems when imputed using the chained equations approach. The imputation models did not converge when the categorical variable of couples' breadwinning constellations with five categories was imputed. This variable is therefore not imputed in the final models.

The final analysis sample after imputation includes 1348 childless couples and 725 couples with one child. Of these couples, 570 had a first and 393 a second birth by the final year of response. While very similar for first birth, the subsequent analysis sample for dual-earner couples with one child is considerably smaller consisting of 517 parent couples, of which 283 have a second child. In addition to the dependent and independent variables, the model used for the imputations controls for whether one of the partners has a disability. Furthermore, I include a dummy variable for whether or not the couple is part of the 'Essex sample', the original BHPS sample interviewed from the beginning of the panel, or whether one of the partners joined later as part of an extension sample. While having a disability which hindered employment was positively correlated with non-response, members of the 'Essex sample' show a lower likelihood of item-non response than those in later extension samples. The results for selection into parenthood before and after the imputations do not differ at all. For second births, the significance of the division of housework increases slightly from close to significant to statistically significant after imputing the missing values. Before imputation, men's contributions to housework were only significant among women with moderate or egalitarian gender role identities. Afterwards the effect becomes marginally significant even without differentiating by women's gender role identities. To ascertain the models' robustness, I tried different variations in the number and types of variables imputed but this did not change the results. Thus, only the imputed results are presented.

The samples of childless and parent couples include 309 and 138 censored cases which leave the survey before the end of the survey and before having a child. This raises the question whether wave non-response and attrition result in a non-representative sample. I therefore create a dummy variable indicating non-response in the following wave and ran survival models to examine whether couples which dropped out before the end of the survey and before having a first or second child, respectively, differ significantly from those who stayed in the sample and can be considered in the childbearing analysis. Since these models equally suffer from item non-response at each wave, I impute the missing observations in the same way as for the models of interest. Since the imputed results do not differ from the non-imputed ones, only the former are shown in the Appendix.

The most significant predictor of non-response among childless couples is marital status with the married being less likely to temporarily or permanently leave the panel. In addition, older women and women who hold more egalitarian gender role attitudes are less likely to not respond to one of the waves. Non-response is also more frequent in Scotland and during more recent years of the survey. Among couples that already have one child, the year of the survey and living in Scotland and Wales predict non-response. Furthermore, men with relatively egalitarian gender role attitudes and couples with an older child are less likely to always respond to the panel. The association between non-response and men's gender role attitudes suggests that the analysis sample may be slightly more traditional in their views. While on the whole I find only a few significant differences between stayers and leavers of the BHPS sample, I also reran the final childbearing models for a balanced panel using the longitudinal weights at wave 9 (ILRWGHT) to account for non-response. The results for couples' division of paid work and women's education were the same. For second births, men's contributions housework also showed associations in the same direction but were only close to statistically significant. Given the considerably smaller sample size, this is not surprising. Since the analysis is based on a sample which over-samples Wales and Scotland and there are no suitable weights available to correct for this, I include regional controls in each model. However, I do not find any significant regional differences in terms of childbearing.

4.5 Developing the explanatory variables

4.5.1 *The division of housework*

For the empirical analysis, gender (in)equality in the division of housework is operationalised as the percentage of time women spend on housework relative to the total housework time of both partners. In addition to a continuous variable of women's share of housework, I also test an alternative specification, since men's contributions to housework may not show a linear relationship with childbearing decisions. Instead there may be a threshold effect with women expecting a certain level of housework help from their husband in order to feel supported. For that reason and to facilitate construction of interaction terms with women's gender role attitudes, this continuous measure is divided into two categories of "woman does most housework" if the female partner spends more than two-thirds of the time or "man contributes to housework" if the male partner's housework share equals or exceeds one third of the total housework time. One third is chosen as the cut-off point for men's contributions, since men in UK nowadays do on average about one third of household work, while women do twice as much (Bianchi, et al. 2000; Gershuny 2000).

Using a question on perceived fairness in the division of housework asked in wave 7, I find that among childless couples and those with one child, women perceive the division of housework as less unfair when their partners do more than one third of the housework (see Table A4.2 in the Appendix). In line with the literature on differences between childless couples and parents, the descriptive statistics show that men contribute significantly to housework in about 60 per cent of the childless couples, whereas the percentage is, at 36 per cent, much lower in families with one child (see Table A4.1 in the Appendix). I also tried to incorporate a proxy for whether they have significant help from someone else with at least one specific household task but it did not prove significant. It is therefore left out of the final model to facilitate the imputations.

4.5.2 *Childcare responsibility*

The BHPS collects information only on how responsibility for childcare is divided between partners. The mean of both partners' responses is calculated. In the analysis, I only differentiate between the cases when "the mother is mainly responsible" or when "the father shares or takes more childcare responsibility", since the percentage of fathers stating that they are more responsible at 3 per cent is too small to form a separate

category. Similar to what we have seen for housework, mothers are mainly responsible for childcare in 70 per cent of the families. For dual-earner families, I also control for the type of day-care used while the woman is at work. I differentiate between informal childcare arrangements with relatives, neighbours or friends, formal childcare in the form of nannies, nurseries or childminders, working from home, or the father looking after the child. The reference category is women who only work while their child is at school.³²

4.5.3 Operationalising task specialisation and opportunity costs

Ideally, both partners' opportunity costs would be represented by their earnings capacity in the labour market. The appropriate wage to use in this case would be the gross hourly wage rate that an individual could receive if he or she were to take a full-time job. Since most men are full-time employed their current gross wage adjusted for the retail price index of the respective year is likely to be an acceptable proxy of their earnings capacity. Women's current wage rate may be more problematic as a measure of their earnings potential, as earnings levels have been shown not to be independent of the number of hours worked. The observed wages of part-time workers who specialise in domestic work the rest of the time may diverge from the wages they could receive if they were to specialise in the market sector (Becker 1985). Part-time workers in the UK face a significant wage penalty (Manning and Petrongolo 2005) and domestic work responsibilities have been shown to account for a considerable part of the gender wage gap (Hersch and Stratton 1994).

In addition, economists have argued that a specialised division of labour is the most efficient means of increasing joint household production if one partner has a relative advantage in returns on paid work or in the skills required for domestic work (Becker 1991; Schultz 1974). As a result and due to lower foregone earnings of the non-working partner, couples that already practice a specialised division of labour are more likely to become parents or have a second child than couples that divide breadwinning in a less specialised way. I therefore use couples' extent of specialised division of labour and women's educational attainment as proxies for their opportunity costs.

Since the division of domestic work is less likely to matter among these couples, I first test for differences in the association between domestic work and childbearing depending

³² This question was only asked to women who were employed or had taken time off from work during the time of the interview.

on couples' division of paid work. To do so, I construct dummy variables differentiating between five different types: the traditional male breadwinner model with the man being full-time and the woman not employed, the 1.5-earner model with the man working fulltime and the woman part-time, dual full-time worker families, female breadwinner households where the woman works full-time and the man part-time or not at all, and families where neither partner works full-time.

Women's educational attainment is used as a proxy for their earnings potential instead of current wages.³³ Since not only the absolute education level but also women's level of education relative to their partner's is likely to matter in terms of families' maximisation, I create interactions of both partners' level of education. Both partners' education levels and constellation is captured by categorical variables differentiating between three levels of educational attainment for men and women: "O-levels or less", "A-levels or similar qualification" or "at least one university degree". Based on these, dummy variables representing whether both couples have the same level of education or whether the woman or the man is more educated are created. To assess the risk of multicollinearity between levels of education, work hours, and wages, I tried different model specifications including them separately. As this produced no differences in the significance of the variables, the final models include both partners' labour market participation or work hours, education levels, and men's earnings. The combination of these factors should also represent couples' levels of financial security fairly well, which may matter to their childbearing decisions.

4.5.4 Gender role identity

As discussed in Chapter 3, I use measures of gender role attitudes to capture the differences in women's gender role identities, even though this measure is subject to considerable limitations. Using factor analysis, I calculate one gender role attitude factor which is based on six BHPS questions.³⁴ To be able to consider interactions between women with egalitarian gender role attitudes and the binomial variable of men's significant contributions to housework, I divide the factor into three categories to differentiate between relatively "egalitarian" and "traditional" women and the large group situated between the two extremes, which I refer to as "moderate". Based on the

³³ If women's wages are included as well, the significance of educational levels and men's earnings is slightly reduced but the results do not change qualitatively.

³⁴ The detailed wording of the six questions is shown in Chapter 3.

whole sample of couples with women aged between 20 and 40 years, I use the upper and lower quartile as cut-off points. For men, I use the gender role attitudes factor as a continuous control variable to capture as much of the variation as possible.

The use of these attitude variables raises issues with regard to their change over time, since attitudinal changes have been found to occur especially during major life transitions such as the one to parenthood. I include lagged variables in the period before the childbirth to clearly separate the influence of attitudes prior to childbirth from attitudinal change which might have happened after childbirth. However, there may be cases when people change their attitudes already in anticipation of the transition, which I cannot control for.

Some authors have argued that attitudes measured before parenthood are superior to post-natal measurements for examining the effect of violated expectations on couples' likelihood of having a second child (Bernhardt and Goldscheider 2008). Women may have changed their gender role attitudes in response to their experience with the more traditional division of labour after the first birth. But they may still feel frustrated and stressed as a result and may postpone having a second child. I therefore examine whether the results regarding couples' likelihood of having a second child vary if pre-parental gender role attitudes are used instead of attitude measures lagged by just one year. Since I can observe the latter only for a subsample and since the results are not substantively different, the main statistical analysis will use the lagged gender role attitudes for the larger sample.

4.5.5 Other covariates

I include a measure of frequent attendance of religious services of both partners as a proxy for childbearing intentions, as religiosity has been found to correlate positively with people's desired number of children (Philipov and Berghammer 2007). Since ongoing education is assumed to make parenthood more difficult, a dummy variable for whether one partner is a full-time student is included. Marital status and both partners' age plus a quadratic term for age are used, since the risk of childbirth especially for women increases until the mid thirties when it starts to decrease again (Smith 2006). For childless couples, I control for their relationship duration and for whether the male

partner has fathered a child in a previous relationship.³⁵ For couples at risk of a second birth, I also include the age of the first child and whether the first child was born before the start of the current relationship, which is the case in only 3 per cent of the couples. Finally, I also account for the survey year, since couples' likelihood of a second birth and women's responsibility for childcare have been found to increase over the period of the analysis (see Chapter 3).

4.6 Results

4.6.1 *Modelling strategy*

I first test the importance of couples' domestic work division and opportunity costs in a sample of all couples, including those where one partner does not work for pay and specialises completely in domestic work. I then compare the result to a second model based on a sample of dual-earner couples. In a third model, I include interactions between women's gender role attitudes and their practised division of domestic work to examine whether the effect of men's housework or childcare sharing differs between relatively traditional women and those with more egalitarian gender role identities among the dual-earner sample.

4.6.2 *Findings for first births*

As can be seen in Model 1 in Table 4.1, there is no significant difference in couples' probability of having a first child based on couples' division of housework and women's gender role attitudes for first births. By contrast, paid work arrangements and opportunity cost of childbearing do seem to play a role. Couples where women work either part-time or not at all are more likely to become parents than families where both partners are in full-time jobs. Furthermore, couples where both partners have less than A-levels education are significantly more likely to have a first birth than those with a medium or high level of education or where the woman is more educated than her partner. Since the difference between couples with homogeneous and low levels of education and those where the man is more educated is not significant, this indicates that the level of men's education has no significant effect on childbearing. This is also confirmed when men's

³⁵ The analysis only includes births which are the first or second children for mothers, since women are less likely to underreport children they had in previous relationships than men. This implies that births in couples where the mother had a child in a previous relationship which is not living with her are excluded. These are however likely to be few because children tend to live with their mother after parental separation in the UK.

and women's education are included as separate variables, since only women's educational attainment is significantly correlated with first childbearing (model not shown). In line with findings from previous research, women's and men's age display a curvilinear shape and being married is associated with a greater likelihood of becoming parents. Longer relationship duration and one or both partners being full-time students reduce the probability of a first birth.

Based only on dual-earner couples, Models 2 and 3 examine the importance of men's contributions to housework and women's gender role attitudes. Hypotheses 1 and 2 suggest that women's egalitarian gender role identities are negatively associated with the risk of a first birth even though less so when their male partners contribute significantly to housework. Both hypotheses have to be rejected for couples' entry into parenthood, since men's contributions to housework and women's gender role attitudes are insignificant by themselves, as are interactions of the two variables. Hence, there is no evidence that men's contributions of over one third of the total housework makes a first birth more likely, even for women who hold relatively egalitarian gender role attitudes.³⁶ The pattern of couples' education is similar but less significant than among the total couple sample in Model 1. In line with Hypothesis 3, the relevance of opportunity costs of higher educated women cannot be rejected, especially when they are more educated than their partners.

Among dual-earner couples, there is still a significant negative association between women's work hours and their probability of having a first child. This may either point to lower opportunity costs of part-time working women or it could represent selection effects of women with greater desires to have a family and lower career preferences, choosing to work less because they plan to have a first child soon. In addition, women who work very long hours may anticipate issues of incompatibility with their career. Exploring correlations with women's levels of satisfaction with various job aspects shows that women who are more satisfied with their job security and their work hours are more likely to have a first child. Not surprisingly, satisfaction with their work hours is negatively correlated with their actual hours for women. However, after accounting for women's actual work hours, those who would prefer to work fewer hours are also more likely to become mothers. These patterns do not rule out any of the above explanations.

³⁶ I also tried alternative model specifications by including women's total housework time or their housework share as a continuous variable but this yielded no significant results.

Further explorations of the negative relationship between women's work hours and their probability of having a first child would require information on women's career orientations, desires to have a family and anticipated costs of motherhood and statistical methods exploring simultaneous selection into certain jobs or working patterns and childbearing.

Table 4.1: Cox proportional hazard models for progression to a first birth

	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Woman does most housework - omitted						
Man contributes to housework	-0.002	0.106	-0.007	0.108	0.058	0.131
Woman egalitarian attitudes x Man >1/3 housework ^a					-0.184	0.221
Woman egalitarian attitudes					0.075	0.176
Woman's gender role attitude factor	-0.063	0.095	-0.010	0.102		
Man's gender role attitude factor	-0.010	0.101	-0.001	0.101	0.001	0.100
Man works full-time/woman not employed	0.491	0.223				
Man works full-time/woman part-time	0.358	0.193				
Family with two full-time workers - omitted						
Woman works full-time/man part-time or not employed	0.342	0.254				
Other breadwinning arrangements	-0.076	0.317				
Woman's paid work hours			-0.021	0.006	-0.021	0.006
Man's paid work hours			0.008	0.005	0.008	0.005
One or both partner religious	-0.262	0.246	-0.320	0.251	-0.315	0.252
Education: both low- omitted						
Education: both medium	-0.352	0.172	-0.245	0.219	-0.239	0.218
Education: both high	-0.388	0.201	-0.293	0.186	-0.291	0.186
Education: Man more educated	-0.205	0.170	-0.160	0.185	-0.163	0.185
Education: Woman more educated	-0.347	0.175	-0.346	0.191	-0.348	0.191
Log of man's hourly earnings	-0.108	0.096	0.046	0.117	0.045	0.117
Either partner full-time student	-0.793	0.359	0.081	0.526	0.070	0.526
Woman's age	0.273	0.122	0.309	0.136	0.312	0.136
Woman's age squared	-0.005	0.002	-0.006	0.002	-0.006	0.002
Man's age	0.331	0.087	0.321	0.097	0.320	0.097
Man's age squared	-0.005	0.001	-0.005	0.001	-0.005	0.001
Married	1.020	0.118	1.140	0.130	1.136	0.130
Relationship duration	-0.074	0.023	-0.078	0.023	-0.077	0.023
Man fathered child in previous relationship	0.013	0.218	-0.165	0.246	-0.168	0.246
Scotland	-0.189	0.146	-0.200	0.153	-0.201	0.153
Wales	0.095	0.190	0.014	0.206	0.014	0.206
Survey year	0.024	0.018	0.028	0.019	0.027	0.020
No. of couples (couple years)	1348 (5025)		1261 (5073)		1261 (5073)	
No. of first births	570		537		537	
No. of imputation cycles ^b	5		5		5	

Note: ^a 'x' symbolises interaction between two variables; ^b Missing items are imputed using chained equations.

4.6.3 Findings for likelihood of a second birth

Tables 4.2 presents the results of Cox proportional hazard models for progressions to a second birth for couples with one child. The sample in Model 1 includes non-working partners. The results suggest that couples where both partners participate in housework and share the responsibility for childcare do not differ significantly from those dividing domestic work in a traditional way in terms of their likelihood of having a second child. Equally, women's gender role attitudes are not significant. Couples consisting of just a male breadwinner and a female full-time homemaker are significantly more likely to have a second birth compared to couples where the man works full-time and the woman full-time or part-time. Remarkably, female breadwinner couples where the man works less than full-time also have a higher probability of a second birth. Even though there seems to be no benefit of women's part-time work for second birth decisions, I cannot reject that a specialised arrangement of breadwinning between partners either in a traditional way or by reversing traditional roles promotes having a second child. The pattern for education is quite different from the analysis for first births, since couples with high and low levels of education are most likely to have a second child compared to those with medium or mixed education levels. When both partners' education levels are entered separately (model not shown), it is again women's education that drives the effect. Women with less than A-level education or college education are significantly more likely to have a second birth than those in-between. Men's education is insignificant irrespective of whether men's wage is included as well.

Model 2 tests the importance of the division of domestic work and women's gender role attitudes for progression to a second birth among dual-earner couples only. Men's contributions to housework are significant at the 10 per cent level.³⁷ By contrast, the division of childcare is completely insignificant. The coefficient for women's egalitarianism has a negative sign but does not reach significance.

Model 3 examines whether the effect of the division of housework strengthens by including an interaction with women's gender role attitudes. When an interaction with

³⁷ I explored alternative specifications by including mothers' housework share and their absolute housework hours instead of the binary variables. The continuous variable of mothers' housework share does not reach significance. However, the negative association between women's absolute housework hours and their probability of having a second child is also close to statistical significance (regressions not shown).

the most traditional group of women is included, the main effect remains relatively similar to the previous result. Despite its negative coefficient, the interaction term for women with traditional views does not reach significance. Including interaction terms for the other two gender role attitude groups also does not suggest a different effect among the most egalitarian and the large middle group (Models not shown). The results indicate that most couples where both partners work for pay are more likely to have a second child when fathers spend more than one third of the housework time. The division of childcare, however, is insignificant and this does not change when interactions with women's egalitarian gender role attitudes are included (not shown). Based on these findings, there is very little support for interdependence with women's gender role identities as formulated in Hypothesis 2. Instead, the division of housework within couples seems to matter for second child decisions of most working mothers. For childcare, the hypothesis is also rejected.

Contrary to neo-classical economic theory but in line with the catch-up effect found in previous studies, dual-earner couples where both partners have completed a university degree are most likely to have a second birth. There is no difference based on women's work hours. The negative effect of women's opportunity costs may be overcompensated by perceptions of time-squeeze, or unobserved career or family preferences, selecting highly educated mothers who already have one child into having a second one soon.

Interestingly, I also find that women who have relatives, neighbours or friends looking after their first child and mothers who work from home are more likely to have a second child compared to women who use other forms of day-care or who only work when their children are at school, or when their partner can look after the child. Being married also promotes the progression to a second birth. Even after accounting for all these factors, couples' likelihood of a second childbirth still increases over the course of the survey.

Table 4.2: Cox proportional hazard models of progression to a second birth

	<i>Model 1</i>		<i>Model 2</i>		<i>Model 3</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Woman does most housework - omitted						
Man contributes to housework	0.069	0.127	0.202	0.118	0.218	0.124
Woman traditional attitudes x Man >1/3 housework ^a					-0.161	0.304
Woman main childcare responsibility – omitted						
Man shares or takes more childcare responsibility	0.035	0.140	0.006	0.135	0.005	0.135
Woman traditional attitudes					0.187	0.179
Woman's gender role attitude factor	-0.120	0.098	-0.102	0.104		
Man's gender role attitude factor	-0.007	0.099	-0.039	0.101	-0.050	0.098
Man works full-time/woman not employed	0.321	0.182				
Man works full-time/woman part-time	0.058	0.150				
Family with two full-time workers - omitted						
Wife works full-time/man part-time or not employed	0.646	0.309				
Other breadwinning arrangements	0.245	0.276				
Woman's paid work hours			-0.005	0.005	-0.006	0.005
Man's paid work hours			0.000	0.005	0.000	0.005
One or both partner religious	0.341	0.201	0.303	0.202	0.310	0.200
Education: both low– omitted						
Education: both medium	-0.264	0.169	-0.177	0.188	-0.171	0.188
Education: both high	0.223	0.232	0.583	0.220	0.589	0.221
Education: Man more educated	-0.133	0.157	-0.103	0.185	-0.111	0.186
Education: Woman more educated	-0.048	0.171	0.033	0.185	0.018	0.186
Log of man's hourly earnings	0.125	0.100	0.144	0.114	0.149	0.114
Woman's age	0.228	0.128	0.510	0.153	0.511	0.153
Woman's age squared	-0.004	0.002	-0.009	0.002	-0.009	0.002
Man's age	0.021	0.097	-0.125	0.087	-0.124	0.087
Man's age squared	-0.001	0.001	0.001	0.001	0.001	0.001
Married	0.438	0.146	0.358	0.160	0.356	0.159
Age of first child in months	-0.013	0.002	-0.012	0.003	-0.012	0.003
Man fathered child in previous relationship	-0.241	0.246	-0.356	0.278	-0.356	0.278
First child from woman's previous partner	0.643	0.410	0.443	0.382	0.437	0.380
Informal day-care			0.325	0.128	0.319	0.128
Formal day-care			0.095	0.128	0.092	0.129
Woman works from home			0.635	0.263	0.627	0.267
Man looks after child while wife works			0.044	0.114	0.038	0.114
Scotland	0.143	0.140	0.076	0.133	0.074	0.132
Wales	-0.082	0.191	-0.250	0.209	-0.256	0.207
Survey year	0.055	0.018	0.066	0.019	0.067	0.019
No. of couples (couple years)	725 (2945)		517 (2281)		517 (2281)	
No. of first births	393		283		283	
No. of imputation cycles ^b	5		5		5	

Note: ^a 'x' symbolises interaction between two variables; ^b Missing items are imputed using chained equations.

4.7 Interpretation and conclusion

This research finds that families where only one partner is full-time employed are more likely to have a first or a second child than dual full-time earners. Among dual-earner couples with one child, there is some evidence that inequality in the division of housework reduces couples' probability of having a second child. Men's sharing of housework seems to attenuate the negative association with mothers' employment. Feelings of inequality regarding women's share of housework appear to matter for couples' further childbearing decisions in dual-earner couples. Contrary to expectations, this does not seem to depend on women's gender role identities.

Opportunity costs and task specialisation arguments following the neo-classical economic theory do seem to capture some important aspects of British couples' childbearing behaviour. Couples' employment constellation is significant for both transitions. However, this may in part capture unobserved fertility intentions, career orientations, or aspects of a job or workplace that affect compatibility with childcare. The finding that male breadwinner/female full-time carer families are more likely to have a second child than dual-earner couples is similar to previous research on Hungary, Spain and Germany (Cooke 2003; 2004; Olah 2003).

In line with previous studies on childbearing (De Laat and Sevilla Sanz 2006; Hoem, et al. 2006; Rendall, et al. 2005), the negative effect of women's education is significantly stronger for the first birth than for the second. Similarly, some authors also find highly educated mothers to have a second child more quickly (Kreyenfeld 2002; Rendall and Smallwood 2003). In contrast to Kreyenfeld's (2002) results for Germany, women's education is more significant than their partners'. Based on the results in this chapter, I cannot explore to what extent the positive effect of women's higher education may be due to the time-squeeze argument or unobserved career or family preferences influencing these women's first and second childbearing.

Before becoming mothers, housework does not seem to be an important consideration in women's childbearing decisions. This contrasts with findings for Germany where couples that divide housework in a very traditional way are more likely to have a first child (Henz 2008). For the UK, the insignificance of the division of housework may imply that childless women either do not anticipate the increase in their housework

burden as a result of parenthood or while they do expect it, this does not affect their decision to have a child. The latter interpretation would be in line with assumptions that women have a stronger desire or feel more social pressure to become a mother compared to having more than one child.

For dual-earner couples, the probability of having a second child, however, is positively associated with housework contributions of fathers, even if this effect is only marginally significant. The finding that more equal sharing of housework is positively associated with the probability of a second birth matches results for Hungary (Olah 2003). It contrasts with the results in Torr and Short's US study (2004). They use a higher cut-off point of men doing more than 45 per cent of the housework and find more of a curvilinear relationship. Their results suggest that very traditional couples (where women spend more than 84 per cent of the housework time) also have higher odds of a second birth. When I try the same specification among British couples, I find a higher probability for a second birth among very egalitarian couples compared to the most traditional group (again significant at the 10 per cent level). Neither of the two groups differs significantly in the likelihood of having a second child from couples that practise some division of labour arrangement in-between these extremes. This may suggest that there is less variation in how much working mothers expect their partners to help around the house in Britain compared to the US, at least as far as this is an important influence for second birth decisions.

The finding that the division of housework seems to be more important for couples' probability of having a second child than how they divide childcare responsibility contradicts the theoretical model, which assumed similar effects for both arrangements. The greater significance of fathers' contributions to housework compared to childcare for second childbearing also contrasts with results for Germany, where Cooke (2004) found the opposite effect. Since Cooke used a childcare time measure, the binary variables of childcare responsibility in the BHPS may not capture enough of the variation in couples' childcare division. Some mothers may only need some help and not necessarily expect to share childcare equally in order to want to have a second child soon after the first. An alternative explanation may be that mothers do not mind as much assuming the responsibility for childcare, or even derive some utility from a close bond with the child, which housework does not provide. An investigation of differences between the two

types of tasks in terms of their associations with childbearing behaviour based on more detailed and comparable indicators would be a valuable route for future research.

The empirical findings do not provide much support for the benefits of incorporating women's gender role identities into a rational choice economic model of childbearing. According to my results, the effect of housework contributions of fathers on second birth probability does not vary significantly between women with relatively traditional gender role identities and the majority of women with moderate or egalitarian identities. This contrasts with results for Sweden where inconsistency between attitudes and practice are found to reduce the likelihood of a second birth (Bernhardt and Goldscheider 2008). In the UK, there seems to be less diversity in women's evaluations of their housework burden and the importance for childbearing than the theoretical model suggests. One difference with Bernhardt and Goldscheider's study is that they used attitude measures from the time before the respective couples had their first child. Therefore, fewer women may have adapted their attitudes to their more traditional domestic work practices after becoming mothers. However, explorations of interactions with pre-birth attitudes for the subsample of BHPS couples which I can observe before having their first child show the same results as for the total sample. Women's share of housework is generally negatively associated with the likelihood of having a second child irrespective of women's gender role identities before motherhood. Since the Swedish attitude measure also contained question about the domestic sphere, a more likely explanation for the insignificance of gender role identities is that the focus on women's employment in the BHPS gender role attitudes questions does not adequately capture more nuanced differences in women's expectations regarding their partners' contributions to domestic work.

Women's gender role attitudes by themselves are also not significantly correlated with couples' likelihood of becoming parents or having a second child in Britain. This is in line with some US results where women's gender role attitudes are insignificant for second births (Torr and Short 2004). Other studies on family formation in the US and Sweden (Bernhardt and Goldscheider 2006; Kaufman 2000) find men's – and in the US case also women's – gender role attitudes to correlate with the probability of a first birth. I cannot find support for this in the British data. Overall, the relationship between gender role attitudes and childbearing is far from clear. Again, some of these differences may be due to measurement issues. Another branch of existing literature on family formation

identifies stronger associations with people's perceptions of the affective and material value and costs of children than with their gender role attitudes (Bernhardt and Goldscheider 2006; Henz 2008). Hence, such other ideational factors are likely to improve theoretical models of childbearing more than considering women's and men's gender role identities, at least when attitudes are used as proxy measures. More refined measurements of people's identities would be needed to provide a more robust test of the benefits of a rational choice framework incorporating gender role identity.

Informal help with childcare seems to be a crucial source of support for many British parents. The finding that availability of informal childcare in the form of relatives, neighbours or friends correlates positively with the odds of having a second child is in line with results found in Italy and Spain, where the presence of an additional household member significantly increased the chance of a second birth among dual-earner couples (Cooke 2003). The positive association of having informal help with childcare also matches findings on the association with mothers' psychological well-being in other countries (Bird 1999; Des Rivieres-Pigeon, et al. 2002).

By focussing on the importance of couples' housework and childcare division, this chapter has tried to shed more light on possible causes of work-family reconciliation issues in British dual-earner families which may affect couples' childbearing decisions. The conclusions are, however, largely suggestive without detailed measures of people's identities or subjective evaluations of the division of domestic work. More information on individuals' parent and worker identities such as both partners' work orientations, perceived values and costs of having children, or desired family size would better capture the motives underlying people's time allocation to paid and domestic work and their decisions to have children. These comparisons also merit a great deal more scrutiny in terms of improved measurements of childcare time. Future qualitative and quantitative extensions of this research should also attempt to consider other important moderating influences, such as job structures, family-friendly entitlements and social networks that may select people into different kinds of division of labour arrangements and childbearing behaviour. This would improve our understanding about the extent to which these differences are a matter of choice or feasibility.

The findings of this chapter suggest that although male breadwinner/female homemaker families are more likely to have a first and second child than dual-earner couples, inequality in the division of housework may limit further childbearing among the increasing number of dual-earner parent couples. The hypotheses on the relationship between childbearing and domestic work division in this chapter are based on the assumption that women at least partly anticipate an increase in gender inequality in terms of paid and domestic work after having a child. The next chapter explores variations in the extent to which men's and women's time spent on paid and domestic work changes after a birth and identifies the most significant pre-parental correlates of how new parents adapt their paid and domestic work.

5 The parenthood effect: what explains the increase in gender inequality when British couples become parents?

5.1 Introduction

This chapter will explore the importance of different decision criteria for how couples adapt their division of paid and domestic work after having a child. Specifically, it will examine how earnings and gender role identities of men and women before parenthood are associated with changes in their contributions to paid and unpaid work after becoming parents. Comparisons with other life-course events generally find the largest change in couples' division of paid and unpaid work to occur when they have their first child as opposed to getting married or having more children (Gauthier and Furstenberg 2002; Gershuny 2003; Grunow, et al. 2007; Van der Lippe and Siegers 1994). For mothers and fathers, parenthood usually involves a reduction in personal and leisure time in favour of more childcare and housework (Gauthier and Furstenberg 2002; Gershuny 2003). Mothers typically interrupt or drastically reduce their working hours, often with damaging consequences for their career and income. Fathers' incomes and work hours, however, remain largely unaffected (Dermott 2006; Smith 2006). Given that a widening in earnings inequalities between women and men over the life-cycle (Joshi 2002; Rake 2000; Sigle-Rushton and Waldfogel 2006) might be driven, to some extent, by how couples' adapt their division of labour after becoming parents, this raises the question what the main influences are of couples' division of paid work, housework and childcare after the birth of their first child.

Influences on women's labour market participation after childbirth have been widely investigated from an individual and institutional perspective (Del Boca, et al. 2002; Henz and Sundström 2001; Smeaton 2006; Uunk, et al. 2005; Van der Lippe 2001; Vlasblom and Schippers 2006). By contrast, relatively little is known about the driving factors of greater inequality in couples' division of domestic work and the interdependence with decisions of paid work involvement after the transition to parenthood. A number of studies have explored the importance of different factors for the division of paid and domestic labour couples practise after becoming parents, but these are mainly American studies based on small samples (Cowan and Cowan 1992; Deutsch, et al. 1993; Fox 2001; Singley and Hynes 2005). This chapter attempts to contribute to the literature by

disentangling the importance of different pre-parental explanatory factors for British couples' division of housework, childcare, and paid work after having their first child using a relatively large sample of couples in Britain. The only similar large-scale research is an American study by Sanchez and Thomson (1997) which explores women's and men's absolute time allocations to paid work and housework after the transition to parenthood. Whilst absolute time measures make it easier to disentangle separate effects on men and women, such measures are less suitable for exploring couple-specific gender differences in partners' contributions to paid and domestic work irrespective of the couples' overall time spent on either task. I focus on partners' relative contributions, since I want to investigate the driving factors behind the increase in gender inequality within each couple. However, to facilitate comparability with Sanchez and Thomson's (1997) results, I will break the dependent variables down into mothers' and fathers' absolute housework and paid work time at the end of the chapter.

In the following section, I summarise the theoretical model presented in Chapter 2 which will be applied to derive the hypotheses for the empirical investigations. Sections 3 and 4 provide details on the method and data used. In Section 5, I describe the absolute and relative changes in men's and women's contributions to paid work and housework observed during the transition to parenthood in Britain. Following this, the results of the statistical analyses which investigate the change in new parents' division of labour and in either partner's absolute contributions to different tasks are presented. Section 6 concludes with a discussion of the main findings and how the limitations of this study might be overcome in future research.

5.2 Theoretical framework and hypotheses

In previous studies, perspectives based on economic rational choice assumptions and social constructivist theories have often received support in explaining how couples divide paid and domestic work (Berk 1985; Bittman, et al. 2003; Greenstein 1996b; Greenstein 2000; Hochschild and Machung 1990; Pleck 1985; Singley and Hynes 2005). To capture important elements of both, Chapter 2 presented a theoretical framework that incorporates the main predictions of identity theory into an economic model based on the neo-classical economic theory. This section summarises the main predictions derived from these two theories and the combined model.

Having children can be interpreted as a constraint on couples' time in the form of an increase in demand for domestic work. With the exception of a small percentage of couples that outsource most of the domestic work, this leads to a reduction in time spent on leisure and/or paid work for most couples. The main question is what are the most important criteria for couples' decisions about which partner should reduce time in paid work and increase domestic labour, or to what extent both partners should adapt their time in a symmetrical fashion. Economic perspectives and identity theory provide quite different answers.

According to neo-classical economists, it would be efficient for maximising household output if one partner specialised in market work, while the other partner did more of the domestic work. This form of specialisation would be efficient, even if there were only small differences in their market returns of paid work or skills required for domestic labour in the beginning (Becker 1991; Schultz 1974). Since I do not have information on productivity in domestic work, this research – like most previous studies – focuses mainly on relative advantages in the labour market in terms of earnings. The argument of the benefits of specialisation assumes that male and female partners' domestic work contributions are substitutes. While one could also argue that to some extent partners' time in household work are complements, as couples may do more if they can work together, the substitution effect is likely to be more important in the first years of parenthood when time is particularly constrained. The combination of breadwinning and caring for a small child probably demands more juggling of different tasks and more time constraints than most other phases of the life course.

Bargaining models have made some important additions to this neo-classical economic perspective by stressing that each partner's fall-back options, e.g. in terms of earnings in case of relationship breakdown, may be used to bargain for less involvement in domestic chores or infant care to the extent that they are not perceived as leisurely (Beblo 2001; Lundberg and Pollak 1996; Ott 1992). Furthermore, dynamic models also show that paid work interruptions result in lower human capital and market productivity in the future which reduces a person's bargaining power even further (Beblo 2001). However, in the absence of more specific knowledge about each partner's bargaining power, the predictions regarding the division of labour after couples' transitions to parenthood would be similar to those based on neo-classical economic models.

While economic circumstances may determine the range of feasible arrangements, another factor that is often found to be important for how couples divide up paid and domestic work are men's and women's gender role identities. Based on identity theory (Stryker 1968) and the 'doing gender' approach (West and Zimmerman 1987), both partners' interpretations before parenthood of what it means for them to be a mother or a father are expected to form the basis for the kind of arrangement they prefer after the birth. Depending on their gender role identities, men and women are assumed to vary in their willingness to take the main responsibility for family care or as breadwinner or to share one or both with their partner. Traditional gender role identities of both partners would be expected to lead to an increase in time women spend on family care and a reduction in their labour market participation, while no such change would be predicted for men. More egalitarian identities of either partner are likely to reduce the amount of change towards a more traditional division of domestic and paid work.

As shown in Chapter 2, I draw on a model derived by De Laat and Sevilla Sanz (2006) to combine predictions based on partners' earnings and gender role identities. The model assumes that women's and men's utility is positive function of consumption of a private good x and a public good k (which is the number of children), but is negatively related to the time spent doing housework and childcare (h and c). For women, the more egalitarian their gender role identities (G_w), the greater the disutility of domestic work. For men, egalitarianism is assumed to reduce the disutility from doing domestic work compared to men with more traditional gender role identities (G_m).

$$U_w(k, h_w, c_w, x_w) = U(k) - f(G_w)V_w(h_w, c_w) + x_w \quad (1)$$

$$U_m(k, h_m, c_m, x_m) = U(k) - f(G_m)V_m(h_m, c_m) + x_m \quad (2)$$

The model assumes transferable utility between partners and that the male (female) partner maximises his (her) own utility subject to the partner's reservation utility. A couple's budget is constrained by both partners' wages and the total available time is spent only on either paid or domestic work (for detailed specification see Chapter 2). The model then predicts that the female partner's share of housework and childcare responsibility after birth will be smaller and their paid work share larger:

H 1: The higher her pre-parental wage rate relative to her partner's

H 2: The more egalitarian her gender role identity

H 3: The more egalitarian her partner's gender role identity

Previous American studies find strong support for the importance of wives' relative earnings for men's and women's absolute and relative contributions to paid work and housework after becoming parents (Deutsch, et al. 1993; Sanchez and Thomson 1997). By contrast, German studies observe no significant association with changes in the division of housework over the course of marriage (Grunow, et al. 2007; Schulz and Blossfeld 2006). Previous evidence on the significance of gender role identities is mixed. Sanchez and Thomson (1997) find only a weak correlation with the time women spend on paid work and no associations with absolute housework time of men and women. However, Deutsch et al. (1993) report that fathers' gender role attitudes are the strongest predictor of their childcare participation.

5.3 Other influences on parents' division of paid and domestic work after birth

While partners' relative earnings are assumed to determine the extent to which paid labour of the lower earning partner is substituted for the increased contribution to domestic work, men's and women's absolute income and wage levels may play a role as well. Recently, research has shown that, at any one point in time, women's absolute wage levels are more strongly related to women's share of housework than their relative earnings compared to their husbands' (Gupta 2007; Gupta and Ash 2008). This may be because higher earnings allow women to outsource domestic work and childcare to the market. Alternatively, it may give them a feeling of less responsibility for having to do the housework, so they may just do less without substituting it. By also controlling for women's absolute wage, I examine whether the change in the parental division of housework will depend more on how much women earn relative to their husbands or how much women earn in absolute terms, which is a proxy for their ability to outsource domestic work and childcare.³⁸

Higher absolute earnings, especially of fathers, may give couples more freedom in their arrangements. Theoretically this freedom may be used in various ways, possibly

³⁸ This assumes similar levels of market prices for domestic work and childcare across the sample of couples. There is evidence of regional variation in fees for formal day-care, e.g. higher prices in London compared to the rest of the country, but unfortunately there is no such contextual information available which could be linked to the BHPS.

depending on women's and men's gender role identities. However, given the quite traditional institutional context of parenthood in the UK, for most women it will probably imply a larger reduction in their hours of paid work and more specialisation in domestic work during the first years of parenthood.

Since I am interested in exploring the increase in gender inequality as couples become parents, I need to account for the contributions of both partners to paid work and work within the home before this life-course transition. In addition, this pre-parental division of labour may also have a direct effect through established habits or skills in domestic tasks. Differences in skills and habits increase the costs of switching from one partner to the other. Since the amount of domestic work generally increases with the arrival of a child, interpretations based on habits and improved skills would predict a rise in the relative share of domestic work of the partner who has done more of it before parenthood. Empirical results provide support for the importance of the established housework routine for the longer-term trend over the course of a relationship (Grunow, et al. 2007; Schulz and Blossfeld 2006) and specifically during the transition to parenthood (Sanchez and Thomson 1997).

There are a number of other control factors that need to be taken into account when testing the hypotheses. Higher levels of education for women are typically associated with better career opportunities and so may raise the opportunity cost of taking time out of the labour market to spend time with one's own children. Among educationally heterogeneous couples, the resource bargaining approach would also expect women with higher educational levels than their husbands to contribute relatively more to paid work and less to domestic labour. However, men with higher education are likely to have lived on their own for a longer period before entering into cohabitation and therefore may have better housework skills.

While information on family-friendly arrangements of different employers is unfortunately lacking, the employment sector may make a difference. There is a tendency for public sector employees to enjoy more family-friendly employment structures in terms of entitlements to work flexibly or part-time hours than employees in the private-sector or self-employed people, since the public sector is more likely to implement national legislation beyond the statutory minimum than the private sector

(Crouch 1999; O'Brien and Shemilt 2002). I therefore account for this difference, since for this reason public sector employment may make it easier to combine work and parenthood for both men and women. A high incidence of part-time work for women could also lead to greater gender inequality in domestic work as opposed to full-time work. However, for British women with very small children it is more likely to be an incentive to return to work faster after childbirth than they otherwise would. Thus I generally expect a positive association between public sector employment of either partner and gender equality in the division of labour. It should be noted that this association may also be due to self-selection, with people who want to combine work and family being more likely to choose public sector jobs. Furthermore, I control for women's dissatisfaction with their job before becoming parents, since they may be looking more for fulfilment in the private sphere and would be willing to be more involved in family work.³⁹

In addition, I consider women's ages and the difference in both partners' ages, since couples that become parents at an older age have been found to have a less traditional division of domestic work (Coltrane and Ishii-Kuntz 1992). Furthermore, where men are older than their partners, the greater the age difference, the more traditional the division of labour is expected to be due to men's advantages of labour market experience or perceived seniority. I also distinguish between married and cohabiting couples, since the latter may be more reluctant to enter into a more traditional division of labour without increased contractual financial security in the event of relationship breakdown. Short intervals between children have been found to be associated with a more traditional division of paid work (Vlasblom and Schippers 2006). This may be related to a number of unobserved factors such as a greater desired family size and mothers using the second maternity leave entitlement to stay at home longer. I therefore control for the timing of a second birth. Since some studies provide evidence that fathers are likely to be more involved in childcare for boys than for girls (Daniels and Weingarten 1988; Kalmijn 1999), I also control for the sex of the child.

³⁹ Deutsch et al. (1993) suggested that greater marital satisfaction increases men's domestic contributions. However, information on relationship satisfaction in the BHPS is only available from 1996, which would have reduced the number of couples for this analysis too much.

5.4 Method and Data

5.4.1 Model choices

Using data from fourteen waves of the British Household Panel Survey (1992-2005)⁴⁰, I model the division of housework, breadwinning, and responsibility for childcare within couples in the second year after the transition to parenthood. The dependent variables are measured in the second year after birth, since at that point most women who were planning to return to work relatively soon after childbirth will have done so. Couples are also likely to have established a balance in their new parental life, which they may maintain for some time while they have young children.

Two of the dependent variables, women's share of housework and paid work time, are non-normally distributed with a disproportionately large amount of observations clustered around 100 per cent of mothers' housework share and at 0 for mothers' paid work. As a result of clusters at the boundaries of 0 and 100, this may result in inconsistent OLS estimates (Amemiya 1973). One possibility would be to use tobit models; however, such models cannot be estimated using the imputation programme I employ in Stata. As explained below, the amount of missing data is substantial. In order to be able to use chained equation imputations, the continuous variables of women's shares of paid work and housework are combined into four categories each and ordered logistic regression models are applied. For the binary measure of responsibility for childcare, a logistic regression model is used. I also considered applying seemingly unrelated regressions to allow for correlated error terms between the estimations of couples' post-parental division of labour in the three areas of childcare, housework and paid work, since all three are likely to be influenced by a common set of unobserved characteristics within households (as used in the study by Sanchez and Thomson 1997). However, when the same independent variables are used in all the equations as is intended in this analysis, there is very little benefit of using seemingly unrelated regressions (Green 2000). Furthermore, this would be difficult to implement simultaneously with chained equation imputations. A comparison of the results of tobit models, seemingly unrelated OLS regressions, and ordered logistic models before imputation revealed that there was a small difference in the level of significance, but not in the extent that the independent variables of interest reached significance. As a result of

⁴⁰ Wave 1 does not contain information on housework time and is therefore not included.

this, and since the results based on the imputed information also do not vary qualitatively from those before imputation, only the logistic regression models with imputed data are presented.⁴¹

Modelling all three division of labour decisions provides a descriptive account of the simultaneous processes and allows me to compare the effects of relative earnings and gender role identities on each division of labour outcome. Ideally, it would be interesting to simultaneously estimate the effect of couples' domestic work arrangement on mothers' return to work, something which could be achieved by using multilevel multiprocess models. However, this is beyond the scope of this research, particularly given that information on maternity or family leave is available for less than half of all mothers. Although I account for couples' pre-parental division of labour and various other individual level characteristics which are measured at least four months before the birth, there remains some risk of bias due to unobserved individual heterogeneity in the models of the second year after birth. As shown in Chapter 4, parenthood is not exogenous. I found that especially the ages of both partners, women's hours of paid work and educational qualifications, and couples' marital status are significantly associated with selection into parenthood. While ideally I would want to control for these selection effects using, for example, a Heckman selection correction factor, it is not reasonable to assume that any of these factors are only associated with selection into parenthood and do not affect the division of paid and domestic work after birth.

Since only couples that stayed in the panel for one wave before and two years after the birth of their child can be included in this analysis, I investigate the potential of non-response bias by examining the correlation with all main explanatory variables. Given that these logit models equally suffer from item non-response at each wave, I impute the missing observations in the same way as for the models of interest. Since the imputed results do not differ from the non-imputed ones, only the former are shown in the Appendix. In line with Uhlig (2008), I find parent couples with small children to have a low risk of non-response and those who drop out do not differ in many characteristics. In fact, the number of couples with non-response in the second year after birth is very small (13 cases). The only differences between couples that leave the panel and those who stay

⁴¹ All data imputations are done by using multiple imputations through chained equations and are based on five imputation cycles

seem to be that the former women are more likely to have had earnings in the highest quartile before having children and were of a younger age.

The sample of couples experiencing the transition to parenthood used for the analysis is also selective because their presence in the BHPS in the year before the birth is required for them to be included in the analysis. There are 148 couples that say they have a child aged less than 12 months in their household at their first observation. I examine to what extent the selected sample of parents differs from these later-joiners in the main variables of interest during the year of birth. Since these people are likely to have joined the sample when they formed a relationship with an original sample member, it is not surprising that the late-joiners have a shorter relationship duration than the selected couples. The women in these couples earn relatively more per hour compared to their partners and are more likely to be the parent who is mainly responsible for childcare. While there are some significant differences between these couples and all BHPS respondents becoming parents, the direction of bias is less clear. The most likely source of bias seems to arise due to a disproportionate loss of couples with very short relationship duration and more traditional division of childcare.

To examine the possible effects of using an unbalanced sample without non-response weights, I compare the results with those from a weighted balanced sample up to wave 9 (using weight ILRWGHT). Although the number of couples is reduced to about 150, the significance of the explanatory variables does not change in comparison to the results presented in the following section. To investigate the risk of bias due to inclusion of the extension samples for Wales and Scotland, for which there are no weights available, I also rerun the final models just for England and do not find substantively different results. The Wales and Scotland sub-samples are too small for the logistic models to converge.

5.4.2 Sample selection and missing information

I limit my sample to couples, irrespective of marital status, where women are at least 20 years old when they have their first child. I exclude partnered women who become mothers as teenagers, since the dynamics in the division of labour are likely to be driven by other factors such as education and family networks. As a result, I lose 21 couples,

which on the whole does not affect the results.⁴² The selection of couples becoming parents is based on women's fertility history and no children living in the household before the birth. Therefore, the birth I observe is the first for the female partners, but it may not be the first for the male partners. Including a dummy for whether the man fathered a child in a previous relationship does not affect the results⁴³.

I include couples if both partners respond to at least one wave before and two waves after the birth of their first child. Based on these restrictions, I observe 562 couples that experience a first birth during the observation window and for whom sufficient information on their fertility history is available. However, only 370 of these couples (66 percent) have complete information on all relevant explanatory variables for one year before and two years after the birth. To test for potential bias due to selection of couples with non-missing values for all the variables, I impute the missing items. All independent variables with missing information are imputed except for couples' relationship duration, which is non-normally distributed and hence cannot be imputed with this method. In addition to the dependent and independent variables, I include dummies for men's unemployment, for either partner's disability and for whether the couple is part of one of the extension samples in the model of missingness. All of these are found to correlate with a higher probability of item non-response. The sample after imputing missing values of the dependent and independent variables consists of 549 couples becoming parents for the first time.

5.5 Developing dependent and independent variables

5.5.1 The division of paid and domestic work after transition to parenthood

Gender (in)equality in the division of housework is operationalised as the percentage of time women spend on housework relative to the total weekly housework time of both partners. Similarly, the division of paid work is measured as women's weekly hours in paid work⁴⁴ as a percentage of the couples' total hours in paid work. The distribution of women's housework and paid work share before the year of birth is close to normal. However, both variables are not normally distributed for parents, since a large number of

⁴² The only difference is that when teenage mothers are included, women's relative earnings are even less significant, while men's income is more significant for the division of housework than in the sample of non-teenage couples.

⁴³ Incomplete reporting of past fertility among men, however, may be a problem in the BHPS as it is in other surveys (Vere 2008; Rendall et al. 1999).

⁴⁴ Paid work includes all types of employment and self-employment.

women do not work for pay and perform 100 per cent of the housework in the second year after the birth. I recode both variables into four categories based on quartile cut-off points. For the division of housework I distinguish between couples where women do 0-59, 60-75, 76-88, or 89-100 per cent of the housework. For paid work, the categories are: women spend no time on paid work, less than 30, 31-43, or over 43 per cent of the paid work time.

Based on the BHPS question on the division of childcare responsibility, I use only a binary distinction; whether the mother is mainly responsible for childcare or whether the father shares equally or even takes more responsibility for childcare. The 3 per cent of fathers who say that they are more responsible for childcare than their partners are combined with the shared category, since they are too few to form a separate category.

5.5.2 Measuring the explanatory variables

5.5.3 Earnings

One partner's relative advantage in terms of labour market productivity over the other is measured as women's hourly gross earnings as a percentage of the sum of both partners' hourly gross earnings in the year before having the first child.⁴⁵ While mothers' wages are often considered an inadequate measure of their potential earnings due to part-time pay penalties (Manning and Petrongolo 2005; Washbrook 2007), this is less of a problem before motherhood when most women work full-time. There may, however, still be a risk of bias due to selection of women who plan to reduce their hours after having children into lower paid jobs or sectors. Women's pre-birth absolute hourly wage rate is considered in three categories – top quartile, middle 50 per cent and bottom quartile - to test the importance of their ability to afford paid help with domestic work instead of staying home themselves. Men's monthly gross earnings are included to examine this part of the income effect on the division of paid and domestic labour.

5.5.4 Gender role identities

Despite major limitations of using gender role attitudes as a proxy for identities (for a detailed discussion see Chapter 3), they are the only adequate measures available in the BHPS. Using factor analysis, I calculate two gender role attitude factors for partnered

⁴⁵ The results, however, do not change qualitatively when mothers' relative weekly income is used instead, as sometimes done in the resource-bargaining literature.

men and women of childbearing age, respectively.⁴⁶ In accordance with previous studies, men display more conservative gender role attitudes than women (see Table A5.1 in the Appendix). Since most of the questions focus more on women's employment, the association with the division of domestic labour is likely to be weaker.

Variability in people's gender role attitudes around parenthood, often as a consequence of the change towards a more traditional division of labour experienced by many couples, may reduce the association of women's pre-parental gender role attitudes with their postpartum division of labour (Berrington, et al. 2008; Burke and Cast 1997; Goldscheider and Kaufman 1996; Goldscheider and Waite 1991). Over the two year period, 26 per cent of women show some change towards more traditional attitudes and about 15 per cent show a change in the opposite direction based on the continuous attitude scale. However, only 7 and 4 per cent of women show a large change of 1 point or more towards more traditional or more egalitarian attitudes on the five point attitude scale, respectively. For men, the changes are smaller than for women and change is equally likely in either direction. After having their first child, 19 per cent of men become more traditional in their attitudes, while 17 per cent become more egalitarian. However, only 4 per cent of both groups show large changes exceeding 1 point on the five point scale.

5.5.5 Other covariates

Continuous variables of women's housework and paid work share before parenthood are used as predictors of routine, habit and specialised domestic skills. These are measured at least four months before the first birth so that they reflect as far as possible the division of labour prior to the birth, before any changes have occurred. To further account for the varying demands of housework and childcare couples face, I control for the age of the newborn in months and include a dummy for whether the couples have a second child in the year following the first birth. The first child's sex is accounted for as well. Furthermore, I include couples' marital status and their cohabitation duration in years, since the division of labour has been found to get more habitual and more traditional with longer relationship duration (Schulz and Blossfeld 2006).⁴⁷

⁴⁶ It is based on six BHPS questions, the wording of which is shown in Chapter 3.

⁴⁷ I also tested other controls such as ethnicity, non-linear specifications of woman's age as well as education measures broken down further but neither of these were significant.

I differentiate for both men and women between three levels of educational attainment: 'O-levels or less', 'A-levels or similar qualification' or 'at least one university degree'. Based on these, dummy variables representing different combinations of couples' educational achievements are created, since the effect of women's education may vary depending on whether their partners have equal, higher or lower educational qualifications⁴⁸. Furthermore, I control for women's ages, and the difference in partners' ages.

Women's and men's employment sector is controlled for by differentiating between public sector employment compared to working in the private sector or being self-employed. Women are assumed to be at least somewhat dissatisfied with their job when they report satisfaction levels of 5 or less on a 7-point scale. This cut off point is chosen to separate the majority (65 percent) of women reporting a 6 or 7 suggesting they are very or fairly satisfied with their job from those with some levels of dissatisfaction, since probably not a lot of dissatisfaction is needed for mothers to reduce their work hours after birth. In addition, I include the survey year as a continuous variable to reduce the risk of bias as a result of a movement towards greater gender equality in housework among childless couples over the observation period, but the opposite trend for childcare among couples with small children (see Chapter 3).

5.6 Results

The empirical analysis examines the significance of women's relative earnings and both partners' gender role identities for the change in couples' division of childcare, housework and paid work after becoming parents. This section first observes the extent to which men's and women's relative and absolute contributions to housework and breadwinning change after the transition to parenthood. It then highlights some interesting patterns among sub-samples. These are preliminary and need to be treated with caution, since they are based on small samples and do not control for other characteristics. As a next step, the modelling section presents more conclusive statistical results of regression models for the importance of different factors for the division of housework, paid work and childcare responsibility in couples' second year of parenthood. Finally, I examine whether the results differ if mothers' or fathers' absolute time spent on housework and paid work are used as dependent variables.

⁴⁸ This simple differentiation seems appropriate since educationally heterogeneous couples are composed of exactly the same number of couples at each educational level.

5.6.1 Descriptive illustrations

Figure 5.1 gives an overview of what happens in couples' division of paid work, domestic work and childcare from two years before to three years after the transition to parenthood. Women's average housework share increases on average from 65 per cent before birth to 73 per cent in the second year after birth. Women's weekly paid work hours relative to the couple's total paid work hours drop from 47 per cent to 21 per cent in the year after birth and increase again to 30 per cent in the second year of parenthood. While in 80 per cent of the couples mothers are mainly responsible for childcare in the year following childbirth, the percentage decreases to 73 per cent in the second and third year after birth. It should be noted, however, that the measure of the division of childcare responsibility is less precise and not comparable to those of women's relative housework and paid work hours.

Figure 5.1 : Couples' division of paid work, housework, and childcare during the transition to parenthood

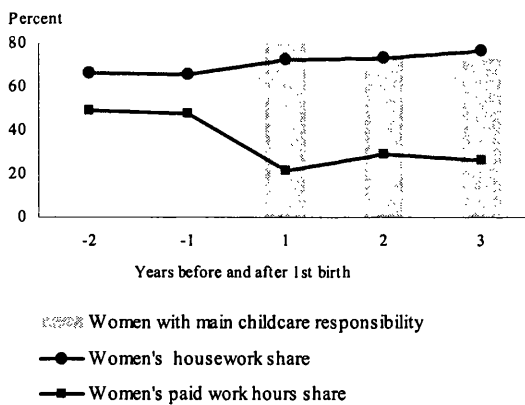
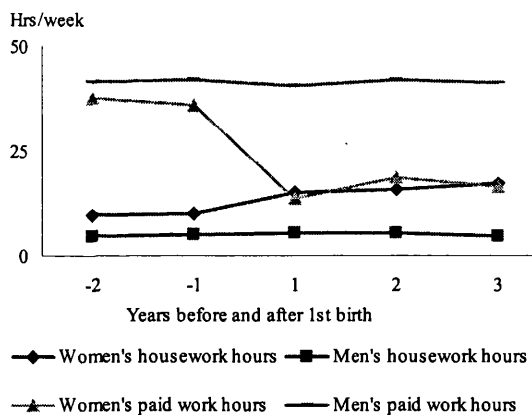


Figure 5.2: Mothers' and fathers' average absolute hours in paid work and housework before and after parenthood



In line with studies using other data sets (Gershuny 2003; Sanchez and Thomson 1997), the BHPS data also show that the greater inequality in both paid work and housework after becoming parents is mostly due to increases in women's time in domestic work and stark reductions in their paid work hours, as illustrated in Figure 5.2. By contrast, parenthood seems to increase men's time allocation for housework and reduce their paid work only slightly during the first year after becoming fathers. It can be assumed that much of the reduction in paid work is compensated by the time spent caring for the infant. However, unfortunately I do have any information on childcare hours, which

would be essential to properly represent each partner's total time use patterns during the transition to parenthood. Additional exploration of the data suggests that the slight drop in mothers' absolute and relative paid work hours in the third year is due to a greater number of couples having a second child in that year rather than prior to this time (e.g. one year after the first birth).

Contrary to the neo-classical economic argument or the resource bargaining approach, preliminary inspection of the data does not show any sign of reversed role specialisation for housework or paid work among couples where women earn more than their partners (N=160) before having children (see Figure 5.3). On average they start out with a more equal division of labour, but the amount of change towards more housework and less paid work they experience is very similar to the trend for all couples. Couples where both partners hold egalitarian attitudes seem to divide housework only slightly more equally than the average before parenthood, but experience apparently less change towards a more traditional division of labour than other couples (Figure 5.4). The small sample size of this last group (N=54), however, has to be kept in mind. Some differences are visible also for childcare with almost half of the egalitarian couples sharing the responsibility for childcare in the second year after birth as opposed to 27 per cent among all couples and 37 among couples where women had higher wages before the birth.

Even among the small subsample of couples where women do less housework and more paid work than their male partners before becoming parents, the division of housework and paid work becomes considerably more traditional and remains so in the second year after birth. Although the number of these 'reversed role couples' in my sample is too small (N=20) to draw conclusions, Figure 5.5 in combination with Figure 5.3 tentatively suggest that specialisation with reversed roles in terms of paid work and housework is not likely even under circumstances when it may be possible or efficient. This contradicts rational choice models which assume cost and benefit calculations to be the main criteria for behavioural choices.

Figure 5.3: Changes in the division of labour for women who earned more than their partner

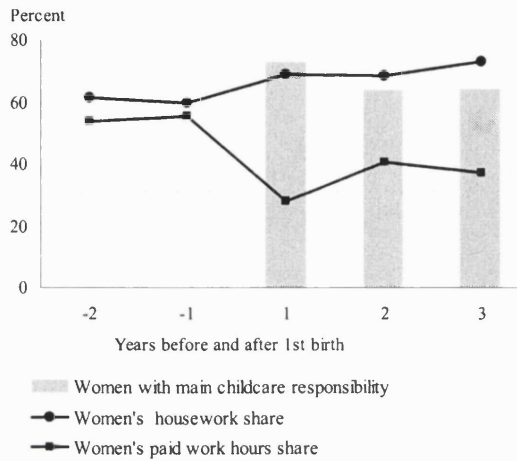


Figure 5.4: Changes in the division of labour within egalitarian couples

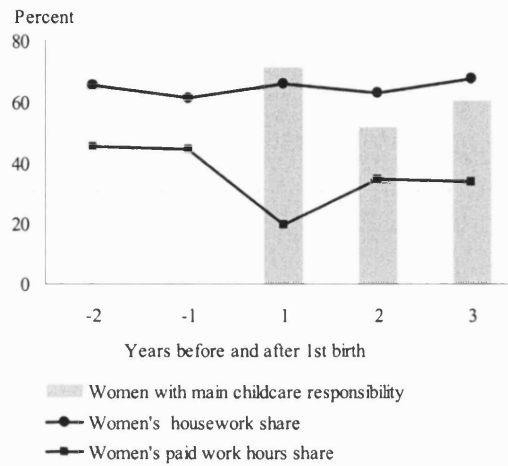
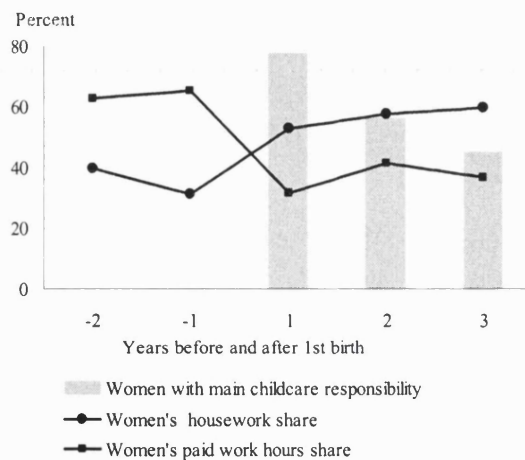


Figure 5.5: Changes in the division of labour for women who do less housework and more paid work before parenthood



5.6.2 Modelling strategy

Starting from regression models of women's responsibility for childcare, share of housework, and share of paid work which include only the control variables, I added separately variables of earnings of women and men and both partners' gender role attitudes. Examination of the pseudo R^2 confirms that gender role attitudes improve model fit slightly more than women's relative earnings and other income variables

(regressions not shown). I test the three hypotheses relating to the importance of 1) women's relative earnings, 2) women's gender role identities, and 3) men's gender role identities for the change in couples' division of paid and domestic labour after becoming parents. Models 1 to 3 present the simultaneous association of both partners' gender role attitudes and wives' relative earnings with couples' parental division of childcare, housework and paid work after controlling for the division of labour before birth. To explore whether couples' pre-parental division of housework and paid work weakens the effect of couples' relative resources or gender role attitudes and whether there is a risk of multicollinearity, I also examine a model excluding the control for couples' pre-parental division of labour (shown in Table A5.2 in the Appendix). A significantly stronger effect of women's relative earnings or gender role attitudes in this model would suggest that these factors are significantly associated with the division of labour after couples become parents but each effect is attenuated once the division of labour prior to having children is controlled for. Hence, they do not explain the extent of change in new parents division of labour in the home and in employment. Finally, I look at how effects of the significant pre-parental factors differ for women's and men's absolute housework and paid work hours.

5.6.3 Results for couples' parental division of childcare, housework, and paid work

As can be seen in Models 1 to 3 in Table 5.1, after controlling for the pre-parental division of labour, the associations between women's relative earnings and their responsibility for childcare, and shares of housework and paid work are not significant. These results lead me to reject Hypothesis 1 about the importance of relative earnings after accounting for couples' pre-parental division of labour. By contrast, women's absolute earnings are positively associated with a more equal division of housework in the second year after birth. This suggests that women's absolute wages are more significant for women's share of housework than their relative wages, pointing to the importance of outsourcing housework or lower standards. Women's and men's gender role attitudes are highly significant for the division of labour in all three areas after accounting for the pre-parental division of labour. Hypotheses 2 and 3 which relate to the importance of more egalitarian gender role identities of both partners for more equal

sharing therefore cannot be rejected for couples' division of childcare, housework and paid work⁴⁹.

I also observe a strong positive association between women's share of housework before birth and their housework and childcare contributions afterwards. Similarly, the more women work for pay relative to their male partners before becoming mothers, the more they will contribute to breadwinning after birth. Remarkably, the division of housework before birth also accounts for some of the variation in the parental paid work division, while the reverse association of pre-parental paid work with parental housework or childcare is not significant. This suggests that established routines and increasingly specialised skills in domestic work may be important factors. However, the effect cannot be interpreted as causal since this may also capture some unobserved characteristics of women who do more housework relative to their partners before parenthood and which may select them into more traditional arrangements of paid and unpaid work after having children.

In an additional model (shown in Table 5.2 in the Appendix), I examine whether a significant correlation between women's relative earnings and couples' division of paid and domestic work before having children weakens the effect the former has on how couples' adapt their division of labour after birth. Indeed, I find that higher relative earnings for women are significantly associated with a more equal division of paid work and close to significant for housework and childcare. Although I cannot identify the temporal ordering in these models, one possible interpretation may be that relative earnings play a role for how couples' divide household labour and breadwinning before they have children, while routine becomes more important for partners' division of labour after the transition to parenthood. Women's absolute wages show the same effect as in the first set of models which control for the pre-parental division of labour. As before, egalitarian gender role attitudes of either partner reduce women's share of housework and the likelihood of being mainly responsible for childcare, and increase women's share of paid work in the second year of motherhood.

⁴⁹ I also tried interacting women's and men's gender role attitudes but the results were not different from the sum of separate variables for women and men.

Table 5.1: Logistic regression models of women's shares of childcare responsibility, housework time, and paid work time in the second year after the first birth

<i>Mothers' shares of</i>	<i>Model 1: Childcare responsibility^a</i>		<i>Model 2: Housework time^b</i>		<i>Model 3: Paid work time^b</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Woman's pre-birth housework share	0.023	0.008	0.053	0.006	-0.011	0.005
Woman's -pre-birth paid work share	-0.001	0.011	-0.004	0.009	0.047	0.009
Woman's relative hourly earnings	-0.006	0.011	0.005	0.007	-0.001	0.008
Log of man's monthly earnings	0.229	0.243	0.177	0.147	-0.249	0.183
Woman's hourly wage top 25%	-0.547	0.502	-0.724	0.319	0.354	0.366
Woman's hourly wage mid 50%	-0.531	0.447	-0.714	0.262	0.245	0.288
Woman's hourly wage bottom 25% – omitted						
Woman's gender role attitudes	-0.763	0.237	-0.651	0.184	0.740	0.189
Man's gender role attitudes	-0.544	0.250	-0.643	0.201	0.473	0.222
Both less than A-Levels – omitted						
Both A-Levels or equiv.	0.268	0.409	-0.093	0.341	0.069	0.310
Both college degree	0.445	0.486	-0.220	0.393	-0.087	0.382
Man more educated	0.749	0.429	0.130	0.318	-0.477	0.329
Woman more educated	0.516	0.429	-0.008	0.349	0.062	0.324
Woman's age	-0.006	0.036	-0.056	0.029	0.032	0.027
Age difference (woman - man)	0.050	0.030	0.034	0.025	-0.019	0.025
Cohabitation duration	-0.047	0.051	0.018	0.035	0.093	0.039
Married before birth	0.450	0.323	0.028	0.282	0.201	0.259
First child age in months	-0.021	0.036	-0.024	0.026	0.013	0.025
Child sex is male	0.071	0.251	0.087	0.202	-0.141	0.187
Second child in 2nd year after first birth	0.245	0.576	0.464	0.348	-0.871	0.407
Woman employed in public sector	-0.401	0.315	0.451	0.243	0.625	0.215
Man employed in public sector	-0.757	0.343	0.007	0.282	0.425	0.274
Woman not satisfied with her job	0.429	0.273	0.352	0.197	-0.294	0.204
Scotland	-0.309	0.384	-0.529	0.291	0.416	0.302
Wales	-1.047	0.469	-0.438	0.408	0.451	0.439
Survey year	0.070	0.042	-0.028	0.031	0.016	0.030
Constant	2.923	2.261				
Ordered logit: Cut-off point 1			-3.693	1.680	4.784	1.735
Ordered logit: Cut-off point 2			-2.235	1.666	5.939	1.740
Ordered logit: Cut-off point 3			-0.951	1.668	7.389	1.752
No. of couples		549		549		549
No. of imputation cycles ^c		5		5		5
Pseudo R ² ^d		0.206		0.181		0.177

Note: ^a Logistic regression; ^b Ordered logistic regression; ^c Missing items are imputed using chained equations. ^d The Pseudo R² is based on models containing the same variables but before imputing item non-response.

To check for the presence of multicollinearity between measures of women's absolute and relative earnings, I also test their significance individually. However, women's relative earnings are not statistically significant for any of the three areas whilst their

absolute earnings are significant for housework but not for the other tasks. Without controlling for the pre-parental division of housework and paid work, the significance of either measure of women's wage increases when the other is not included, but the results do not change qualitatively. This suggests that while the two earnings measures are correlated, their weak explanatory power for the change in the division of labour around birth is due to the pre-parental division of labour mediating the earnings effect, rather than multicollinearity between measures of women's absolute and relative wages.

Among the other control variables there are few significant associations. Men who are public sector employees seem to be more likely to share childcare. Women who work in the public sector before birth, however, have a higher housework share, but also do relatively more paid work after becoming mothers. For women, a low level of job satisfaction before motherhood correlates with a higher housework share afterwards. There are some regional differences with Welsh fathers being more likely to share childcare. Scottish mothers have a smaller increase in their housework share than their counterparts in England. Finally, even after controlling for all the other factors, the share of mothers who are mainly responsible for childcare seems to have increased over the observation period.

5.6.4 Results for mothers' and fathers' absolute housework and paid work time

As shown in Table A5.3 in the Appendix, I find a positive correlation between each partners' own housework hours before and after having a child, albeit stronger for women than for men. Fathers' housework hours are inversely correlated with the length of their paid work hours before birth and are larger in couples where women do more paid work before parenthood. Interestingly, controlling for either partner's time in housework and paid work, men's and women's gender role attitudes are not significant predictors of their own housework time after becoming parents. Instead, the partner's attitude seems to have a greater effect than their own. Partners of women with earnings in the middle 50 per cent range before birth seem to do more housework than those with lower earnings. While there is no linear relationship, since partners of women with the highest earnings do not perform significantly more housework than those in the lowest quartile, it still suggests that women's earnings levels matter for the housework contributions of some men. This runs counter to the argument that women's earnings

only reduce their own housework time by enabling them to outsource domestic work, or by lowering their own feelings of responsibility for doing the housework.

Men's and women's hours in the job before birth predict their own paid work time after the transition to parenthood (see Table A5.4 in the Appendix). However, the larger women's and men's housework time before motherhood, the lower also their paid work time afterwards. Both partners' egalitarian gender role attitudes are strongly correlated with the extent to which women return to work by the second year after birth, while there is no significant association with men's hours spent on market work after they become fathers.

Overall, the insignificance of women's relative earnings is confirmed also for women's and men's absolute hours in paid and domestic work after having a child. Women's absolute earnings are positively associated only with fathers' housework time. After controlling for either partner's pre-parental time spent on housework and paid work, men's and women's egalitarian gender role attitudes are not associated with their own housework time, but with higher housework contributions of their partners. Furthermore, both partners' attitudes are significant predictors of mothers' paid work hours.

5.7 Discussion and conclusion

This research has shown that, for most British couples, the division of housework and paid work on average becomes considerably more traditional during the transition to parenthood. These changes are largely due to most women's primary childcare responsibility, an increase in women's time spent on housework and a decrease in the paid work hours of women. The main contribution of this study is to explore to what extent each partner's earnings and gender role identities can explain the greater gender inequality apparent in most couples' division of paid and domestic in the second year after the first birth. The results suggest that men's and women's gender role identities are more significant than partners' relative or absolute earnings. Albeit starting from a more equal distribution before birth, even in couples where the woman earns more than her partner before parenthood, a similar amount of change towards a more traditional division of labour is experienced. I also find a strong correlation between couples' division of housework before the first birth and their arrangements of childcare, housework and paid work after becoming parents, possibly pointing to the increased significance of habit and specialised skills in domestic work.

In contrast to earlier American studies (Deutsch, et al. 1993; Sanchez and Thomson 1997), I find very limited support for economic explanations following the neo-classical economic theory or the resource-bargaining approach. After accounting for women's pre-parental shares of housework and paid work, women's larger relative earnings before parenthood are not significantly associated with the division of labour in the second year after birth. Women's absolute earnings are only negatively associated with their housework share after becoming mothers. The insignificant association of earnings with mothers' paid work participation contradicts the argument that women with higher opportunity costs in terms of forgone earnings might take less time out of paid work to do care work. In contrast to Gupta's (2007) suggestion that higher earnings may enable women to outsource more housework, I do not find a negative effect of women's absolute earnings on mothers' own housework hours, but instead there is a positive association with fathers' housework time. Since there is only a significant difference between couples where women's hourly earnings are in the lowest quartile and those with female earnings above that level, this may point to a threshold effect. My findings suggest that mothers' absolute earnings before birth play some role in bargaining or the value attributed to women's time. However, the mechanism seems more complex than outlined by existing theories and needs further investigation.

The pre-parental division of labour and women's and men's gender role identities seem to be more important than economic considerations for couples' division of childcare and their relative as well as absolute time spent on housework and paid work in the UK. This is in line with German studies (Grunow, et al. 2007; Schulz and Blossfeld 2006), which propose that habit and routine and relatively traditional social norms play a more important role than relative earnings for changes in couples' division of housework over the course of their relationship. The detailed mechanisms behind how the previously established division of labour leads to more specialised skills, or is habitually strengthened, is unclear.

The greater significance of both partners' gender role identities over earnings for predicting changes in couples paid and domestic work arrangements around a birth provides support for the benefit of theoretical models which explicitly consider information regarding the sort of work-family balance people want or think is right for

themselves, rather than focussing just on economic circumstances. The finding that their partner's gender role identities are more important than their own for the amount of housework women and men do after having children is interesting, as it suggests that new parents are trying to meet their partners' expectations regarding the division of labour in the family sphere. Their own gender role identities, however, are as important as their partners' for mothers' paid work participation. These results differ from the findings by Deutsch et al. (1993) and Sanchez and Thomson (1997). Both studies observe only a weak association between gender role attitudes and housework or paid work for couples in the US. The results for childcare are, however, consistent with those of Deutsch et al. (1993) who observe that men's pre-parental egalitarian gender role attitudes are positively associated with equal sharing of childcare responsibility. In addition, I find that women's own gender role attitudes and the pre-parental division of housework are significant predictors of shared childcare. While Deutsch et al. (1993) suggest that, in the US, different strategies might be needed to increase men's involvement in childcare on the one hand and housework on the other, in the UK gender role identities and the established housework routine seem to be by far the most important factors for both domains. It is unlikely that the differing results are affected by research design differences, (such as the time that passed since first birth), since Deutsch et al.'s (1993) study was carried out in the first year of parenthood and Sanchez and Thomson's (1997) at varying times during the first few years after couple became parents and both report similar results. The difference with the American studies may be due to institutional differences in policies around parenthood, such as shorter, but less gendered leave entitlements around a birth and the greater availability and acceptance of formal childcare in the US. The role that parenthood policies and other contextual differences may play in explaining these cross-national variations are discussed in more detail in Chapter 7.

One major limitation of this investigation is that I was not able to consider the eligibility and length of mothers' maternity leave or breastfeeding patterns, both of which are likely to play an important role in determining the level of responsibility borne by each parent for the care of the infant and probably also for determining their hours of housework. Information on the length of maternity leave mothers take is available only for a small subsample of mothers (N=145) who have complete monthly employment histories for the respective year. A preliminary exploration of the importance of the length of

maternity or family leave taken by first-time mothers during the first year after birth suggests a significant positive correlation with mothers' housework share and a negative association with paid work in the second year after birth. The results for the other covariates, however, are not affected by including maternity leave duration. Due to the small sample size and endogeneity issues, these models are not shown. The strong correlation between maternity/family leave length and couples' subsequent division of domestic labour calls for further research which looks into selection mechanisms into maternity leave and the longer-term consequences of maternity/family leave duration for different groups of couples.

Some overestimation of the association between gender role attitudes and the measures of the division of labour within couples is possible, since the latter are based on self-reported estimates or reports of the division of responsibility. However, this is unlikely to completely account for the strongly significant association. The variation in the extent to which new parents' division of childcare, housework and paid work becomes more traditional and the correlation with women's and men's gender role identities indicates that couples have a certain degree of flexibility in adapting their division of labour according to their identities. Nevertheless, standardised survey measures of attitudes are not informative as to whether people are realising their preferences or identities to the full. Some shift towards a more traditional division of labour occurs even amongst the most egalitarian couples or those for whom role reversal would be financially efficient. While this nearly universal tendency towards greater traditionalism may be in part the result of contextual factors such as family policies, my only proxy for structural differences is women's and men's employment sector. Women who are employed in the public sector on average do more paid work after birth. Male public sector employees seem to do less housework even though they are more likely to share childcare. With the available data it cannot be established whether these differences are due to self-selection into certain jobs or structural differences regarding the family-friendliness of workplaces or job positions. Methods controlling for some forms of selection and more detailed information on employer provision and women's and men's take-up of family-friendly benefits such as childcare leave, flexible working hours and day-care subsidies would be needed to draw well-founded conclusions. Furthermore, the available data did

not allow the inclusion of other external influences such as support from relatives or availability and affordability of day-care.⁵⁰

There are also some methodological limitations of this study. Unidirectional regression equations only allow me to explore parallel effects of pre-parental gender role attitudes and earnings on parents' division of childcare, housework and paid work after becoming parents, hence are not ideal for considering the interdependence of the three adaptation processes e.g. in terms of employment effects on the division of domestic work and childcare over several years after birth or reversely. Ideally future research should attempt to also consider the mutual dependence of these decisions over time. Despite these limitations, this analysis provides the first evidence of the importance of both partners' earnings and gender role identities for the increase in inequality in the division of domestic and paid work during British couples' transition to parenthood. The results challenge conventional economic models of the division of labour within families.

⁵⁰ The questions on help with childcare available in the BHPS was asked conditional on mothers' employment and therefore may have caused endogeneity problems with the dependent variables, since the choice of employment is not independent of day-care availability.

6 Relationship quality with pre-school children: How domestic work matters to her, him, and them

6.1 Introduction

As Chapter 5 has shown, the transition to parenthood results in a significant increase in time spent on domestic work for most couples. This is often accompanied by a reduction in paid work involvement of at least one partner, usually the mother. This chapter investigates how these changes may impact on couples' relationship quality during the first years of parenthood. Most longitudinal studies comparing marital satisfaction before and after couples become parents have found a decrease in both partners' happiness with the relationship after the birth of their first child (e.g. Belsky, et al. 1983; Demo and Cox 2000; Gable, et al. 1995; Glenn and McLanahan 1982; Twenge, et al. 2003). Some recent UK studies also find a reversal in the previously established marriage-stabilising effect of children (Böheim and Ermisch 2001; Chan and Halpin 2002; 2005), while others do not find such an effect (Steele, et al. 2005). Evidence is mixed as to whether couples with pre-school children still have a lower risk of breakdown than childless couples in recent cohorts (Chan and Halpin 2005; Steele, et al. 2005).

In the UK, the percentage of children aged below five who experience parental divorce has been increasing since the minimum period after which one partner can petition for divorce in the mid-1980s has been reduced (Haskey 1997). The dissolution risk of cohabiting couples with preschool children has declined over recent cohorts (Steele, et al. 2006). However, the generally larger separation risk in cohabiting compared to married unions (e.g. Gershuny and Berthoud 1997) probably means that a considerable percentage of children who experience their unmarried parents' separation do so at a relatively young age. This research will include married and unmarried cohabiting couples. While a separate analysis of the two groups would be of great interest, the available sample size of cohabiting couples is too small for a separate examination of the association between couples' division of domestic labour and relationship quality after becoming parents.

Although alternative living arrangements are increasingly perceived to be just as acceptable for bringing up children as the two-parent family (Barlow, et al. 2008), a lot

of studies have found that family breakdown is associated with disadvantages in terms of a range of childhood, adolescent, and adult outcomes (e.g. Amato 1993; Bumpass 1990; Ely, et al. 1999; Kiernan 1992a; 1997; Sigle-Rushton, et al. 2005). This association seems stronger when children experience their parents' divorce at younger ages (Lyngstad and Engelhardt 2007; Steele, et al. 2007). This analysis concentrates on relationship quality of parents with pre-school children, since they seem to face a higher risk of family breakdown than in previous decades.

Twenge et al. (2003) conduct a meta-analysis of the existing literature regarding differences in the parenthood effect on relationship satisfaction across different groups of the population. They find greater support for some sort of work-family role conflict lowering relationship satisfaction of fathers and especially of mothers than for arguments of an increased financial burden or sexual dissatisfaction. They base their conclusion on the finding that the decline in relationship satisfaction is greater for mothers than fathers and largest for women of higher socioeconomic strata. In this chapter, I attempt to provide more direct evidence on how the satisfaction with one's partner and the stability of the relationship during the first years of parenthood is associated with differences in the division of childcare, housework, and paid work within couples.

Most previous longitudinal research investigates the association between an unequal division of labour or unfairness perceptions of housework and marital quality either for samples of all couples or specifically dual-earner couples (Benin and Agostinelli 1988; Chan and Halpin 2002; Frisco and Williams 2003; Pina and Bengtson 1993; Pleck 1985; Wilkie, et al. 1998). A few studies explore housework as well as childcare among couples with children of school age or older (Helms-Erikson 2001; Kalmijn 1999; Voydanoff and Donnelly 1999), for whom childcare is less time consuming and involves less routine and more socialisation aspects than for infants. Some earlier American studies focus specifically on relationship quality after the transition to parenthood but they are based on relatively small samples and mostly follow couples only from a few months before to at most one year after the first birth (Belsky, et al. 1986; Belsky, et al. 1983; Cowan and Cowan 1992; MacDermid, et al. 1990; Ruble, et al. 1988). This chapter extends this literature by providing recent evidence about the relationship between couples' domestic work arrangements and relationship quality among parents with pre-school children.

The following section summarises the theoretical framework and the model based on which I derived hypotheses in Chapter 2. The hypotheses regarding the importance of couples' housework allocation and the division of childcare responsibility for relationship quality are tested using data from the British Household Panel Survey. Details on the measures and methods used for the empirical analysis are given in Section 3 and 4. Section 5 presents the results followed by a more detailed interpretation in the light of previous research in section 6. The conclusion considers the trade-offs involved in this analysis and how the limitations may be overcome and improved in future research.

6.2 Theorising new parents' division of domestic work and relationship quality

I draw on the theoretical framework developed in Chapter 2 to examine whether a model combining economic costs and benefits and considerations of a person's identity can better explain changes in satisfaction with the partner around birth and separation risk than a model based on rational choice alone. For some time, economists and sociologists have concentrated on the consequences of the expansion of female labour market participation on divorce risk. Neo-classical economic models predict that a specialised division of labour will lower the risk of relationship breakdown, since the gains from staying in a relationship are larger than in case of a more symmetrically structured division of labour (Becker 1991). Sociologists have proposed two counter arguments based on the benefits of a more symmetrical division of labour in terms of risk sharing (Oppenheimer 1994; 1997) and emotional closeness between partners (Beck and Beck-Gernsheim 1995; Giddens 1992; Scanzoni 1978; Simpson and England 1981). Empirical evidence on both sides of the argument is mixed.

With respect to the association between couples' division of domestic work and relationship quality, previous research has argued that the relationship will depend on women's expectations (Deutsch 1985; Pina and Bengtson 1993; Walster, et al. 1978; Wilkie, et al. 1998). Following sociological identity theory, men's and women's identities regarding their roles as male/female partner in a relationship and as mothers or fathers are assumed to constitute the standards for their division of labour (Burke and Cast 1997). Discrepancies between these standards and the actual division of childcare, housework and paid work are expected to result in increased levels of frustration or anxiety and therefore lower satisfaction with the partner. Dissolution of the relationship

is one strategy to reduce this. Another strategy is to adapt one's identity to the present situation. Existing research provides some support for both processes (Berrington, et al. 2005; Greenstein 1995; Himmelweit and Sigala 2004; Kalmijn, et al. 2004; Pina and Bengtson 1993; Wilkie, et al. 1998).

To capture subjective evaluations of the division of labour as well as effects of changing circumstances after the first birth on couples' relationship quality, I assume the satisfaction both partners derive from the relationship to depend positively on the number of children (k). Children represent relationship specific goods which should strengthen the bonds between parents. However, women's and men's utility from the relationship is at the same time negatively related to men's and women's own housework and childcare time (h and c). The effect size depends on their gender role identities (G). This may partly or fully offset the positive utility from having children. As in the previous chapters, the number of children is assumed to be an increasing function of the time both partners spend on housework and childcare:

$$k = k(h_w + h_m + c_m + c_w) \quad (4)$$

Women's and men's utility from the relationship can be formally summarised as follows:

$$U_w = U(k) - f(G_w)V(h_w, c_w) + x_w \quad (1)$$

$$U_m = U(k) - f(G_m)V(h_m, c_m) + x_m \quad (2)$$

The effects of the transition to parenthood are not modelled directly but only through their changes in the respective components of the model. Since the transition to parenthood results in an increase in housework time and a reduction in paid work for most women (Gershuny 2003), I would expect this to impact more negatively on the utility from the relationship for women with egalitarian gender role identities. Most men generally experience little change in either housework or paid work time and therefore surprises are less likely to occur than for women after becoming parents. Furthermore, violations of men's traditional gender role identities as a result of an equal division of domestic work are relatively rare at this life-cycle stage and the sample of such couples is not large enough to explore this. I therefore assume that the consistency of women's

relatively egalitarian gender role identities with their domestic work division will be more important for relationship quality than moderating effects of men's identities.

As for the decision to separate, each partner is assumed to compare the current utility from staying in the relationship with the expected utility after separation. Under the assumption of transferable utility between partners, couples will therefore separate if the combined utility from separating exceeds that of staying in the relationship:

$$(U_w^s + U_m^s) - (U_w^r + U_m^r) > 0 \quad (10)$$

The utility in the event of a separation will depend on the assumptions made for each partners' alternatives outside the relationship and on the costs of dissolution. Since in the UK custody for children is usually given to the mother in case of divorce, I assume both partners to expect this outcome. After separation, fathers are assumed to have relatively little access to their children and to lose most of the utility from having children. The model assumes that this loss is independent of men's involvement in domestic work. The reduction in childcare time in case of separation would be evaluated more positively by men with traditional identities than for those identifying with more egalitarian gender roles. An alternative position in the literature would suggest that the utility loss from being separated from the child(ren) is greater for fathers who previously spent more time with them and had established a stronger bond with them than for fathers who did not play an important part in their children's lives (England and Kilbourne 1990). The statistical analysis of relationship stability will examine the extent to which the model's assumptions regarding the effect of childcare versus the alternative argument receives support.

After separation, mothers' time spent on domestic work on average decreases, while their paid work time increases (Gershuny 2000). The reduction in domestic work will be assessed more positively by women with egalitarian gender role identities. Equally, the potential increase in women's time spent on paid work after a separation will be assessed more positively by women with relatively egalitarian gender role identities. Therefore, the risk of separation is expected to be a positive function of women's egalitarian gender role identities. To maximise the chance of a stable relationship, men's domestic work shares will be increasing where women have egalitarian gender role identities. Women's

egalitarianism and couples' domestic work division are assumed to have a direct effect on women's satisfaction with the relationship but to also indirectly affect their partners'.

Similar to the childbearing analysis in Chapter 4, I would expect the division of housework to matter for relationship quality mainly among dual-earner couples, since during labour market interruptions women are likely to lower their expectations regarding men's contributions to housework and childcare. However, the focus is on couples' relationship quality a few years after becoming parents for the first time. About one third of couples have a second birth within three years after the first, implying longer leaves or more than one labour market interruption for most of these mothers. Excluding those would make the sample very small and selective. Testing the three hypotheses for all mothers irrespective of labour market status seems also justified, since having a second birth within two or three years after the first may cause enough additional work to also make egalitarian mothers who are currently out of work expect some housework help from their partners.

Based on this model the following hypotheses will be tested regarding the association with satisfaction from the relationship for women and men and the odds of separation amongst couples with small children:

H 1: Women's egalitarian gender role identities are negatively associated with relationship satisfaction and the stability of their relationships.

H 2: To maximise the satisfaction with the partner of women and men and minimise the risk of relationship breakdown, men's contributions to childcare and housework will be an increasing function of the egalitarian gender role identities of their partners.

6.3 Interactions and controls for the analysis of satisfaction and separation risk

Since the neo-classical economic models (Becker, et al. 1977) and several empirical studies (e.g. Chan and Halpin 2002; Heckert, et al. 1998; Hoffman and Duncan 1995; Ono 1998; Poortman 2005a; Poortman and Kalmijn 2002; Rogers 2004) suggest a positive effect of women's labour market productivity on the risk of relationship breakdown, I need to control for women's varying costs of exiting the relationship. Furthermore, in line with identity theory the model above would expect women's satisfaction with a return to paid work after having children to depend on their gender

role identities. Women who have a relatively egalitarian identities are likely to want to return to the labour market more quickly than women with more traditional gender role expectations in order to continue their career and contribute to breadwinning. Mothers with relatively traditional division of labour expectations might only return to work for financial reasons and may attribute this to their partners' insufficient earning capacities. In these cases, mothers may be less satisfied with their partner. Women's disutility from paid work, and as a result, also their dissatisfaction with the partner, is therefore likely to be lower for women with egalitarian gender role identities than for those who prefer relatively traditional gender roles.

Oppenheimer (1994; 1997) and subsequent empirical studies (Conger, et al. 1990; Heckert, et al. 1998; Poortman 2005b) stress the advantages of dual-earner couples and in particular fathers' paid work for relationship satisfaction and stability due to reduced financial strains and greater adaptability to events that may pose risks to one partners' employment. I therefore also control for fathers' paid work hours and couples' gross monthly earnings.

The analysis of satisfaction with the partner within parent couples focuses on the third year after couples had their first child, since I use lagged explanatory variables. It seems more adequate to measure couples' domestic work after most mothers have returned to work, which is only the case in the second year after birth. During the first three years a considerable percentage of couples have a second child. Two small children are likely to increase the time and energy that families devote to childcare. Having the main responsibility for childcare may become more burdensome when there is another infant to look after. An unequal division of housework may also have a greater negative effect on satisfaction with the partner among these couples, since women who already have a second child may find their additional housework burden more frustrating than women who have only one child. In chapter 4, I also found that couples are more likely to have a second child sooner if they have low or high levels of education and if mothers do not work for pay. An unobserved selection factor may include the desired number of children. To take account of the different situation of couples with a second birth and potential selection effects, I test for interaction effects between the division of labour and the number of children couples have. While this allows for a different effect of domestic

work on relationship quality among couples with two children, these interactions cannot investigate the importance of different selection mechanisms.

Theoretical work on women's fairness perceptions proposed the importance of women's sense of feeling appreciated and understood by their male partners and women's comparison referents (Major 1987; Thompson 1991). In line with these perspectives, Hawkins et al. (1995) find that women's feelings of being appreciated and whether women compare their contributions to other women or to their partners were equally strong predictors as partners' relative time spent on different household tasks. While I do not have this specific information, partners' similarities in their gender role identities may contribute to women feeling understood and appreciated by their partners. In line with this reasoning, Sanchez, Manning and Smock (1998) find a greater likelihood of separation among couples where the woman is more egalitarian than her partner. Moreover, very liberal attitudes towards divorce of either partner are expected to lower relationship stability. The first few months after birth may also put stress on the relationship if the mother suffers from post-natal depression. I therefore control for women's psychological wellbeing.

Couples of higher socio-economic status show a greater reduction in marital satisfaction around childbirth (Twenge, et al. 2003). However, couples with less than A-level education have generally been found to have a higher risk of relationship dissolution than those where one or both partners have medium or high levels of education (Kiernan and Mueller 1998). An exception may be couples where women are substantially more educated than their partner, since this constellation also seems to increase instability (Kalmijn 1999; Steele, et al. 2007). The stability of couples' relationships has also been shown to vary with the age difference between partners. Couples where the man is of equal age or slightly older than the woman are less likely to separate than couples where the female partners is older than the male (Steele, et al. 2007). The analysis therefore controls for couples' educational levels and age difference.

I also consider a number of factors relating to partners' relationship and fertility histories. I include women's ages at birth and whether the woman had a pre-marital birth, since young couples and those having a birth out of wedlock may be more likely to break up (Chan and Halpin 2005; Steele, et al. 2007; Waite and Lillard 1991). The stability of

relationships also tends to increase with longer relationship duration (MacDermid, et al. 1990). Except for a few studies that control for individual unobserved heterogeneity, a greater risk to dissolve has been found for couples where one partner has previously been married and experienced a separation or divorce (Beaujouan 2007; Steele, et al. 2007). As having a child in another household may also impact negatively on relationship quality (Steele, et al. 2007), especially during the early years of parenthood when time is scarce and support most needed, I also include a control for whether the male partner already had a child with a previous partner. Finally, I account for the gender of the first child, since some earlier studies reported greater stability for couples whose first child was a son (Morgan, et al. 1988).

6.4 Data and methods of analysis

6.4.1 Methods and sample selection

I use the British Household Panel Survey to test the hypotheses for satisfaction with the partner among mothers' and fathers and for relationship stability. To examine the relationship between satisfaction of women and men with the partner and domestic and paid work arrangements within couples, I use ordered logistic models of partner satisfaction in the third year after birth with explanatory variables measured in the second year after birth. Using satisfaction with the partner as an ordinal variable rather than a continuous variable is more appropriate due to its skewed distribution. Moreover, this allows me to use multiple imputation techniques to estimate the missing information in this variable. Domestic and paid work measures in the second year after birth are superior to measures in the first year, as for many couples the latter is exceptional in terms of mothers' maternity leave and women are less likely to feel frustrated with a short-term change in the division of labour.

I control for women's and men's levels of satisfaction with the partner before birth, as my main interest is in explaining the change in satisfaction during transition to parenthood. Furthermore, some scholars have argued that relationship satisfaction is like a relatively stable personal characteristic which is not completely explained through observable factors (Belsky, et al. 1983). The question on satisfaction with one's partner is asked only from 1996 onwards and was interrupted for one year in 2001. I therefore limit my sample to couples that have a birth from 1996 onwards and for whom I have data on their satisfaction just before and in the third year after birth. While fixed-effects

panel data models over several years after birth would also account for time-invariant unobserved individual heterogeneity, it would be very difficult to account for differences in effects one and two years after birth and for couples with one or two children, especially given the small sample size. Moreover, there is too little variation in the binary measure of couples' division of childcare to use this variable in a fixed effects model.

To explore the association between the stability of couples' relationships over the first years after becoming parents and the domestic work division, I apply event-history analysis. While the duration dependency of the baseline hazard would be theoretically interesting, it is not possible to investigate this with yearly data for the short time period from two to five years after the transition to parenthood. I therefore use a Cox proportional hazard model adjusting for tied survival data. To reduce the risk of endogeneity between the risk of relationship breakdown and the explanatory variables, I use first order lags of the explanatory variables. Measures of childcare are only available on a yearly basis from 1994 onwards, so the earliest births included are those occurring in 1992, for which the childcare variable is then available for the second year after birth. Since the number of couples with small children who separate in my dataset is very small, I use all available waves (1992-2005) of data for the analysis of separation risk despite some limitations with regard to comparability of the results with those for satisfaction with the partner. I limit my observations of relationship stability from the second to the fifth year after childbirth in order to be able to include lagged variables of the division of labour after couples become parents and since a considerable percentage of new parents cannot be observed for more than five years either due to wave non-response or because of the end of the survey. For all parts of the analysis, I limit the sample to partnered women aged 20 or over when having their first birth, since the experience of parenthood is likely to be different for teenagers.

6.4.2 Sample selection and missing observations

After excluding teenagers and couples that are censored after birth due to the end of the survey, I observe 599 first births for which the date of birth is available. Of these couples, 48 (9 percent) experience separations between the second and the fifth year after the first birth. However, 51 drop out due to attrition and 12 due to separations in the year after birth. 101 couples have some item non-response in the explanatory variables for the

second year after birth which is my starting point for the event history analysis. The sample of complete cases is therefore 435 couples.

For the analysis of satisfaction with the partner, the sample is considerably smaller due to the later start and the interruption of the satisfaction question, which is used for the dependent variable. Since I need one observation of relationship satisfaction before birth for the partial change models, I can only consider couples having their first child at wave 7 or later. After excluding births to teenagers and couples censored because the last survey wave took place before their third year after birth, the sample consists of 398 cases of which 27 drop out due to attrition and 22 due to separations before the third year after birth. For further 47 couples, the third year after birth was at wave 11 when the relationship question was not asked. Of the remainder, 100 couples have not responded to one or more questions used for the explanatory variables. The number of complete cases is 202 couples.

To investigate the risk of bias due to wave non-response or attrition of either partner between the second and fifth year after having the first child, I estimate a Cox proportional hazard model of non-response. Table A6.3 in the Appendix shows that among the variables used in this analysis only men's shorter paid work hours are significantly correlated with a higher risk of non-response. Since the rate of non-response with less than 10 per cent is relatively small, this does not point to significant risks of bias as a result of under or over representing certain groups of the population. For this part of the analysis, I was not able to rerun the models for a balanced sample up to wave 9 using longitudinal weights because the sample size would be reduced to less than 100 couples. To check for potential bias due to over-sampling of couples in Scotland and Wales, I reran the final models just for England. The results for the satisfaction analysis remained the same. In the analysis of relationship breakdown, the coefficient for childcare division loses its significance, while women's full-time employment becomes statistically significant.

More missing observations in this analysis derive from item non-response rather than attrition. The relatively rich information on different characteristics that the BHPS provides is used to impute the missing items. The covariates with the largest numbers of missing responses include women's share of housework, income measures, men's gender

role attitudes and educational level. To test what other variables explain missing responses in these covariates, I explored the characteristics of people who have missing responses for one or more items and find that being in the BHPS original sample starting from 1990 reduces item non-response as does women's ages, being married, and men's poor health.⁵¹ To test for potential bias in the results based on the complete cases, I impute the missing observations using chained equations. For this, I include the significant predictors in the multiple imputation models in addition to the other regression covariates. Since the amount of missing information relative to the complete cases is almost 50 percent, imputing all the variables may result in unreliable random estimates for the missing items. I therefore decide not to impute women's hours of paid work, couples' division of housework, and relationship duration, since they are not normally distributed. Imputing all the other covariates sufficiently increases the sample size to 560 for the analysis of relationship stability and 285 for satisfaction with the partner. Only the imputed results are reported, since they do not vary substantively from those for the complete cases.

6.5 Measuring dependent and independent variables

6.5.1 Satisfaction with the partner and separation risk

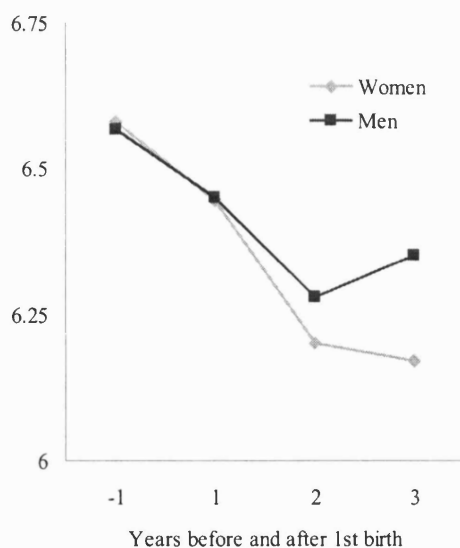
The BHPS contains only one question asking how satisfied each respondent living in a couple is with his or her partner on a scale from 1 to 7, with 1 denoting 'not satisfied at all' and 7 'completely satisfied'. A one-item measure is less reliable than latent variables based on several relationship aspects (Twenge, et al. 2003). However, the latter indicators have been found to inflate the association between marital quality and self-reported measures of interpersonal processes within marriage, since the different items often include evaluations of marital quality as well as reports of specific behaviours (Bradbury, et al. 2000). Questions like this one asking for general feelings of satisfaction are prone to social desirability bias and may suffer from people's tendencies towards self-denial of problems. Therefore, the analysis is likely to overestimate respondents' levels of satisfaction with the partner. By accounting for the level of satisfaction before parenthood, however, I focus on change in satisfaction with the partner since pre-birth, which should alleviate this problem. There is also a risk of overestimating the correlation between the domestic work division within couples and each partner's satisfaction, since

⁵¹ I also tried including men's poor health in the models of interest but it was insignificant and did not affect the associations of the other covariates.

both measures are self-reported and a person's satisfaction with the partner may affect his or her reports of the division of childcare responsibility and the amount of time spent on housework.

Figure 6.1 shows the trend in satisfaction with the partner for men and women from the year before the first birth to three years after. One can see a reduction for women and men over time, even though men's satisfaction recovers slightly in the third year after birth. Although the reduction is small in absolute terms, the difference is statistically significant from the year before birth to the second and third year after. As one would expect, the levels of satisfaction of mothers and fathers with the partner in the third year after birth are strongly correlated (Pearson's $r=0.35$, $\text{sig}=0.000$). Since the indicator on satisfaction with the partner is strongly skewed towards positive reports, I recode it into an ordinal variable with just four categories for the subsequent regression analysis. Less than 10 per cent of people report being dissatisfied or being neither satisfied nor dissatisfied (1-4 on the scale). Therefore these are combined into one category, while the upper three categories are left as they are.⁵²

Figure 6.1: Satisfaction with the partner among men and women from before to three years after birth

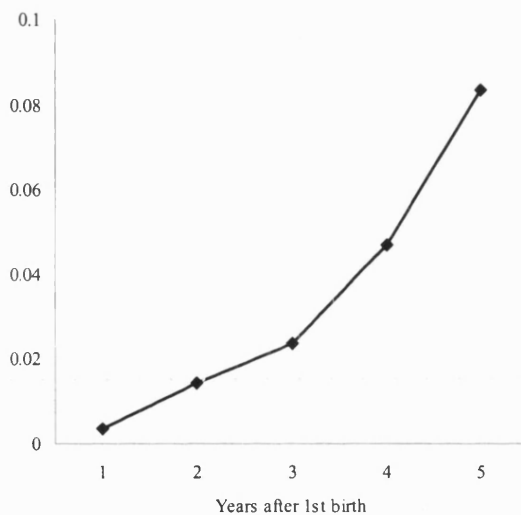


Note: This trend is based on the means of the original 7-point scale variable of satisfaction with the partner.

⁵² The results are slightly less significant but do not change qualitatively if the satisfaction measure is used as a continuous variable in an OLS regression. The same applies when a logistic regression is used based on a binary distinction between couples with a significant reduction in satisfaction and those where there is almost no change or an increase in satisfaction.

The dependent variable separation risk is based on respondents' partnership statuses and changes from one year to the next. Relationship breakdown is understood as separation or divorce, while death of one partner is coded as a censored observation. Couples' dissolution risks are operationalised as the log of the relative risk (hazard) of separation of couple i at time t given the probability that they stayed together until that time ($\text{Log}[h_i(t)/h_0(t)]$). As can be seen in Figure 6.2, just over 8 per cent of couples separate by the fifth year after their first birth.

Figure 6.2: Proportion of couples that have separated by the respective year after birth



Satisfaction with the partner and risk of union dissolution can be understood as capturing a continuum of relationship quality rather than two distinct components. I would therefore expect the two measures to be related. As shown in Table 6.1, first order lags of men's and women's self reports of their satisfaction with the partner are indeed significantly and negatively associated with the risk of relationship breakdown. Men and women who report being dissatisfied or only somewhat satisfied are more likely to separate than those who choose the top two options on the original seven point scale.

Table 6.1: Cox proportional hazard model of the risk of separation between the second and fifth year after couples become parents

	<i>Coeff.</i>	<i>SE</i>
Woman dissatisfied	1.217	0.519
Woman somewhat satisfied	0.868	0.522
Woman fairly satisfied	0.294	0.448
Woman completely satisfied - omitted		
Man dissatisfied	1.031	0.570
Man somewhat satisfied	0.967	0.474
Man fairly satisfied	0.181	0.448
Man completely satisfied - omitted		
No. of couples	566	
No. of separations	34	

Note: This model excludes any other controls.

6.5.2 *Measuring the explanatory variables*

6.5.3 *Division of housework*

The division of housework within couples is operationalised as the percentage of time women spend on housework relative to the total weekly housework time of both partners. In line with the literature, we observe that women spend on average just over 70 per cent of couples' total weekly housework time (see Table A6.1 in the Appendix). Furthermore, women's share of housework time increases by about 6 percentage points between one year before and two years after the first birth. Using a question on perceived fairness in the division of housework asked in wave 7, I find that among the sub-sample of couples that had their first child between 1994 and 1996, a larger housework share for women and a bigger increase since pre-birth are significantly correlated with greater unfairness perceptions (see Table A6.2 in the Appendix). Unfortunately the sub-sample is too small to break the analysis down further by women's gender role identities.

6.5.4 *Division of childcare responsibility*

As in the previous chapters, I only differentiate between the cases when 'the mother is mainly responsible for looking after the child(ren)' or when 'the father shares or takes more responsibility for childcare' since the 2 per cent of couples stating that the father is more responsible are too small to form a separate category. As shown in the descriptive

statistics, mothers are mainly responsible for childcare in 73 per cent of the families in the second year of parenthood.

6.5.5 Gender role identities

As a proxy for women's gender role identities, I use again the gender role attitude factor based on six questions about gender roles in the BHPS. To include interactions between women's contributions to housework or employment status and their relatively egalitarian gender role attitudes, I create a dummy variable for all women in the top quartile of the attitude distribution.

A problem that reappears for this question is whether women might have changed their attitudes in order to bring them in line with their more traditional division of labour after having a child, as found by previous studies (Berrington, et al. 2008; Burke and Cast 1997; Goldscheider and Kaufman 1996; Goldscheider and Waite 1991). A preliminary exploration of the amount of change taking place in women's gender role attitudes from before the first birth to the second year after shows that 14 per cent of women who were categorised as 'egalitarian' before having children have become more traditional in their attitudes and fall now for the most part into the 'moderate' category. By contrast, 7 per cent of women who are in the egalitarian category in the second year of motherhood were categorised as more traditional before their first birth. To examine whether these changes potentially reduce the extent to which incongruence in gender role identities and practised division of labour affects relationship quality, I will also explore these associations using women's pre-birth gender role attitudes.

I include the difference between women's and men's continuous gender role attitude factors as a proxy for the extent of women feeling understood by their partners and the likelihood of conflict due to varying expectations.

6.5.6 Other covariates

Since mothers' wages may not be an adequate measure of their labour market productivity (Hersch and Stratton 1994; Washbrook 2007), I use their educational attainment as a proxy for women's earnings potential in case of separation. I differentiate between three levels of educational attainment: 'O-levels or less', 'A-levels or similar qualification' or 'at least one university degree'. Since a higher dissolution risk has been

found among couples where women are more educated than their partners, I construct dummy variables representing whether both couples have the same level of education or whether the woman or the man is more educated.

Mothers who interrupt their employment or are on maternity leave may be financially more dependent on their partners at least in the short term. Therefore I also include a control for women's employment status. To control for couples' financial situations, I include fathers' work hours and the log of couples' gross monthly earnings which I adjusted for inflation using the retail price index of the respective year.

I account for whether the couple goes on to have a second birth within three years after the first child was born and consider interactions with couples' domestic work division. About 7 and 23 per cent of all couples in the sample for relationship satisfaction have a second child in the second and third year after birth, respectively. Even though the effects may vary between these two groups, the first sub-sample is too small for separate interaction terms and thus the two groups are combined. While a second birth potentially could also change the effect of domestic work on the stability of these couples' relationships, the number of separation events is too small for interaction effects to generate meaningful results. Therefore I just control for the number of children a couple had. In addition, I include the age of the first and second child in months as a measure of the children's development and diminishing care needs.

Men's and women's answers to the question 'Children need a father as closely involved in the upbringing as the mother' is included to control for strong beliefs that intact and stable two-parent families are the best environment to bring up children. A dummy variable is included to differentiate those who agree strongly with this statement from all others. Since over 90 per cent of men and women agree with this statement, no significant difference was found between the other answer categories. While the statement could also be interpreted as referring to attitudes regarding the gender division of childcare, preliminary investigations of the data suggested a stronger correlation of this question with partner satisfaction than with childcare. Interactions with women's answers to this question instead of their gender role identities showed no significant results and are therefore excluded.

I also account for symptoms of post-natal depression by controlling for mothers' levels of psychological distress⁵³, for which I use the Caseness index derived from twelve question items designed to diagnose depression and mental health more generally. I control for women's ages at birth and partners' age differences measured as the number of years by which the woman is older than her partner. Furthermore, I account for the length of couples' relationships, for whether the couple was married or cohabiting when they had their first child and for whether the man already has a child with a previous partner.⁵⁴

For the analysis of separation risk, I include additional controls such as the gender of the first child and whether one partner has previously been married and experienced a separation or divorce. I also account for whether one of the partners holds liberal attitudes towards divorce based on a BHPS question asking whether one agrees that 'it is better to divorce than continue an unhappy marriage'.⁵⁵ I tested these variables also in the models for relationship satisfaction but they did not prove significant.

6.6 Results

In this section, I first present separate regression results for models of men's and women's satisfaction with their partner in the third year of parenthood. In a first model, I show associations with couples' housework and childcare divisions and interactions with women's gender role identities. As a second step, I attempt to explore whether the division of housework and childcare is likely to impact more directly on the level of satisfaction for women than for men, which would be expected if the effect is due to women's frustration with gender inequality. I therefore add the other partner's satisfaction to the models of women's and men's satisfaction. If the effect was more direct for women, I would expect the association with housework or childcare to remain significant even after the satisfaction of men is added. By contrast, the significance of housework and childcare for the satisfaction of men should be reduced when the satisfaction of their partner is included in these models.

⁵³ Mothers' and fathers' physical health status reports were also tested but not significant.

⁵⁴ In addition to the frequency of missing data on relationship history, this information may be particularly unreliable due to fathers providing incomplete accounts of any previous children.

⁵⁵ I also tried including domestic work dissonance variables for couples who did not agree on their housework or childcare division but found no significant association with relationship quality.

The next part of the analysis examines Cox proportional hazard models for the risk of relationship breakdown during couples' early years of parenthood. The first model again investigates associations with couples' division of housework and childcare and whether these vary depending on women's gender role identities. In an additional exploration, I examine whether the division of housework and in particular childcare have a separate effect on relationship stability, even after accounting for the effects on both partners' satisfaction. The theoretical model assumed that the effect only runs through satisfaction with the partner. An alternative view in the literature regarding childcare, however, would suggest that childcare sharing and therefore stronger bonds between the child and both parents may improve relationship stability beyond any effects on the satisfaction of both parents with each other. To test the validity of the two assumptions, I add first order lags of mothers' and fathers' satisfaction with their partners to the model of separation risk.

6.6.1 Women's and men's satisfaction with their partner

Accounting for the pre-birth satisfaction with their partner, Models 1 and 2 in Table 6.3 examine the importance of the division of housework time and childcare responsibility for satisfaction of mothers and fathers in the third year after the first birth. In line with the literature (Belsky, et al. 1983; Glenn and McLanahan 1982), women and men who are more satisfied before birth also remain more satisfied three years after. Neither women's gender role egalitarianism nor couples' division of housework, or the interaction between the two, are significant for women's satisfaction with the partner, which contradicts Hypotheses 1 and 2.⁵⁶ Instead mothers' longer total housework time is positively associated with their satisfaction with the partner. I also tested the interaction of women's share of housework with whether the mother works full-time and alternative specification such as the change in women's housework contributions since pre-birth instead of women's postnatal share of housework time, but none of these were significant.

For fathers, I find that women's larger housework share is positively associated with satisfaction (only close to significant) except for those whose partner holds relatively

⁵⁶ The interactions between housework and childcare and women's gender role attitudes are not more significant when pre-birth attitudes are used instead of attitudes measured in the second year of parenthood.

egalitarian gender role attitudes. Among the latter, women's larger contribution to housework is negatively associated with satisfaction with the partner. I also tested an interaction of women's share of housework with men's rather than women's gender role attitudes but it was insignificant (model not shown). Hypothesis 1 regarding a negative association between women's egalitarian gender role identities and satisfaction with the partner therefore has to be rejected. The expected negative correlation of relationship satisfaction with women's share of housework for egalitarian women, as formulated in Hypothesis 2, is rejected for mothers but not for fathers. Overall, however, the relationship between a traditional division of housework and partners' satisfaction with each other seems to be more positive than assumed in the theoretical model.

In contrast to Hypothesis 2, women generally seem to be more satisfied with their partner when they are mainly responsible for childcare as opposed to sharing it. I found no significant interaction of couples' childcare divisions with women's gender role attitudes for either mothers or fathers (not shown). Hypothesis 2 regarding the negative effect of gender inequality in the division of childcare on the level of satisfaction of egalitarian women is rejected. A traditional division of childcare seems to be positively associated with satisfaction of mothers. For fathers, an interaction between their involvement in childcare and the number of children is significant. Fathers of two children are more satisfied when childcare responsibility is shared. Having a second child soon after the first is also found to correlate positively with mothers' and fathers' satisfaction with their partners.

Women's employment status is not significantly correlated with satisfaction with the partner for either women or men. There is also no difference between subgroups depending on women's gender role attitudes. Women who strongly agree that children need a father as closely involved in their upbringing as the mother are more satisfied with the partner. I also examined whether this attitude measure may represent another standard for how women evaluate their partners' childcare involvement by including an interaction with mothers' primary responsibility for childcare but found no significant association.

Table 6.2: Models of satisfaction with the partner for mothers and fathers three years after becoming parents

<i>Satisfaction with partner of</i>	<i>Model 1 - Women</i>		<i>Model 1 - Men</i>	
	<i>Coeff</i>	<i>SE</i>	<i>Coeff</i>	<i>SE</i>
Slightly or completely dissatisfied before birth	-3.638	1.057	-2.140	1.292
Somewhat satisfied before birth	-4.017	0.886	-3.003	0.907
Fairly satisfied before birth	-1.825	0.403	-2.181	0.451
Completely satisfied before birth - omitted				
Woman's total housework time	0.046	0.027	-0.024	0.027
Woman's housework share	-0.006	0.013	0.021	0.014
Woman's HW share x egalitarian GRA ^{a,b}	0.021	0.019	-0.055	0.023
Woman holds egalitarian GRA ^a	-1.057	1.900	2.970	2.277
Woman has main childcare responsibility	0.994	0.512	0.744	0.498
Woman main childcare resp.x Two children	-0.362	0.867	-2.733	1.192
Woman works part time	-0.480	0.570	-0.988	0.628
Woman works full time	0.081	0.781	-0.666	0.903
Woman works part time x egalitarian GRA ^{a,b}	0.146	1.413	2.095	1.568
Woman works full time x egalitarian GRA ^{a,b}	0.196	1.424	0.659	1.778
Man's paid work hours	-0.009	0.015	-0.011	0.016
Couple's gross monthly earnings	0.269	0.161	0.048	0.182
Both partners high education	-0.378	0.462	-1.104	0.618
Both partners medium education	0.366	0.486	-0.542	0.614
Both partners low education	0.431	0.607	-0.451	0.708
Man more educated than woman	1.463	0.541	-0.823	0.625
Woman more educated than man - omitted				
Difference in gender role attitudes	0.162	0.287	-0.285	0.286
Woman's attitude re. father's childcare involvement	0.776	0.349		
Man's attitude father's childcare involvement			0.055	0.358
Woman's age at birth	-0.086	0.044	-0.018	0.059
Age difference (Woman-man)	0.077	0.044	-0.027	0.054
Not married at birth	-0.636	0.472	0.487	0.476
Two children	1.378	0.784	1.983	0.976
Age of first child in months	0.007	0.012	-0.109	0.035
Age of second child in months	-0.097	0.047	0.056	0.061
Man fathered child in previous relationship	0.007	0.846	2.294	1.157
Relationship duration	0.109	0.056	0.045	0.071
Woman's psychological distress	-0.168	0.052	-0.126	0.049
Scotland	-0.140	0.417	-0.532	0.524
Wales	0.015	0.713	-1.116	0.613
Survey year	0.076	0.099	0.148	0.107
Ordered logit: cut point 1	-2.247	1.949	-5.974	2.668
Ordered logit: cut point 2	-1.021	1.944	-4.478	2.521
Ordered logit: cut point 3	1.173	1.965	-2.446	2.445
No. of couples		285		285
Imputations cycles ^c		5		5
Pseudo R ² ^d		0.176		0.192

Note: ^a GRA is short for gender role attitudes; ^b 'x' symbolises an interaction between two variables; ^c Missing items are imputed using chained equations; ^d The Pseudo R² is based on models containing the same variables but before imputing item non-response.

As expected, mothers' feelings of psychological distress are negatively correlated with satisfaction with the partner for both mothers and fathers. Furthermore, older women are more satisfied with their partner. The older the children, the less satisfied women and men seem to be. Women whose partner is more educated than them express greater satisfaction with their partner than highly educated women with either equally or less educated partners. In line with findings in the literature, this suggests that the decline in satisfaction with the partner after having children is greatest among women with high levels of education.

The theoretical model assumed that couples' division of housework and childcare would have a direct effect on women's satisfaction with the partner, depending on their gender role identities. I found little support for this hypothesis but instead a mostly negative association between sharing of domestic work and satisfaction with the partner. It is therefore interesting to examine whether this could be due to more traditional arrangements having a positive effect on men's satisfaction which then leads to greater satisfaction also among women. When I include a lagged measure of fathers' satisfaction with the partner in the model of women's satisfaction, housework and childcare cease to be significant. However, the division of responsibility for childcare remains significant for the level of partner satisfaction among fathers of two children even when a lagged covariate of mothers' satisfaction is controlled for (models not shown). This may suggest that the positive association with childcare sharing among fathers with two children is more due to greater satisfaction of fathers than of mothers. However, it does not provide any clear clues regarding the surprising positive association between women's shares of housework and childcare and their satisfaction with the partner.

6.6.2 Risk of relationship breakdown

In Model 3, I examine the association between the division of housework and childcare and the risk of relationship breakdown during couples' first years of parenthood. Women's gender role attitudes are insignificant leading us to reject Hypotheses 1. The effect of couples' division of housework is also insignificant, irrespective of whether an interaction with women's egalitarian gender role identities is included. This contradicts Hypothesis 2 which assumed that the association between the division of housework and childcare and relationship stability depends on women's gender role identities. The

association between the division of childcare and the risk of relationship breakdown is equally inconsistent with Hypothesis 2. I find a significant positive association between mothers' main responsibility for childcare and the likelihood of a break-up. Hypothesis 2 is therefore rejected for housework and childcare.

Rather than supporting the theoretical model in Chapter 2, the result for childcare is in line with marital dependency theory (England and Kilbourne 1990), which argues that childcare sharing might have a positive effect on relationship stability due to fathers' stronger bonds established with the child(ren). In Model 4, I examine this argument more in detail. If there was a positive effect of childcare sharing because of fathers' closer relationships with the child(ren), then mothers' main responsibility for childcare should maintain its negative association with the risk of relationship breakdown even after accounting for both parents' satisfaction with the partner. Remarkably, childcare sharing indeed remains significant at the 10 per cent level if controls for mothers' and fathers' satisfaction with the partner are included. This may point to a direct effect of childcare on dissolution risk irrespective of how satisfied men and women are with their partner.

At first, the negative association between mothers' primary responsibilities for childcare and the stability of their relationships may seem to contradict the finding for satisfaction with the partner especially for mothers with only one child, who seem to be more satisfied when they are mainly responsible. However, these may be two different processes with the parent-child relationship being the main reason for the lower separation risk. This difference definitely appears to be more than a composition effect, since the samples contain almost equal percentages of couples with one or two children and both groups are equally likely to drop out of the survey. I also tested an interaction between couples' childcare divisions and the oldest child's age, since if fathers are more likely to share childcare as children grow older, this could superpose the childcare effect on dissolution risk. However, this was not significant.

Table 6.3: Cox proportional hazard models of relationship breakdown for couples between the second and fifth year after becoming parents

	<i>Model 3</i>		<i>Model 4</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Women's total housework time	0.015	0.020	0.003	0.025
Woman's housework share	0.005	0.014	0.006	0.015
Woman's HW share x egalitarian GRA ^{b,c}	-0.010	0.019	-0.020	0.023
Woman holds egalitarian GRA ^b	0.729	1.419	1.009	1.620
Woman has main childcare responsibility	0.864	0.453	1.100	0.564
Woman works part time	0.445	0.519	0.442	0.622
Woman works full time	0.307	0.452	0.628	0.546
Man's paid work hours	-0.007	0.015	-0.008	0.017
Couple's gross monthly earnings	-0.073	0.134	-0.091	0.149
Both partners high or medium education ^a	-0.869	0.517	-0.462	0.680
Man more educated than woman	-0.147	0.472	0.241	0.636
Woman more educated than man	-0.008	0.484	0.364	0.665
Both partners low education - omitted				
Either partner holds liberal divorce attitudes	0.557	0.550	0.600	0.649
Difference in gender role attitudes	0.247	0.292	0.705	0.367
Woman's attitude re. father's childcare involvement	0.096	0.328	-0.097	0.404
Man's attitude father's childcare involvement	0.330	0.333	0.454	0.397
Woman's psychological distress	0.031	0.054	-0.010	0.069
Woman's age at birth	-0.154	0.049	-0.146	0.059
Age difference (Woman-man)	0.054	0.043	0.027	0.051
Not married at birth	0.351	0.381	0.277	0.470
Either partner previously divorced	1.795	0.493	1.866	0.665
Man fathered child in previous relationship	0.281	0.684	0.827	0.750
Relationship duration	0.056	0.074	0.103	0.088
No. of children	-1.089	0.597	-1.591	0.867
Age of first child in months	-0.002	0.010	-0.006	0.012
Age of second child in months	0.004	0.030	0.009	0.040
First child is male	-0.133	0.325	-0.433	0.388
Scotland	-0.549	0.628	-0.341	0.659
Wales	-0.333	0.629	-0.565	0.830
Survey year	0.057	0.058	0.113	0.082
Woman slightly or completely dissatisfied			0.938	0.624
Woman somewhat satisfied			0.606	0.599
Woman fairly satisfied			0.146	0.503
Woman completely satisfied - omitted				
Man slightly or completely dissatisfied			0.926	0.677
Man somewhat satisfied			0.959	0.547
Man fairly satisfied			0.271	0.479
Man completely satisfied - omitted				
No. of couples	560		507	
No. of separations	38		31	
Imputations cycles ^d	5		5	

Note: ^a The two categories of medium and high educated couples are combined, as there were no separations among couples with college education; ^bGRA is short for gender role attitudes; ^c'x' symbolises an interaction between two variables; ^dMissing items are imputed using chained equations.

Contrary to neo-classical economic models, women's labour market status is insignificant for the risk of relationship breakdown. I also tested interactions with women's gender role attitudes and women's relative or absolute earnings but did not find any significant effects for the stability of couples' relationships (models not shown). The risk of relationship breakdown diminishes with women's older ages at birth and an increasing number of children in the household. In line with previous studies, the risk of separation is significantly higher for the less educated and couples where at least one partner separated or divorced after a previous marriage.

6.7 Interpretation

In contrast to the theoretical model and some previous studies based on samples of all couples or those with older children (Chan and Halpin 2002; Helms-Erikson 2001; Pina and Bengtson 1993; Wilkie, et al. 1998), inequality in the division of housework between partners does not seem to reduce satisfaction with their partner for mothers and relationship stability among British couples with young children. Previous American findings on change in couples' marital quality after becoming parents, however, also show inconsistent results (Belsky, et al. 1986; MacDermid, et al. 1990; Ruble, et al. 1988). Housework inequality is negatively associated with satisfaction only for men who are partnered with egalitarian women. Contrary to Hypothesis 2, there are generally more signs of a positive association between women's contributions to housework and mothers' and fathers' satisfaction with the partner. Unfortunately, with the available data I cannot explore whether this result is due to women being less likely to perceive their increased housework share as unfair in the first years after becoming mothers or whether they do not connect their frustration with housework as strongly to their partner's actions but rather attribute it to the life cycle stage.

For people with small children, housework is likely to overlap to a large extent with childcare time. Mothers possibly pay less attention to and therefore may underestimate the amount of housework they do, since they regard childcare as the primary activity. Alternatively, the satisfying socialisation aspects of childcare may compensate them for the larger amount of housework they do, as found by some scholars (DeMaris and Longmore 1996). Alternatively, Fox (2001) observed that mothers prioritise that the father spends time with the child whenever he is home to promote a good father-child relationship over greater equality in housework. Some mothers also reported that doing

housework while the father played with the child felt like a welcome break from baby care (Fox 2001). Such qualitative studies can help us to understand the complex mechanisms between couples' division of housework, childcare and relationship quality at a time of great change in most couples' lives. However, to explore why the results differ from those based on samples of all couples in a population, dual-earners or those with older children, detailed statistical comparisons of these associations and changes over time between different subgroups would be needed.

The results regarding the association between couples' childcare divisions and relationship quality are equally surprising. In contrast to Hypothesis 2, mothers generally seem to be more satisfied with their partner when they are mainly responsible for childcare, even mothers who identify with relatively egalitarian gender roles. Similar results can also be found in earlier literature and in findings from qualitative studies specifically on parents with young children. Based on these, possible explanations for the result can be summarised in three arguments which are strongly interlinked. The first is that ideals of intensive mothering according to which mothers know intuitively what is good for their child and should or want to respond immediately to all of the child's needs are still widespread especially for infants (for reviews see Arendell 2000; Thompson and Walker 1989). This may point to social norms of intensive mothering and family networks still being more supportive of relatively traditional gender arrangements in childcare for young children (Hays 1996; Thompson and Walker 1989). Partly as a result, some mothers may also be reluctant to hand over responsibility of young children to fathers, since this would threaten their carer identities (Fox 2001; Gatrell 2007; Thompson and Walker 1989). Thirdly, empirical evidence from the 1980s suggests that fathers' childcare involvements are correlated with greater marital conflict and dissatisfaction with the partner or the relationship for men and women (Baruch and Barnett 1986; Crouter, et al. 1987; Hoffman 1983; Lamb 1986; Russel and Radin 1983). Since most mothers in couples which share childcare are likely to also work for pay, coordinating day-care arrangements and who picks the child up or drops it off may be source of conflict between partners. This may be especially relevant in the UK, since based on my own BHPS calculations about one quarter of couples with two year olds use more than one form of formal or informal day-care.⁵⁷

⁵⁷ Controls for number and type of day-care used or for whether someone else is mainly responsible for one of the housework tasks were not significant in any part of the analyses.

My finding contradicts results for Dutch couples with school-aged children, where shared childcare is positively correlated with relationship satisfaction of mothers. However, even these Dutch mothers seem to appreciate it mainly when fathers spend time with the child in socialisation activities, whereas sharing of routine childcare tasks is less important (Kalmijn 1999). Since a large part of the childcare for small children consists of routine tasks that need to be very much structured around the needs of the child as opposed to educational and play time with older children, this may explain some of the difference.

While there is no significant association between mothers' primary childcare responsibility and satisfaction with the partner for fathers with one child, those with two children appear to be more satisfied when childcare is shared. While an increasing number of fathers seem to appreciate spending some time and getting to know their infants (Barclay and Lupton 1999; Bianchi 2000), the insignificance of the childcare arrangements for the satisfaction of most fathers may suggest that they still regard providing for the family as their main responsibility. A qualitative study shows that British fathers feel it is impossible for them to share equally because of their provider role and constraints such as work hours (Henwood and Procter 2003). Possibly they therefore do not mind when their partner takes the responsibility for childcare as long as the child is young.

The positive effect of childcare sharing for the level of satisfaction of fathers with two children may point to a selection effect. Some unobserved characteristics such as stronger preferences for having children may be related to a greater likelihood of having a second child and fathers' interest in sharing childcare. This result also suggests that differences in fathers' preferences for childcare and parenting ideals are not captured well in the gender role identity measure based on questions regarding women's employment. The mothers' need for help with two children is less likely to be the reason, since the effect is significant only for fathers. Alternatively, it may also imply that fathers who do not participate much in childcare feel more excluded than those who do when two children arrive within a relatively short interval.

The positive correlation between mothers' main responsibility for childcare and their satisfaction with the partner points to relatively traditional mechanisms being at work

after couples become parents. However, the positive association between shared childcare responsibility and relationship stability provides some evidence of advantages of more modern family and gender arrangements. This finding is consistent with the marital dependency perspective and empirical research on Dutch couples with older children (England and Farkas 1986; Kalmijn 1999). Since the association remains significant after controlling for fathers' satisfaction with the partner, it is probably not just the result of a selection effect with fathers who anticipate a separation being less willing to invest in the relationship with their child. However, I cannot exclude that other unobserved characteristics such as couples' communication qualities may provide an alternative explanation to closer bonds between fathers and children. Couples that share childcare relatively equally, which probably involves a lot of communication, may have different patterns of resolving conflict. This may not make them more satisfied but might enable them to resist separation pressures.

Interestingly I find no significant association between women's participation in paid work and relationship satisfaction or stability. On the one hand, it seems that even women with relatively egalitarian gender role attitudes do not link the satisfaction with their partner to their career continuation. This may also be due to a lack of desire to return to work quickly for those who do not despite their egalitarian views. Alternatively, these women may blame factors other than their partner for the inconsistency between their behaviour and attitudes. On the other hand, the insignificant association of women's participation in paid work with relationship quality may also suggest that women's employment even when children are small has become widely accepted. I also do not find that women's time in paid work or earnings increase couples' risks of separating during the first years of parenthood. This may imply that financial independence is less important than other factors in couples' decisions to separate during this early phase in the family life cycle.

6.8 Limitations and conclusion

The results are largely suggestive due to the relatively small samples and the fairly low number of separations. While I carried out exploratory tests of interactions with the number of children, women's labour market status and gender role attitudes, the limited sample size makes it very difficult to identify significant patterns between sub-groups. The associations identified especially with second births should be interpreted with care, as they may represent selection effects or indirect mechanisms which are impossible to

explore given the available data. This analysis can only explore associations between new parents' divisions of domestic labour and relationship quality without being able to infer whether the drop in satisfaction with the partner is caused by the changes in domestic work after birth. Comparisons with earlier studies of couples with older children or dual-earner couples would suggest quite different result (Frisco and Williams 2003; Helms-Erikson 2001; Kalmijn 1999; Pina and Bengtson 1993; Wilkie, et al. 1998). Future research could investigate these variations further and identify whether they are indeed due to the particularities of the life cycle stage. One option would be to compare the association between domestic work and relationship quality for different groups of the population such as childless couples or those with older children.

My ability to draw definitive conclusions is also strongly limited by the availability of measures for satisfaction with the partner and childcare. Since the former asks only about satisfaction with one's partner rather than with different aspects of the relationship and is based on just one item, it is likely to underestimate the changes in satisfaction after the transition to parenthood. Although this measure has the advantage of generating conservative estimates, future research ideally should use more diverse measures of relationship quality which cover a wider range of sub-categories of this concept such as conflict frequency and behaviour or separate evaluations of positive and negative relationship aspects (Bradbury, et al. 2000; Fincham and Linfield 1997).

Furthermore, information on intermediary influences such as time spent together as a couple or shared leisure time would be very useful to better understand the effects of increased paid or domestic work demands on family relationships. So far, this information is not available in existing longitudinal data sets in the UK, which also contain regular reports of couples' division of domestic work during the first years of parenthood. Based on my results, couples' childcare division seems to be a more important aspect for relationship quality than previously assumed. However, more detailed information on both partners' time spent on different childcare tasks (separately and together), breastfeeding patterns after birth and how much of childcare is outsourced to informal networks such as grandmothers or professional day-care would improve our understanding of possible reasons underlying the complex associations with relationship quality.

This study provides the first investigation of British couples' relationship quality when they have pre-school children and its association with their division of housework and childcare. The results provide little support for the importance of women's gender role identities for how women evaluate their own and their partners' housework and childcare contributions. In contrast to the theoretical model, mothers' contributions to housework seem to correlate with greater rather than lower satisfaction for mothers and fathers. The positive association of mothers' responsibility for childcare with their satisfaction with the partner among the majority of couples also points to persistence of relatively traditional relationship and parenthood expectations. By contrast, the finding that shared childcare responsibility is positively associated with satisfaction among fathers with two children and with greater relationship stability provides some evidence for potential benefits of more egalitarian arrangements.

7 Domestic labour, parenthood, and relationship quality in transition

7.1 The puzzle

The estimated value of domestic work provided in the UK almost matches that of paid work. However, the unpaid nature of this work results in long-term financial and power inequalities for men and women who provide it compared to those who concentrate their efforts on market work and a career throughout their life. The strongly gendered distribution of unpaid work and care limits women's access to resources on average more than men's. To date, less is known about more qualitative consequences, e.g. on emotional wellbeing. In some areas the gendered distribution of care work may not be to men's advantage, such as when fathers lose close contact with their children in case of divorce.

Women's widespread employment and the associated social changes helped to create alternatives to having children and caring for them and to staying in an unhappy relationship. As women's labour market participation at all life cycle stages, even if sometimes on a part-time basis, has become the norm, for most women an adjustment of their domestic responsibilities has become necessary. Families have had several different responses at their disposal. As we know, the first response of women has been to reduce their own time spent on housework and this still continues. In the UK, mothers' widespread part-time work during their children's pre-school years has been another way to juggle their responsibilities for paid and unpaid work and retain some level of financial independence. Men also slowly increased their contributions to housework and childcare, even though not nearly enough to replace the reductions in women's time, especially for household chores. In the absence of substantial change in men's involvement or universally available good quality childcare provided by the state or the market, however, two other responses are possible. Since women's unpaid work and care increases disproportionately with motherhood, one is to renounce having children or limit the number they have. Another is not to form a relationship in which the level of support from the partner is dissatisfactory or to leave the relationship when this becomes apparent.

The importance of women's employment for fertility decline and family instability has been studied more extensively than differences depending on couples' arrangements of unpaid work. This thesis contributes to our understanding of the consequences of gender role transformations in Western societies by focussing on couples' division of domestic labour. Specifically, I investigate the extent to which parenthood is associated with greater domestic work inequality for different couples and how gender arrangements of domestic work are associated with childbearing decisions and relationship quality after becoming parents. The findings suggest that the gender division of domestic work and care does matter for decisions to have a second child and romantic relationships of new parents. However, the connection between domestic work, childbearing, and couples' relationship quality is far from uniform.

In the following section, I summarise my findings from the empirical analysis in the context of existing research and discuss the implications for the overarching research question. Section 3 adds some reflections on the value of the theoretical rational choice framework incorporating gender role identity to explain couples' division of domestic work and associations with childbearing and relationship quality. I then discuss the main methodological and data limitations of this study, their implications for the findings and what further research will be needed to ascertain or clarify the relationships. Finally, to conclude, I compare the findings of this thesis with assumptions about the gender division of labour underlying current UK policies around domestic work and care, parenthood, and relationship breakdown.

7.2 Summary of the findings

What can the empirical findings tell us about expectations of organising paid and domestic work among British couples that consider and/or experience the transition to parenthood around the turn of the 21st century? To what extent do they suggest that the increase in gender inequality in domestic work and care around parenthood may contribute to recent trends of high rates of relationship breakdown and to fertility differentials? What further evidence will be needed to ascertain a relationship between the gender division of domestic work and couples' childbearing choices and consequences for the quality of partnerships?

The discussion will start out by describing what happens to couples' division of paid and domestic work when they become parents. Based on these observations, I will then go on

to talk about the empirical findings as to how the anticipated or actual changes in domestic work are associated with couples' decision to have a first or second child and their relationship quality.

7.2.1 From partners to parents: the road to gender inequality?

When couples have their first child, the new responsibility of caring for the baby requires almost all couples to cut back on participation in paid work. The theoretical model in Chapter 2 predicted that the decision of which of the two partners will do more paid work and who will spend more time with the child would depend on both partners' gender role identities and their relative wage rate. The partner who earns lower wages before parenthood would be expected to reduce time spent on market work and do more housework and childcare after the birth of the child. The more egalitarian both partners' gender role identities, the more likely it would be that the couple would have a symmetrical division of paid and domestic labour or an arrangement where the woman does more paid work and less family care than her partner. The empirical findings, however, show a more gendered pattern of change in the division of labour within couples than was expected based on theory. On average the division of paid and domestic work becomes considerably more unequal in a traditional way, even within couples where the woman earns more than her partner before birth or where both partners identify themselves as having relatively egalitarian gender role attitudes.

Remarkably, women's and men's gender role identities before birth are found to correlate more strongly with changes in women's paid, housework and childcare share from the year before to two years after the birth than the partners' earnings difference. There is also a strong association between the level of gender equality in paid and domestic work couples practise before and after becoming parents. Men who contributed relatively more to housework were also more likely to share the responsibility for childcare. Their female partners also returned to work sooner or for longer hours than in couples where the division of labour was traditional before birth. This points to the importance of established habits and routines of dividing tasks between partners.

The finding that the division of paid and domestic work becomes more traditional when couples become parents may be interpreted as in line with Stackelberg-type bargaining models which assume that men have a first mover advantage after couples have children.

As gender role identities appear to be stronger predictors of this change than partners' earnings, economic circumstances do not seem to be the main driver of men's advantage. However, differences in gender role identities also do not seem to sufficiently account for this shift, since it can be found even for couples where both partners have relatively egalitarian gender role identities.⁵⁸ The differing availability of policies to combine caring with employment may be another important factor which, however, could not be considered in this analysis. By comparing these British results with a similar study in the US, Section 5 will speculate on the role family leave and labour market policies play in generating the gendered outcomes of parenthood.

Because the insignificance of women's relative wages for the change in the division of labour could be due to a strong correlation with couples' division of paid and domestic work before birth, I examine whether the results change when the pre-parental division of labour is not accounted for. Interestingly, I find that a higher relative wage rate for women is indeed significantly associated with doing more paid work after becoming mothers. However, it is only close to significant for domestic work. These results suggest that the effect of women's higher relative earnings on their paid work participation after the birth may work partly through a more equal pre-parental division of paid and domestic work. It would be fascinating to explore the interdependence of the pre-parental explanatory factors with subsequent changes during the first years of parenthood by applying suitable statistical methods such as multiprocess models or structural equation models. However, given the relatively small sample size, lack of complete information on mediating factors (such as length of maternity and paternity leave taken, breastfeeding practices, etc.), and increasing problems of non-response the longer couples are observed, this has been beyond the scope of this thesis.

7.2.2 From partners to parents: who takes the risk?

Based on the theoretical framework, men and women were expected to take these effects of parenthood on employment and domestic workload into account in their childbearing decisions. I expected the number of children and therefore also the likelihood of having a first child to be lower, the more egalitarian women's gender role identities, because they would view the greater gender inequality after having a child less favourably. However, greater contributions to domestic work by the male partners were thought to (partly)

⁵⁸ The size of this subsample is however relatively small and the findings therefore should be taken with caution.

compensate the negative effect of women's gender role egalitarianism. Furthermore, I expected women with higher earnings potential to face greater opportunity costs of interrupting work for caring for a child, and so be less likely to have children.

The empirical analysis of couples' probability of having a first child led me to reject the hypotheses regarding housework and women's egalitarian gender role identities. Whether or not men do a significant share of the housework shows no relation with the timing of couples' first births in the UK. This differs from results for Germany where a traditional division of housework correlates positively with couples' likelihood of becoming parents for the first time (Henz 2008). British women with relatively egalitarian gender role identities are not less likely to become mothers than women whose identities are closer to the traditional end of the spectrum. This is in contrast to a US study (Kaufman 2000) which finds egalitarian women to be less likely to become mothers. However, no significant difference is found among American, Dutch, Swedish, and German couples after controlling childbearing desires or for the value women attach to having children (Bernhardt and Goldscheider 2006; Henz 2008; Jansen and Liefbroer 2006; Thomson 1997).

The importance of women's earnings potential for the probability that couples have a first child cannot be dismissed. Women with fewer than A-level qualifications are significantly more likely to become mothers compared to those with higher levels of education. Women's lower opportunity costs therefore do seem to play a role. Couples where women were not in paid work are also more likely to have a first child than those who are employed, lending support to hypotheses regarding advantages of specialisation. However, the significance of paid work participation may also be due to unobserved characteristics such as values attached to having children versus a career, according to which women may choose to work less because they want to have a child soon. Overall, these results provide no evidence that an egalitarian division of housework facilitates couples' decisions to have a child. Instead they point to economic considerations such as opportunity costs as the most important factors.

7.2.3 After partners become parents: how about a second child?

Since most British people would like to have two or more children (Berrington 2004; Goldstein, et al. 2004) and many couples prefer the children's age difference not to be

too large (Miller and Pasta 1994.; Westoff, et al. 1961), the question of a second child arises often relatively soon after couples have adapted to their new situation as parents. Again the theoretical model assumed couples' likelihood of having a second child to be lower for women with more egalitarian gender role identities and higher opportunity costs in terms of wages and education. However, men's greater contributions to domestic work were expected to partially or fully compensate for the negative effect of women's gender role egalitarianism.

The empirical analysis of couples' second childbearing decision also provided only limited support for the theoretical model. Since male breadwinner couples where the woman did not work for pay were found to be most likely to have a second birth soon after the first, the importance of women's opportunity costs cannot be completely rejected. However, women with higher levels of education go on to have a second child equally or more quickly than those with a low or medium level of education, respectively, which is in line with catch-up or self-selection effects found by other studies (Kreyenfeld 2002; Rendall and Smallwood 2003). In contrast to the existing literature (Ekert-Jaffé, et al. 2002; Kreyenfeld 2002), men's education levels are not significantly associated with first or second childbearing decisions.

Since dual-earner couples where the man contributes more than one third to the housework are more likely to have a second child, the hypotheses regarding the importance of the division of housework could not be rejected for second births. Interactions with women's gender role identities as measured by their attitudes towards mothers' employment, however, were not significant. The theoretical consideration of women's heterogeneity in their gender role identities, therefore, does not seem to contribute to explaining couples' probability of a second birth.

In contrast to housework, the division of childcare responsibility is not significantly associated with second births. This would be in line with suggestions that childcare is viewed more positively than housework by British women or that they are less dissatisfied with men's contributions to childcare which have grown considerably more over the past decades than their proportions of housework (Gershuny 2000; Sullivan 2000). Interestingly, Cooke (2004) found the opposite, with childcare inequality being more negatively associated with second childbearing than housework in Germany. By

using a measure of relative childcare time spent by mothers and fathers, however, she was able to capture more of the variation in fathers' childcare contributions than I could with a binary measure of childcare responsibility.

The differences in the results for first and second childbirths are noteworthy but need to be treated with caution, for I cannot follow the same couples through their transition to the first and the second birth. The lack of evidence of expectations regarding men's housework contributions before having children may be due to irrationality in anticipating the shift in the division of labour, while couples with one child may be better able to anticipate the changes that would follow from having a second child. Alternatively, stronger desires of motherhood before having children and perceptions that combining employment and childcare will still be more manageable with one child than with two may contribute to the different results.

In general, results for second births are similar to those in the Germany, Spain and Sweden (Cooke 2003; 2004; Olah 2003), where the most traditional couples in terms of their division of paid work are most likely to have a second child. However, relatively egalitarian arrangements in the home appear to mitigate the negative effect of women's employment on the probability of having a second child. Combining paid and domestic work may therefore be a significant consideration in the decision to have a second child for most working women in the UK. Overall, there is evidence that traditional as well as more egalitarian division of labour arrangements facilitate second childbearing among British couples. Expectations regarding gender equality in housework seem to depend mainly on women's labour market status rather than their gender role identities. Since women's choice of their labour market participation is likely to be influenced by their family and career orientations, differences in these are probably not captured well by their gender role identities or at least not by the attitudinal proxy measures available in the BHPS. Furthermore, situational constraints, e.g. availability of formal or informal childcare, are likely to be important for mothers' labour market choice. This result therefore demands further investigation.

7.2.4 After partners become parents: consequences for parental relationship quality

After having a child, the considerable time constraints as a result of the increase in domestic work and care needed for the family and the change in couples' division of

tasks can give rise to conflicting interests in terms of how to spend one's time. Each person's preferred way of spending time is constrained much more by his or her partner's preferences and availability than before couples have a child to look after. In line with previous reports in other countries (for reviews see Twenge, et al. 2003; White, et al. 1986), I find that satisfaction with the partner among British couples declines in the years following the first birth. The theoretical model (Chapter 2) expected conflicting interests and dissatisfaction with the partner when women spent more time on housework and childcare and less on market work than was congruent with their egalitarian gender role identities. Therefore, to maximise satisfaction with the relationship, men's share of housework and childcare should be greater the more egalitarian their partners' gender role identities.

The findings of the empirical analysis on relationship quality after couples become parents provide little support for the theoretical model. I find no evidence of a negative association between women's contributions to housework and relationship quality, irrespective of whether women's egalitarian gender role identities are considered. Instead a larger absolute or relative housework burden of mothers correlates positively with their own and with their partners' satisfaction, respectively. The only exceptions are men who are partnered with relatively egalitarian women. Among these couples, women's larger housework shares are negatively associated with the satisfaction of men.

The association between relationship quality and the division of responsibility for childcare within couples seems to be even more complex. Contrary to the hypothesis, the association is independent of women's gender role identities. Mothers are on average more satisfied with their partners when they themselves bear the main responsibility for the child or children. Only fathers in couples that have a second child within two years after the first are more satisfied when they are equally as involved in childcare as their female partners. The difference between couples with one and two children in the third year of parenthood possibly represents selection effects, since fathers who have greater desires to have children and who want to be actively involved in childcare may have a second child more quickly.

In contrast to the theoretical model, I generally find a positive correlation between fathers' shared childcare responsibility and relationship stability. The negative

association between fathers' childcare sharing and the risk of relationship breakdown remains statistically significant even after taking both partners' levels of satisfaction into account. This lends support to the idea that spending time with one's child strengthens the parent-child bond. Since fathers often lose most of the contact and bonds they have with the child upon parental separation, a closer father-child relationship may reduce the risk of relationship breakdown. The result can be interpreted as pointing to some positive aspects of a more equal gender division of labour, in so far as a non-traditional division of childcare responsibility may strengthen family ties through fathers' bonds with the child. Nonetheless, this does not seem to be reflected in greater reported satisfaction of most mothers and fathers. There may also be alternative explanations in terms of unobserved differences, for instance in couples' communication and conflict resolution behaviour.

The finding of a positive association between fathers' childcare involvement and relationship stability is in line with results based on a sample of couples with school-aged children in the Netherlands (Kalmijn 1999). However, in that study mothers also showed greater satisfaction with partners who were active fathers. Even there, social aspects of fathering seemed more important than physical care or school-related childrearing for couples' perceived stability of marriage. It seems additional explanations are needed to clarify why sharing of childcare is negatively associated with satisfaction with the partner for most mothers during the early years of parenthood.

I compared the results to earlier studies of parents with young children, of which some also find the conflict frequency to be higher among couples that share childcare (for reviews see Arendell 2000; Thompson and Walker 1989). The comparison between the BHPS measure of division of childcare responsibility and mothers' and fathers' childcare time based on the UK Time Use Survey in Chapter 3 showed that the category of shared childcare responsibility seems to represent relatively high levels of involvement from fathers which are probably close to gender equality. The difference with couples where fathers are less involved may suggest that near gender-equal sharing of childcare responsibility can pose some challenges for couples, possibly due to conflicts with couples' own or their family networks' parenting expectations. However, more research will be needed on the conditions under which fathers' sharing of childcare responsibility

may result in stronger bonds with their children and also a healthy relationship with their partners.

It also seems worth exploring possible reasons for the partly positive association between women's relative or absolute time spent on housework and relationship quality, which differ from previous studies in the field. An examination of existing empirical studies shows that most of them focus on samples of all couples (Chan and Halpin 2002; Kalmijn, et al. 2004), couples with older children (Helms-Erikson 2001; Kalmijn 1999) or only on dual-earner couples (Frisco and Williams 2003; Wilkie, et al. 1998). These studies find a significant negative association between domestic work inequality and marital satisfaction. The few studies that explicitly study these links across the transition to parenthood provide more inconclusive results. Some find no significance of the division of domestic work and incongruence with gender role attitudes (Ruble, et al. 1988) or even find a negative association of relatively equal arrangements for people with more traditional expectations (MacDermid, et al. 1990). Others find violated pre-parental expectations regarding men's childcare contributions to reduce marital quality (Belsky, et al. 1986). Qualitative studies focussing on parents with young children also suggest that mothers may accept doing more housework either as the price to pay for their role as the main carer or that they prefer fathers to establish a good relationship with the child whenever they are home rather than helping with housework (DeMaris and Longmore 1996; Fox 2001). They also find that mothers are less supportive in fathers' co-parenting efforts than fathers are with respect to mothers' parenting (Gable, et al. 1995). In combination, these findings might point to some differences in couples' expectations depending on the age of the children. For more conclusive evidence, comparisons of these associations between different groups of couples, ideally controlling for selection factors, would be needed.

7.3 Assessing the theoretical framework in the light of the empirical results

Neo-classical household economics offers a relatively general and comprehensive framework to understand a large range of family behaviour through mechanisms of individual rational choice based on weighing of costs and benefits. Empirical evidence testing predictions regarding family behaviour based on economic theories regularly finds some support for the expected relationships. However, often the relationships do not apply to men and women to a similar extent or certain gendered patterns of behaviour remain unexplained. By contrast, social constructivist approaches such as identity theory

or the doing gender perspective have argued that men's and women's behaviour and interaction should be understood as constructing their gender identity. Normative influences seem important for questions of domestic work in particular relating to the transition to parenthood, since motherhood and fatherhood remain strongly gendered concepts. Given empirical reports of considerable variety in women's gender role attitudes or preferences, Chapter 2 proposed a theoretical framework which incorporates some heterogeneity in people's gender role identities into a model of economic costs and benefits. The aim of the empirical analysis then was to explore whether considering people's gender role identity improves the explanatory power of a rational choice models of couples' childbearing decisions, their division of labour, and relationship quality after becoming parents.

Neo-classical economic explanations in terms of benefits of task specialisation and women's opportunity costs seem to significantly account for some differences in couples' childbearing behaviour. There is consistent evidence that women's labour market participation and higher levels of education are negatively associated with childbearing, with the exception of mothers with university education who are equally or more likely to have a second child than those with lower levels of education. For the change in men's and women's relative contributions to paid and domestic work and relationship quality after couples become parents, however, economic explanations appear less useful. Women's relative wage rates as a measure of labour market productivity and bargaining power are not significantly associated with the change in women's paid and domestic work share. Women's financial independence in terms of employment or wage rate also does not contribute to explaining differences in the risk of relationship dissolution during the early years of parenthood. This suggests the possibility that among mothers with young children, of whom many are not full-time employed, various state benefits may play a greater role in providing financial independence from their partners than their own incomes from employment.

By considering women's and men's gender role identities, the theoretical model attempted to take into account the diversity in people's assessments of costs and benefits of different ways of spending one's time. Both partners' gender role identities, operationalised by attitudinal measures mainly concerning women's employment, are found to be the most important explanatory factor for how couples change their division

of paid and domestic work after becoming parents. They add significant power to a model of earnings and other control variables. However, for the other parts of the analysis of couples' childbearing and relationship quality considering gender role identity does not significantly improve the model fit.

Economic considerations are significant predictors of British couples' childbearing behaviour, whereas gender role identities seem to capture relatively well the subjective experience of becoming mothers and fathers in terms of the required adaptation of the division of labour. By contrast, the analysis of relationship quality of couples with young children provides little support for either the rational choice perspective or identity theory based on gender role identity only. This part of the analysis seems to call for different theoretical accounts of fathers' and mothers' time spent on paid and domestic work and care and relationship satisfaction and stability, and for improved measures of relationship quality.

One way to further develop the theoretical model could be to look in more detail at those aspects of motherhood and fatherhood identities that are less related to mothers' employment but which focus more directly on the social norms and ideals which people regard as important for their relationship with their partner or their children. An example of a different set of identities that may be more salient than gender role identities among mothers with pre-school children may be ideals and moral responsibilities of how children ought to be cared for (Hays 1996; Kremer 2005). Ideals of intensive mothering and family care promote the image of the unselfish, nurturing mother and a focus on the child's wellbeing (Hays 1996). These may be more important when parents have young children than at any other time in the course of life. Hays (1996) has argued that the aspects of motherhood and fatherhood identities that relate more to care ideals and the parent-child relationship are often shared by women of otherwise different social characteristics in terms of education or labour market participation. They may therefore cut across categorisations based on gender role identities. Considering gender role identities regarding women's employment seems insufficient to capture couples' relationship dynamics with respect to their experiences as new parents.

Other identities in relation to one's role as a lover or partner may also be important. Although egalitarian versus more traditional gender roles and practices may capture

some of the differences in people's understanding of a partnership, expectations regarding time spent together as a couple with or without children and involvement in different social and leisure activities may be quite independent of one's gender role identity. The insignificance of women's gender role identities for the analysis of childbearing, which has also been found in other studies (Bernhardt and Goldscheider 2006; Henz 2008; Jansen and Liefbroer 2006; Thomson 1997), suggests that these are less important for childbearing than other motivations and evaluation standards of couples' external circumstances. Gender role identities focussing on women's employment are probably inadequate or at least incomplete representations of how central having children and a family are to a person's identity.

It seems that combining explanations based on rational choice and gender role identities is useful for explaining the division of labour adaptation around parenthood. This is probably due to identity measures regarding women's employment capturing central aspects of women's and men's self-identity in this situation, which is characterised by mothers' labour market interruption. A theoretical approach based on rational choice and identity theory thus seems to require context-specific knowledge regarding the most salient identity aspects for a particular situation or decision. Alternatively, more complete information on competing identities may be needed to make the framework more generally applicable to other family behaviour. As suggested by Davis (2007), a way forward may be to move from analysing utility functions to personal identities which are influenced by economic circumstances as well as normative evaluations.

In addition, it is essential to recognise that identities are not independent of current and past circumstances. For childbearing decisions and relationship quality, the inclusion of past experiences in one's family of origin would be helpful. Even if men's and women's gender role identities are significant predictors of the increase in gender inequality around parenthood, it is important to explore their origins. People's gender role identities may be related to situational factors such as policy entitlements and childcare cost and availability which impact on individuals' and couples' constraints and opportunities to combine employment and family life. Taking into account these influences and differences in childhood experiences may be another way to explain changes in the division of labour within couples around the birth event, as well as their varying expectations regarding childbearing decisions and relationship quality. In analysing

family decisions, this approach would have the advantage of reducing the risk that people may adapt their identities to the practised division of labour if they consider it as unchangeable due to factors external to them or their relationship.

7.4 Methodological and data limitations

The weakness of the theoretical model in accounting for the observed variations, particularly in childbearing and parents' relationship quality, may also be due to methodological and data limitations. Two research design limitations of the analysis are a relatively small sample size, especially for the analysis of satisfaction with the partner, and concerns about the consequences of attrition. Furthermore, the fact that parents are a selected group elicits questions about applicability of the findings for other couples. In addition, lack of information on parenting styles and child-centred activities as well as communication between partners did not allow a more detailed analysis of interdependencies of interactions within the family. Other data limitations include the operationalisation of gender role identities by attitudinal measures and insufficient knowledge about ideals and identities other than regarding issues related to women's employment. Furthermore, external circumstances, such as leave entitlements and childcare costs which influence the set of feasible alternatives in the division of labour could not be taken into account.

The explorations of factors which are associated with wave non-response or attrition for each of the three questions suggest some significant differences among childless couples, while the level of non-response among new parents is relatively low. Among childless couples, the lower risk of non-response among married couples might suggest a risk of over-representing those with relatively traditional family values or who are in a financial position to marry. This may be offset, however, by the lower likelihood of continuous response among women with traditional gender role attitudes. It is unclear how regional and survey year differences may affect the results of this study.

In accordance with Uhrig's (2008) results, there are few significant predictors of non-response among parents with young children. Among couples with one child in the childbearing analysis, there may be a bias towards more traditional couples based on men's gender role attitudes, even though this does not reach significance among the small number of couples that leave the panel during the first few years after becoming parents. In addition, high earning women may be underrepresented. Couples entering the

BHPS only in the year of their first birth because they did not cohabit before having a child or started a family very soon after the start of the relationship show more significant differences to those observed before and after the transition to parenthood. According to the estimates, couples with shorter relationship duration and more traditional division of childcare may be underrepresented. Overall, these findings and the stability of most results after using a balanced data set until wave 9 with longitudinal weights or rerunning the models just for England do not give a strong indication of bias.

There also remain some methodological issues with regard to the generalisability of the findings. As the childbearing analysis shows, parent couples are a selected group. Women's employment, both partners' ages and educational levels and couples' marital status are all significantly associated with differences in couples' probability of becoming parents. Since all of these factors are also possibly important for couples' change in the division of labour and relationship quality after the first birth, I do not use statistical methods to correct for the selection. These selection mechanisms, however, make it difficult to generalise the findings and assess the extent to which the explanations of the division of labour adaptations around parenthood and consequences for relationship quality and further childbearing would also apply to other couples if they were to become parents. Additional analyses which compare the results based on different statistical methods that account for observed and unobserved differences between parents and couples that remain childless would be useful in evaluating how selection is likely to affect the results about relationships between British couples' division of domestic work, parenthood, and partnership quality. To extend the analyses on parents in this thesis one could apply multiprocess, multilevel models to couples' adaptation of paid and domestic work and explore whether a more equal division of domestic work is connected with women's quicker return to work. This method would be able to control for fixed unobserved individual heterogeneity. For parents' relationship quality, the analysis only provides a descriptive account of associations between domestic work and satisfaction with the partner and relationship stability. To learn more about the effects of selection or the particular situations in which couples with young children find themselves, one could investigate whether the observed relationships differ for childless couples or those with older children in Britain, e.g. by applying propensity score matching.

Despite its richness in information, the BHPS has some significant disadvantages with respect to the available measures on various aspects of family life and in particular in terms of people's identities and subjective experiences. Ideally, more detailed information on the relationship and interaction between each parent and the child(ren) such as parenting style and shared activities would give a better indication of the dynamics of family life than only one measure of responsibility for childcare. For the analysis of relationship quality, where the models' explanatory power is particularly weak, a larger range of subjective measures of the quality of the relationship including communication and conflict resolution behaviour and details of how much time couples spend together on different activities could enhance our understanding of the widely observed drop in relationship quality after the transition to parenthood. Furthermore, the survey lacks consistent information on other normative influences on social identities relevant to mother and father roles such as people's desires to have children, their career orientations and care ideals. These competing identities are probably not well captured by gender role identity, especially when it is based mainly on questions regarding women's employment. Even though the significance of gender role identities for new parents' division of labour changes suggests that the available attitudinal questions capture differences in gender role identity reasonably well, the results for the other parts of the analysis may be stronger if more precise measures of various aspects of people's self-identity were used.

Given the focus on parents with young children, another important limitation of this analysis is that contextual influences such as entitlements to employer or state policies, availability of grandparents to help with childcare as well as costs and availability of formal childcare could not be considered. Most mothers in Britain are entitled to and take maternity leave for varying lengths of time and at different rates of compensation. As during many other life events, families almost universally interact in some way with state institutions and are confronted with the behavioural assumptions of those institutions. This may be crucial for investigating couples' division of paid and domestic work, because entitlements and take-up of leave policies in the UK are strongly gendered. Family networks can alleviate the dependence on state provision, for instance by helping with childcare. For future research, cross-national comparisons with countries which share contextual similarities except for a few significant differences, such as West

Germany or the United States, would be helpful to explore institutional influences more directly.

7.5 Domestic labour, parenthood, and family policy assumptions

In many European countries, especially those with very low fertility rates, lively debates have recently taken place among researchers and policy makers over how policy measures which facilitate combining employment and family work may increase fertility levels. In Britain, fertility levels are currently not considered a cause for concern, since the total fertility rate has been relatively high with around 1.8 children per woman over the past decade. There are significant differences in completed family size between educational groups but this has not been regarded as a policy issue. By contrast, family instability has attracted considerably more attention among UK policy commentators, especially those representing relatively conservative and pessimistic standpoints (e.g. Morgan 1995; 2000; Social Policy Justice Working Group 2006). Evaluations of the extent to which policy has been driving or reacting to family trends are beyond the scope of this thesis because it focuses on individual and couple level relationships. The data and research design do not allow the exploitation of critical junctions in policy change over time, cross-national comparisons of different policy contexts, or direct measurements of eligibility and take-up of family policies; these would be necessary for investigating policy effects (Neyer and Andersson 2008). Nevertheless, this section will offer some thoughts on how the findings may inform policy debates in Britain. Comparing the results on how different couples adapt their division of paid and domestic work after having their first child to a very similar US study (Sanchez and Thomson 1997) allows some reflections regarding possible contextual influences. Based on the findings on associations between couples' domestic work and childbearing or relationship quality, I also discuss the extent to which the assumptions underlying current family policies with respect to parenthood and relationship breakdown seem to match couples' practice and expectations.

7.5.1 Insights from a UK-US comparison

My results suggest that British couples that become parents do not base their decision about the change in time allocation to different spheres on their relative productivity as measured by earnings. This differs from Sanchez's and Thompson's (1997) findings based on a US survey of married couples that became parents between 1988 and 1994. In

their research, women's economic dependence correlates positively with women's housework hours and men's paid work hours a few years after becoming parents. Couples' gender role attitudes are uncorrelated with the division of housework and only weakly correlated with women's time spent on paid work. Since my results hold even if measures of absolute rather than relative housework and paid work time are used, the country difference is unlikely to be due to measurement variations.

At first sight, the greater significance of both partners' gender role identities may suggest that couples in the UK have more choice to act upon their identities rather than economic pressures. However, the question whether the significance of people's gender role identities represents genuine choice is a complicated one for two reasons. The first is that even if women's higher earnings relative to their partners' were to suggest that a reversal of traditional gender roles would be most efficient to maximise family income, current family leave entitlements in the UK would place such an arrangement at considerable disadvantage to a traditional division of labour. Secondly, men's and women's gender role identities are likely to be constructed in part by external constraints such as policy entitlements and by the normative assumptions they represent.

How differences in the policy context after childbirth may directly and indirectly play a role can be illustrated based on these results for the US and the UK. The UK and the US context are similar in their ideals of mother or family care for young children. They have long shared an emphasis on market-based childcare provision especially in the form of childminders (Fincher 1996; Melhuish and Moss 1991). However, maternity leave provisions and part-time work opportunities differ markedly. During the observation period between 1994 and 2005, statutory maternity pay entitlements of British mothers varied. Between 1994 and 2003, most women were eligible for 26 weeks leave, of which at least 18 weeks were paid⁵⁹. This increased to 52 and 26 weeks, respectively, in 2003 (Crompton 2006; Gornick and Meyers 2003; Kamerman and Kahn 1997). The regulations of leave reimbursement and employment criteria for entitlement varied slightly over time; companies' top-ups also created additional differences in entitlements. While variations based on employer provision are even greater in the US, women are generally entitled to much shorter maternity leave. Usually the provision is based on disability leave, which for most women amounts to three months or less (Gornick and

⁵⁹ Eligibility for income-related or flat rate reimbursement varied depending on the duration of employment.

Meyers 2003; Kamerman and Kahn 1997; Sainsbury 1996). In addition to gendered leave policies, the UK policy context is characterised by a scarcity of childcare that fits mothers' ideals of good quality care for children under three years (Himmelweit and Sigala 2003; Kremer 2005) and widespread availability and acceptance of part-time employment for women. Underlying these policies for new parents is an assumption that at least for the first six months, and often for the first few years, mothers will reduce their employment to be the primary caregiver for their children. In the US, part-time employment has been less widespread and market-based childcare, even if often not of good quality, has been more readily available (Fincher 1996; Gornick and Meyers 2003; Melhuish and Moss 1991; Sainsbury 1999). As a result, mothers have been more likely either to leave their jobs or return to work full-time relatively quickly. Women with lower incomes relative to their husbands may therefore show a larger reduction in paid work as long as their husbands have full-time jobs.

One way of looking at these policy differences is that longer maternity leave entitlements and arrangements to reduce working hours give many British mothers some option of caring for their children themselves. However, the difference between mothers' and fathers' entitlements is considerably larger in the UK compared to the US. Many parents of young children in the UK have a preference for family care, by mothers, fathers, or grandmothers (Hoxhallari, et al. 2007; Thomson 1995). Since fathers so far are only entitled to a very short period of leave after the birth, couples are likely to base their division of labour decisions less on their earnings even if a woman were to earn relatively more than her partner. It would be considerably more difficult in terms of financial and job entitlements as well as social acceptance for the father to stay home with the child. As families where women's earnings exceed those of their partners are most frequently observed among couples with lower levels of household income and education (Harkness 2003), the lack of affordable and socially acceptable forms of childcare may limit women's quick return to full-time work in these families. By contrast, for the woman to stay home with the child for a significant period of time is financially even more difficult in such households in the US and returning to work part-time is often not an option. This is also in line with the Sanchez and Thompson's (1997) finding that only in couples where both partners hold traditional gender role attitudes, mothers reduce their paid work hours significantly more than in all other groups.

These are just some examples within a wide spectrum which illustrate what Singley and Hynes (2005) find in their qualitative study on new parents in New York. For couples that did not have strong preferences regarding the division of childcare and paid work, the availability of provision, often by the work-place, shaped their work-care balance strategies (Singley and Hynes 2005). In some cases, gendered differences in workplace entitlements may also be used as a justification for dividing paid work and care in a quite traditional way. Once the early phase of parenthood has passed, Singley and Hynes still find that mothers make more use of flexible work arrangements even if they were also available to their male partners. A similar pattern is visible in the UK. Since 2003 British fathers of pre-school children⁶⁰ also have the right to request flexible working but use it significantly less than mothers (Bell and Bryson 2005; O'Brien and Shemilt 2003). Although the percentage of men who adjust their hours in employment in some way to fatherhood has increased (Bell and Bryson 2005; Thompson, et al. 2005), concerns about feasibility of family-friendly working arrangement in their jobs and consequences for their career are widespread among fathers (Stevens, et al. 2004). This suggests that availability of family-friendly provision is only a first step, since people's assumptions about social acceptance remain a barrier to take-up.

UK policies around parenthood may provide couples with more choice than in the US. However, it is important to note that the greater importance of gender role identities compared to earnings cannot be simply understood as the result of unconstrained choice. Some women in the UK probably want to be the one mainly responsible for housework and childcare. For others, other options may not be financially feasible, or they may feel it is not socially acceptable or is harmful for their child's wellbeing if they use their earnings to bargain for a more equal division of paid and domestic work. This is particularly likely given that fathers' limited leave rights and long working hours would imply more outsourcing of childcare to external providers if the mother did less childrearing and domestic work. To further explore the different results and the interdependence with individual entitlements and employer provision of family-friendly arrangements, more detailed information on comparable samples in the two countries will be required.

⁶⁰ The right to request flexible working has been extended to all parents irrespective of their child's age in 2009.

7.5.2 Domestic work, childbearing, and relationship quality: some implications for policy

Over the period of analysis, I find considerable group variation in what kind of gender division of labour arrangements seem to facilitate childbearing among British couples. The greater propensity of male breadwinner families (where the woman does not work for pay) to have a first or second child may be seen as in line with current assumptions of policies around birth events. However, the finding that working mothers whose partners share the housework are more likely to have a second child suggests that among couples where both partners work for pay, the mother's main responsibility of housework may lead to challenges in combining domestic work with employment. This diversity may be in part a reflection of the varying entitlement and financial constraints different groups of women face in their childbearing decisions and timing. In the UK, mothers' labour market interruptions and work hours after returning to work are strongly linked with educational level (Ekert-Jaffé, et al. 2002; Rendall and Smallwood 2003; Smeaton 2006). If mothers' employment continues to rise, as promoted by the New Labour government, men's contributions to housework may be a significant factor for childbearing decisions among an increasing percentage of couples. This may be particularly relevant if women from lower socioeconomic backgrounds, among whom longer employment interruptions are more widespread, are increasingly expected to return to work sooner to reduce the risk of poverty for themselves and their children.

The UK government does not pursue a population policy and childbearing decisions have been largely viewed as a private matter (Dunnell 2000; Sainsbury 1996). However, the positive association between the housework contributions of men and couples' probability of having a second child may contradict the implicit assumption of current parenthood policy that it is best for families if mothers are the main carer during the first few years of the child's life. At the same time I find no evidence of mothers' primary responsibility for childcare being negatively associated with couples' childbearing and even a positive correlation with most mothers' satisfaction with their partners during the first years of parenthood. In terms of outcomes for fertility and relationship quality, relatively traditional assumptions of motherhood and fatherhood remain important among many couples. One should keep in mind, however, that people's practice and normative expectations in terms of mothers' and fathers' role in providing and caring for

the family are also shaped by the historical developments of family policies around parenthood (Kremer 2005).

To what extent the disproportionate housework burden of working women contributes to the difference in completed family size between women with low and high levels of education is impossible to answer based on these results. More evidence on the extent of unmet desires for children among different groups would be needed. A comparison of women's childbearing behaviour in Britain and France shows that the difference in achieved family size by socioeconomic status is larger in Britain than in France (Ekert-Jaffe, Joshi et al. 2002). While men's contributions in terms of housework and childcare are not greater in France than in the UK, parental leave arrangements are more generous and childcare provision more widely available. This may suggest that difficulties in combining a career with having children are more significant in Britain. However, to what extent they account for the larger difference between desired and achieved family size for highly-educated women is not known. To explore the connection between childbearing, family friendly work arrangements and gender inequality in domestic work, further research is necessary. Such research should attempt to control for each partner's preferences and motivations for having children, and for competing alternatives, and investigate how these preferences are linked to situational constraints and opportunities.

The literature has observed some contradictory tendencies between different branches of family policy in Britain. In contrast to the assumption underlying family leave and childcare policies that most mothers will be the main carer for small children, divorce legislation and procedures seem to be increasingly based on assumptions of a fully individualised 'adult worker model family' (Lewis 2001b). The lack of cohabitation regulation or legal alternatives to marriage also suggests an underestimation of the long-term consequences gendered earnings and caring practices have in case of relationship dissolution (Barlow, et al. 2001; Barlow and James 2004). This mirrors in general quite individualistic attitudes of British people regarding relationships, with over 60 per cent saying that independence of each partner in terms of careers and separate friends strengthens the relationship (Duncan and Phillips 2008). However, for parents with young children, my results provide no indication of such individualistic expectations e.g. regarding a positive association of women's participation in paid work and the quality of couples' relationships. Although there is also no sign of a negative association of paid

work with relationship satisfaction and stability, mothers' greater satisfaction with the partner when they do more of the housework and childcare themselves points to relatively traditional expectations within relationships or at least tolerance of a traditional division of labour for some period of time. This confirms previous criticism, that divorce legislation and relationship regulations seem to assume a less gendered organisation of domestic work and care than is practised by most couples with small children, which is also supported by some gendered family policies around parenthood. While not necessarily reflected in greater satisfaction with the partner, the result of possible benefits of childcare sharing for relationship stability may point to some positive aspects of more egalitarian gender arrangements. So far the consequences of varying quality of the relationship between fathers and their children for relationship satisfaction of mothers and fathers and family stability have received less attention by researchers and policy-makers than both partners' financial self-sufficiency.

7.6 Concluding remarks

This thesis has explored changes in British couples' division of paid and domestic work when they become parents and the importance of this change for childbearing and relationship quality. Gender inequalities are framed as dynamic processes that change disproportionately at certain life-course events such as the transition to parenthood. With the exception of some small-scale studies, most previous research on what actually happens during the transition to parenthood has concentrated either on changes in paid work (e.g. Smeaton 2006; Vlasblom and Schippers 2006) or has given a purely descriptive assessment of the extent of change (Gershuny 2003). My analysis adds to this literature by identifying some predictors of the shift in the division of breadwinning as well as domestic work and care observed among most new parents in Britain. Considering the division of domestic labour is central to understanding how subsequent long-term economic inequalities between men and women are linked to women's greater involvement in unpaid work and care.

My study has expanded existing research on the association of the gender division of domestic work with childbearing (e.g. Cooke 2004; Olah 2003; Torr and Short 2004) by providing a more detailed analysis of how the importance of domestic work varies depending on specific circumstances such as women's gender role identities and paid work involvement. It also provides the first UK evidence of the importance of housework and childcare arrangements among couples with pre-school children. This is significant

given that these children are at increasing risk of experiencing their parents' separation (Chan and Halpin 2002; 2005; Haskey 1997).

Given the discrepancy between people's egalitarian aspirations for how domestic work should be divided and actual practice, I proposed that couples' division of domestic work and the congruence with people's identities may be of importance for couples' childbearing decisions and their relationship dynamics as parents. To examine the relationships between the division of labour within couples and family outcomes and the interdependence with women's gender role identities empirically, I applied a theoretical framework which incorporates gender role identity into economic considerations of family decisions. The significance of gender role identities for how couples adapt their division of labour after becoming parents provides some support for the benefits of models combining differences in identity with a rational choice framework. However, the weaker explanatory power for childbearing and relationship quality casts doubt on the importance of women's gender role identities versus other competing identities. Therefore, a priori knowledge of the salience of different identities for specific behaviours or careful assessment of the particularities of the specific decision seem crucial for using models combining explanations based on identity and rational choice theories.

The results of the empirical analysis based on the British Household Panel Survey suggest that the change in the division of labour within couples around parenthood is strongly associated with both partners' gender role identities before having children. There is no difference for women who earn relatively more compared to their partners before parenthood. While this contradicts conventional neo-classical economic models, it may be seen as rational in an economic sense after taking the UK policy context with strongly gendered leave entitlements into account. For childbearing and relationship quality, I find some advantages of relatively egalitarian relationships in line with some scholars' predictions (Beck and Beck-Gernsheim 1995; Oppenheimer 1994; Scanzoni 1978). However, there is also evidence of several challenges which may suggest that relatively traditional gender arrangements of paid work and childcare are still regarded as more practicable and acceptable. Men's contributions to housework are associated with a higher probability of having a second child. Childcare sharing is associated with greater relationship stability, even after accounting for the greater dissatisfaction with the partner

reported by some mothers in these couples. However, in general traditional assumptions of gender with respect to motherhood and fatherhood remain important among many British couples, since traditional male breadwinner families are still more likely to have a first and second child. Furthermore, gender equality in the division of housework and childcare is associated with lower satisfaction with the partner for most mothers.

In line with previous studies (Crompton and Lyonette 2008), I find that the division of housework has become more equal among childless couples. However, it has not changed significantly among parents of pre-school children and the trend for childcare even suggests an increase in the percentage of mothers who are mainly responsible for looking after the child since the mid 1990s. Parenthood also continues to result on average in a significant shift towards more traditional arrangements and the extent of this has not decreased between 1994 and 2005. Based on attitude reports among the British population, the trend towards more egalitarian gender role attitudes has slowed down since the early 1990s (Crompton, et al. 2003; 2005; Crompton and Lyonette 2008; Kiernan 1992b; Scott, et al. 1993). A similar general slow down and even a reversal for some gender role questions has been found in the US (Thornton and Young-DeMarco 2001). In the UK, there is so far no evidence of attitudes regarding men's and women's roles at work or at home becoming more traditional again. Given slowing change in terms of attitude and practice, most likely we will see relative stability in people's expectations in terms of both partners' roles in employment and family life in the short to medium term. There remains a significant difference in men's and women's gender role attitudes, which shows no sign of narrowing by either men catching up in egalitarianism or women reversing the trend of the past decades. As a result, considerable diversity in couples' practised division of labour after becoming parents and their domestic work expectations e.g. among working and non-working mothers is likely to persist.

8 References

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Appendix

8.1 Descriptive statistics and regression results for Chapter 3

Table A3.1: Factor loadings of a principal components analysis of BHPS gender role attitude questions separately for partnered women and men

<i>Factor loadings</i>	<i>Women</i>		<i>Men</i>	
	<i>Option 1</i>	<i>Option 2</i>	<i>Option 1</i>	<i>Option 2</i>
GRA Question 1	0.714	0.714	0.689	0.760
GRA Question 2	0.774	0.783	0.768	0.820
GRA Question 3	0.446	0.648	0.482	0.764
GRA Question 4	0.395	0.621	0.402	0.735
GRA Question 5	0.372	0.569	0.343	0.688
GRA Question 6	0.524	0.660	0.502	0.734
GRA Question 7	-0.039	excluded	-0.007	excluded
Kaiser-Meyer-Olkin Measure	0.701	0.799	0.690	0.846

Note: Based on a sample of all women and men living in couples where the woman is between 20 and 45 years, BHPS 1992-2005.

Table A3.2: Cox proportional hazard models of couples' likelihood of having a first or second birth

	<i>1st birth</i>		<i>2nd birth</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Survey year	-0.001	0.017	0.050	0.017
Woman's age	0.302	0.121	0.324	0.113
Woman's age squared	-0.006	0.002	-0.005	0.002
Man's age	0.345	0.090	0.010	0.082
Man's age squared	-0.005	0.001	-0.001	0.001
Age of 1st child in months			-0.013	0.002
Education: both low- omitted				
Education: both medium	-0.293	0.164	-0.219	0.155
Education: both high	-0.357	0.187	0.414	0.201
Education: man more educated	-0.103	0.162	-0.084	0.146
Education: woman more educated	-0.276	0.166	-0.018	0.156
Scotland	-0.217	0.143	0.114	0.128
Wales	0.115	0.185	-0.067	0.166
No. of couples	1053		705	
No. of births	379		359	

Table A3.3: Regression models of women's shares of housework and responsibility for childcare at the first year in the sample used for the childbearing analysis

	<i>Women's share of housework within childless couples^a</i>		<i>Women's share of housework within couples with one child^a</i>		<i>Mothers' childcare responsibility within couples with one child^b</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Survey year	-0.438	0.152	-0.303	0.199	0.080	0.022
Woman's age	0.373	0.150	0.037	0.189	0.016	0.021
Man's age	-0.150	0.114	-0.028	0.152	-0.040	0.017
Age of 1st child in months			-0.003	0.017	0.000	0.002
Education: both low– omitted						
Education: both medium	-7.064	1.866	-5.332	2.147	-0.569	0.232
Education: both high	-11.491	2.090	-11.683	2.993	-0.443	0.319
Education: man more educated	-6.771	1.838	-3.452	1.991	0.141	0.229
Education: woman more educated	-7.902	1.812	-6.944	2.201	-0.364	0.240
Scotland	1.105	1.484	-1.559	1.860	-0.608	0.199
Wales	3.213	1.903	-0.509	2.131	-0.598	0.225
constant	66.456	3.578	81.962	4.619	1.483	0.507
Sigma	21.073	0.401	21.132	0.523		
No. of couples	1053		705		705	
Pseudo R ²	0.0042		0.0036		0.038	

Note: ^aTobit regression models are used due to the unequal distribution of women's housework share with clusters at values close to 100; ^bLogistic regression is used, as childcare responsibility is a binary category.

Table A3.4: OLS regression models of women's total housework hours at the first year in the sample used for the childbearing analysis

	<i>Childless couples</i>		<i>Couples with one child</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Survey year	-0.176	0.043	0.012	0.033
Woman's age	0.109	0.042	-0.040	0.033
Man's age	0.038	0.032	0.070	0.025
Age of 1st child in months				
Education: both low– omitted				
Education: both medium	-1.973	0.531	0.013	0.406
Education: both high	-4.000	0.598	0.228	0.456
Education: man more educated	-2.501	0.523	-0.074	0.400
Education: woman more educated	-2.706	0.515	0.540	0.394
Scotland	0.110	0.425	-0.230	0.324
Wales	1.600	0.548	-0.217	0.417
constant	8.934	1.017	4.589	0.780
No. of couples	1053		705	
Adj. R ²	0.0606		0.043	

Table A3.5: OLS regression models of men's total housework hours at the first year in the sample used for the childbearing analysis

	<i>Childless couples</i>		<i>Couples with 1 child</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Survey year	0.012	0.033	0.038	0.047
Woman's age	-0.040	0.033	-0.088	0.045
Man's age	0.070	0.025	0.056	0.037
Age of 1st child in months			0.001	0.004
Education: both low– omitted				
Education: both medium	0.013	0.406	0.502	0.513
Education: both high	0.228	0.456	1.115	0.718
Education: man more educated	-0.074	0.400	0.145	0.476
Education: woman more educated	0.540	0.394	0.534	0.525
Scotland	-0.230	0.324	0.596	0.445
Wales	-0.217	0.417	0.143	0.512
Constant	4.589	0.780	5.310	1.108
No. of couples	1053		705	
Adj. R ²	0.003		0.001	

Table A3.6: Regression models of women's responsibility for childcare, shares of housework and paid work in the second year after the first birth

	<i>Mothers' childcare responsibility^b</i>		<i>Women's share of housework^a</i>		<i>Women's share of paid work^a</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Survey year	0.101	0.036	-0.173	0.278	0.778	0.594
Woman's age	0.035	0.032	-0.450	0.259	1.492	0.464
Man's age	-0.080	0.028	-0.298	0.225	-0.049	0.392
Age of 1st child in months	-0.003	0.003	0.027	0.023	-0.027	0.039
Second child	0.625	0.560	3.341	3.803	-2.745	6.742
Education: both low– omitted						
Education: both medium	-0.344	0.363	-5.271	3.042	-1.766	5.455
Education: both high	-0.380	0.410	-10.818	3.510	0.006	6.364
Education: man more educated	0.401	0.375	-5.832	2.973	-10.983	5.463
Education: woman more educated	0.039	0.385	-7.757	3.126	-4.875	5.578
Scotland	-0.507	0.312	-3.912	2.689	7.185	4.476
Wales	-0.971	0.404	-3.996	3.648	10.740	6.530
Constant	1.888	0.911	105.411	7.514	-22.442	13.592
Sigma			20.077	0.666	32.225	1.415
No. of couples	390		390		390	
Pseudo R ²	0.0637		0.0082		0.0102	

Note: ^a Tobit regression models are used due to the unequal distribution of women's shares of housework and paid work with clusters at values close to 100 and 0, respectively; ^b Logistic regression is used, as childcare responsibility is a binary category.

Table A3.7: OLS regression model of change in women's share of housework and paid work from the year before to the second year after the first birth

	<i>Women's share of housework</i>		<i>Women's share of paid work</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Survey year	-0.051	0.300	-0.322	0.346
Woman's age	-0.489	0.265	0.287	0.319
Man's age	-0.092	0.234	0.260	0.276
Age of 1st child in months	-0.017	0.024	-0.002	0.026
Second child	-5.302	3.999	4.113	4.627
Education: both low– omitted				
Education: both medium	4.785	3.186	-3.977	3.630
Education: both high	7.181	3.627	-1.512	4.240
Education: man more educated	5.696	3.119	-10.884	3.541
Education: woman more educated	3.110	3.267	-3.631	3.667
Scotland	-6.237	2.694	3.952	3.296
Wales	-4.164	3.660	2.762	4.475
Constant	22.646	7.707	-24.349	9.244
No. of couples	390		390	
Adj. R ²	0.0277		0.016	

Table A3.8: Regression model of women's relative earnings and both partners' gender role attitudes in the year before the first birth

	<i>Women's relative earnings^a</i>		<i>Women's gender role attitudes^b</i>		<i>Men's gender role attitudes^b</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Survey year	-0.105	0.326	-0.008	0.009	-0.003	0.009
Woman's age	0.731	0.306	0.004	0.008	0.023	0.009
Man's age	0.118	0.258	0.003	0.007	-0.016	0.007
Age of 1st child in months	-0.031	0.268	0.025	0.007	-0.002	0.008
Second child	-7.442	4.866	-0.323	0.125	-0.195	0.130
Education: both low– omitted						
Education: both medium	-3.653	3.474	0.073	0.093	0.141	0.100
Education: both high	-6.396	3.970	0.251	0.107	0.173	0.113
Education: man more educated	-3.346	3.463	-0.058	0.093	0.091	0.100
Education: woman more educated	1.108	3.592	0.112	0.096	0.149	0.103
Scotland	6.088	3.057	0.106	0.084	0.187	0.088
Wales	9.584	4.446	0.062	0.118	-0.003	0.123
Constant	23.869	9.469	2.782	0.253	3.037	0.261
Sigma	21.421	0.790				
No. of couples	390		390		390	
Pseudo R ² / Adj. R ²	0.0062		0.0514		0.0204	

Note: ^a Tobit regression models are used due to the unequal distribution of women's earnings share with clusters at values close to zero. The results do not change qualitatively if an OLS regression is used.

^b Based on OLS regressions.

Table A3.9: OLS regression models of women's gender role attitudes in the first year in the sample used for the childbearing analysis

	<i>Childless couples</i>		<i>Couples with 1 child</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Survey year	-0.001	0.005	-0.007	0.007
Woman's age	-0.001	0.004	0.002	0.006
Man's age	-0.010	0.003	-0.007	0.005
Age of 1st child in months			0.001	0.001
Education: both low– omitted				
Education: both medium	0.112	0.055	0.117	0.069
Education: both high	0.274	0.063	0.265	0.100
Education: man more educated	0.044	0.055	-0.015	0.064
Education: woman more educated	0.177	0.055	0.258	0.072
Scotland	0.052	0.045	0.147	0.060
Wales	0.090	0.060	0.096	0.074
Constant	3.667	0.110	3.348	0.154
No. of couples	1053		705	
Adj. R ²	0.0339		0.0341	

Table A3.10: OLS regression models of change in satisfaction with the partner from the year before to the third year after the first birth for women and men

	<i>Women</i>		<i>Men</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Survey year	0.069	0.045	0.088	0.041
Woman's age	0.000	0.020	-0.019	0.018
Man's age	-0.010	0.018	0.000	0.017
relationship duration	0.054	0.026	0.013	0.024
Education: both low– omitted				
Education: both medium	-0.003	0.262	-0.036	0.261
Education: both high	-0.453	0.298	-0.240	0.287
Education: man more educated	0.069	0.258	-0.197	0.258
Education: woman more educated	-0.230	0.257	-0.106	0.256
Scotland	0.038	0.222	-0.056	0.201
Wales	-0.067	0.332	-0.770	0.301
Constant	-1.103	0.765	-0.625	0.684
No. of couples	207		207	
Adj. R ²	0.0041		0.0152	

Note: The dependent variable 'change in satisfaction with the partner' is based on the original satisfaction score on a scale from 1 to 7. The change is calculated as the difference between a person's satisfaction level in the year before the first birth and his or her satisfaction in the third year after the first birth.

8.2 Descriptive statistics and regression results for Chapter 4

Table A4.1: Descriptive statistics for couples' first observable year in the sample

	<i>Childless couples</i>		<i>Couples with one child</i>	
	<i>Mean/Perc.</i>	<i>Std.Dev.</i>	<i>Mean/Perc</i>	<i>Std. Dev.</i>
<i>At first wave in couple sample:</i>				
<i>Breadwinning arrangements</i>				
Man works full-time/woman not employed	5.51		24.68	
Man works full-time/woman part-time	6.01		32.71	
Family with two full-time workers	74.66		28.51	
Woman works full-time/man part-time or not	5.68		3.43	
Both partners work less than full-time	8.05		10.50	
<i>Housework share categorised:</i>				
Mostly woman (spends $\geq 2/3$ of couple)	39.29		63.97	
Man contributes (spends $>1/3$)	60.71		36.03	
Have other help with some housework tasks	5.20		4.48	
<i>Division of childcare responsibility:</i>				
Female more responsible	n.a.		29.45	
Shared or male more responsible	n.a.		70.55	
Woman's total housework time	9.31	6.02	15.77	9.36
Woman's paid work hours	35.56	14.09	19.88	16.52
Man's paid work hours	40.23	17.38	41.38	18.31
Woman's gender role attitude factor	3.49	0.61	3.40	0.65
Woman egalitarian attitudes	33.51		26.97	
Woman moderate attitudes	50.75		48.02	
Woman traditional attitudes	15.74		25.01	
Man's gender role attitude factor	3.34	0.52	3.25	0.61
One or both partners attend religious services	5.28		11.28	
<i>Day-care use:</i>				
Informal day-care	n.a.		35.84	
Formal day-care	n.a.		28.98	
Woman works from home	n.a.		3.16	
Man looks after child while woman works	n.a.		21.79	
<i>Partners' educational qualifications:</i>				
both low	12.88		22.21	
both medium	24.21		21.34	
both high	13.30		8.34	
Man more educated than woman	23.78		27.95	
Woman more educated than man	25.75		20.15	
Man's hourly gross earnings (RPI adj.)	5.76	4.27	6.30	4.33
Woman's hourly gross earnings (RPI adj.)	5.05	3.39	5.89	3.46
One or both partners full-time student	5.21		1.36	
Woman's age	27.53	5.05	30.52	5.44
Man's age	30.33	6.64	32.94	6.30
Married	30.14		66.42	
Relationship duration in years	2.63	2.98	5.55	4.13
Age of first child in months	n.a.		53.01	47.44
Mother had first child with previous partner	n.a.		2.68	
Man fathered child in previous relationship	8.55		7.49	

Table A4.2: T-tests of unfairness perceptions and men's housework contribution for childless women and mothers

<i>Unfairness perceptions</i>	<i>Childless women</i>		<i>Mothers with one child</i>	
	<i>Mean</i>	<i>N</i>	<i>Mean</i>	<i>N</i>
Man does ≤1/3 of	2.226	326	2.176	334
Man does >1/3 of housework	1.654	373	1.692	143
H _a : difference > 0	Sig.= 0.000	T=8.462	Sig.= 0.000	T=4.963

Table A 4.3: Cox proportional hazard models of likelihood of wave non-response or attrition for childless couples and those with one child

	<i>Childless couples</i>		<i>Couples with one child</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Woman's total housework hours	0.005	0.012	-0.021	0.018
Man contributes to housework	0.020	0.153	-0.185	0.307
Woman's paid work hours	-0.005	0.005	-0.015	0.009
Man's paid work hours	-0.003	0.005	-0.008	0.009
Woman's gender role attitude factor	-0.311	0.160	0.117	0.229
Man's gender role attitude factor	0.135	0.148	0.489	0.246
One or both partner religious	0.259	0.300	0.522	0.445
Education: both low- omitted				
Education: both medium	-0.185	0.224	-0.272	0.407
Education: both high	0.090	0.250	0.137	0.572
Education: man more educated	-0.217	0.229	0.505	0.349
Education: Woman more educated	-0.242	0.227	-0.307	0.442
Woman's age	-0.032	0.019	-0.033	0.038
Man's age	0.012	0.013	0.001	0.026
Married	-0.462	0.154	0.067	0.316
Log of man's hourly earnings	-0.089	0.109	0.140	0.142
Relationship duration	-0.017	0.030	0.030	0.039
Survey year	0.041	0.023	0.110	0.048
Age of 1st child in months			0.006	0.003
Scotland	0.287	0.170	0.725	0.303
Wales	0.354	0.230	0.636	0.358
No. of couples	1348		725	
Couples with non-response	300		138	
No. of imputation cycles ^a	5		5	

Note: ^a Missing items are imputed using chained equations.

8.3 Descriptive statistics and regression results for Chapter 5

Table A5.1: Descriptive statistics for couples becoming parents

<i>Descriptives in the second year after the first birth</i>	<i>Mean/ Per cent</i>	<i>Std. Dev.</i>
Woman's share of housework hours	73.48	19.46
Woman mainly responsible for childcare	72.93	
Woman's paid work hours share	29.15	26.26
<i>Descriptives in the year before the first birth</i>	<i>Mean/ Per cent</i>	<i>Std. Dev.</i>
Woman's share of housework hours	65.50	20.17
Woman's paid work hours share	47.46	19.19
Woman's hourly earnings relative to couple total earnings	49.03	21.57
Man' monthly gross earnings	1288.45	845.57
Woman's hourly gross wage	5.41	2.89
Woman's gender role attitude factor	3.42	0.57
Man's gender role attitude factor	3.27	0.56
Education: both high	13.58	
Education: both medium	24.28	
Education: both low	11.85	
Education: man more educated	26.20	
Education: Woman more educated	22.75	
Woman's age	30.37	4.58
Age difference (man-woman)	2.40	4.53
Married	72.58	
Cohabitation duration in years	3.85	3.17
Age of first child in months	18.62	3.64
Child is male	54.28	
Couple has second child in second year after first birth	8.53	
Woman employed in public sector	27.94	
Man employed in public sector	12.85	
Woman not satisfied with job	32.86	
England	83.10	
Scotland	10.87	
Wales	6.04	

Table A5.2: Logistic regression models of women's share of childcare responsibility, housework time and paid work time in the second year after first birth

<i>Mothers' share of</i>	<i>Model 4: Childcare responsibility^a</i>		<i>Model 5: Housework time^b</i>		<i>Model 6: Paid work time^b</i>	
	<i>Coeff</i>	<i>SE</i>	<i>Coeff</i>	<i>SE</i>	<i>Coeff</i>	<i>SE</i>
Woman's relative hourly earnings	-0.011	0.007	-0.008	0.006	0.031	0.006
Log of man's monthly earnings	0.229	0.235	0.163	0.153	0.072	0.212
Woman's hourly wage top 25%	-0.535	0.505	-0.625	0.322	0.161	0.356
Woman's hourly wage mid 50%	-0.554	0.439	-0.703	0.258	0.236	0.262
Woman's hourly wage bottom 25% - omitted						
Woman's gender role attitudes	-0.831	0.233	-0.638	0.182	0.740	0.189
Man's gender role attitudes	-0.653	0.229	-0.844	0.174	0.408	0.221
Both less than A-Levels - omitted						
Both A-Levels or equiv.	0.184	0.392	-0.294	0.316	0.087	0.306
Both college degree	0.192	0.481	-0.776	0.357	-0.023	0.366
Man more educated	0.630	0.427	-0.254	0.298	-0.352	0.328
Woman more educated	0.481	0.416	-0.225	0.310	-0.076	0.308
Woman's age	-0.007	0.035	-0.052	0.026	0.033	0.027
Age difference (woman - man)	0.055	0.029	0.040	0.023	-0.011	0.027
Cohabitation duration	-0.025	0.047	0.061	0.034	0.072	0.038
Married before birth	0.446	0.312	-0.004	0.300	0.105	0.261
First child age in months	-0.023	0.035	-0.023	0.024	0.022	0.026
Child sex is male	0.161	0.246	0.213	0.179	-0.143	0.181
Second child in 2nd year after first birth	0.245	0.548	0.260	0.333	-0.775	0.412
Woman employed in public sector	-0.385	0.307	0.378	0.234	0.585	0.215
Man employed in public sector	-0.825	0.348	-0.235	0.282	0.534	0.268
Woman not satisfied with her job	0.365	0.265	0.186	0.189	-0.219	0.200
Scotland	-0.231	0.381	-0.203	0.279	0.249	0.296
Wales	-0.956	0.463	-0.210	0.384	0.629	0.399
Survey year	0.066	0.041	-0.028	0.029	0.029	0.029
Constant	5.260	2.148				
Ordered logit: Cut-off 1			-7.993	1.595	7.069	1.920
Ordered logit: Cut-off 2			-6.756	1.577	8.161	1.933
Ordered logit: Cut-off 3			-5.678	1.579	9.511	1.962
No. of couples	549		549		549	
Pseudo R ² ^c	0.180		0.092		0.139	
No. of imputation cycles ^d	5		5		5	

Note: ^a Logistic regression; ^b Ordered logistic regression; ^c The Pseudo R² is based on models containing the same variables but before imputing item non-response. ^d Missing items are imputed using chained equations.

Table A5.3: Regression models of total housework time for women and men in the second year after the first birth

<i>Housework hours of ..</i>	<i>Model 7: Mothers^a</i>		<i>Model 8: Fathers^b</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Woman's pre-birth housework hours	0.569	0.077	-0.024	0.018
Man's pre-birth housework hours	-0.099	0.100	0.209	0.033
Woman's -pre-birth paid work hours	0.028	0.041	0.016	0.009
Man's pre-birth paid work hours	0.005	0.030	-0.011	0.009
Woman's relative hourly earnings	0.000	0.030	0.002	0.007
Log of man's monthly earnings	0.469	0.612	0.088	0.155
Woman's hourly wage top 25%	-2.035	1.407	0.206	0.323
Woman's hourly wage mid 50%	-0.829	1.101	0.423	0.258
Woman's hourly wage bottom 25% - omitted				
Woman' gender role attitudes	-0.638	0.699	0.331	0.186
Man's gender role attitudes	-1.949	0.701	0.189	0.228
Both less than A-Levels - omitted				
Both A-Levels or equiv.	-0.525	1.252	0.108	0.320
Both college degree	-0.175	1.658	0.009	0.386
Man more educated	0.996	1.265	0.322	0.298
Woman more educated	-0.455	1.257	-0.054	0.318
Woman's age	-0.104	0.111	0.046	0.027
Age difference (woman - man)	-0.017	0.094	-0.054	0.028
Cohabitation duration	-0.093	0.138	-0.004	0.035
Married before birth	-0.008	0.984	-0.095	0.233
First child age in months	-0.054	0.109	0.028	0.025
First child is male	0.824	0.737	0.058	0.190
Second child in 2nd year after first birth	3.586	1.383	0.189	0.337
Woman employed in public sector	-0.446	0.942	-0.130	0.224
Man employed in public sector	-0.886	1.176	-0.352	0.284
Woman not satisfied with her job	1.330	0.852	-0.214	0.211
Scotland	-1.055	1.191	0.476	0.307
Wales	-0.147	1.574	0.243	0.373
Survey year	-0.288	0.133	0.016	0.030
Constant	21.651	6.590		
Ordered logit: Cut-off 1			3.855	1.525
Ordered logit: Cut-off 2			5.899	1.545
Ordered logit: Cut-off 3			7.263	1.571
No. of couples	549		549	
Adj. R ² / Pseudo R ² ^c	0.230		0.113	
No. of imputation cycles ^d	5		5	

Note: ^a OLS regression; ^b Ordered logistic regression; ^c The Adjusted R² for the OLS regression and the Pseudo R² for the logistic regression are based on models containing the same variables but before imputing item non-response. ^d Missing items are imputed using chained equations.

Table A5.4: Regression models of total paid work time for women and men in the second year after the first birth

<i>Paid work hours of ...</i>	<i>Model 9: Mothers^a</i>		<i>Model 10: Fathers^b</i>	
	<i>Coeff.</i>	<i>SE</i>	<i>Coeff.</i>	<i>SE</i>
Woman's pre-birth housework hours	-0.041	0.018	0.007	0.133
Man's pre-birth housework hours	0.041	0.024	-0.206	0.195
Woman's -pre-birth paid work hours	0.044	0.011	0.065	0.078
Man's pre-birth paid work hours	-0.003	0.007	0.499	0.050
Woman's relative hourly earnings	0.008	0.008	-0.063	0.055
Log of man's monthly earnings	-0.205	0.170	0.875	1.520
Woman's hourly wage top 25 %	0.223	0.439	-2.028	2.396
Woman's hourly wage mid 50 %	0.297	0.343	0.827	1.867
Woman's hourly wage bottom 25%- omitted				
Woman's gender role attitudes	0.785	0.202	1.165	1.285
Man's gender role attitudes	0.406	0.219	-1.125	1.360
Both less than A-Levels - omitted				
Both A-Levels or equiv.	0.032	0.324	-0.660	2.394
Both college degree	-0.208	0.389	0.652	2.858
Man more educated	-0.594	0.309	0.359	2.326
Woman more educated	-0.158	0.319	0.884	2.373
Woman's age	0.025	0.027	-0.144	0.198
Age difference (woman - man)	-0.018	0.023	0.008	0.180
Cohabitation duration	0.078	0.035	-0.576	0.246
Married before birth	0.044	0.256	-2.182	1.616
First child age in months	0.029	0.025	0.320	0.188
Child is male	-0.087	0.183	-0.231	1.416
Second child in 2nd year after first birth	-1.234	0.430	-5.792	2.500
Woman employed in public sector	0.552	0.219	1.784	1.681
Man employed in public sector	0.343	0.270	0.137	2.329
Woman not satisfied with her job	-0.366	0.200	1.578	1.556
Scotland	0.547	0.294	1.159	2.129
Wales	0.462	0.401	0.965	2.997
Survey year	0.008	0.032	-0.320	0.222
Constant			22.029	12.085
Ordered logit: cut-off 1	5.129	1.795		
Ordered logit: cut-off 2	6.251	1.808		
Ordered logit: cut-off 3	7.655	1.833		
No. of couples		549		549
Adj. R ² / Pseudo R ² ^c		0.171		0.211
No. of imputation cycles ^d		5		5

Note: ^a Ordered logistic regression; ^b OLS regression; ^c The Pseudo R² is based on models containing the same variables but before imputing item non-response; ^d Missing items are imputed using chained equations.

Table A5.5 Logistic regression of wave non-response or attrition of couples in the second year after the first birth

	<i>Non-response after birth</i>	
	<i>Coeff.</i>	<i>SE</i>
Woman's pre-birth housework share	-0.042	0.027
Woman's -pre-birth paid work share	0.054	0.042
Woman's relative hourly earnings ^a	-0.077	0.053
Log of man's monthly earnings	0.568	1.015
Woman's gender role attitudes	-0.509	0.772
Man's gender role attitudes	-0.380	0.953
Both less than A-Levels - omitted		
Both A-Levels or equiv.	-0.239	1.399
Both college degree	-0.217	1.632
Man more educated	-1.110	1.521
Woman more educated	-0.918	1.704
Woman's age	-0.246	0.141
Age difference (woman - man)	0.141	0.114
Cohabitation duration	0.189	0.193
Married before birth	-0.273	1.124
First child age in months	0.006	0.103
Child sex is male	1.618	0.941
Woman employed in public sector	0.304	1.062
Man employed in public sector	0.812	1.040
Woman not satisfied with her job	0.199	0.975
Survey year	-0.048	0.113
Constant	2.874	9.331
No. of couples	549	
Couples with non-response	15	
Pseudo R ^{2b}	0.327	
No. of imputation cycles ^c	5	

Note: ^a Women's absolute hourly earnings are excluded, as being in the top quartile of the earnings distribution completely predicts non-response; ^b The Pseudo R² is based on the regression before imputing missing observations of the covariates.; ^c Missing items are imputed using chained equations.

Table A5.6: Logistic regression of couples entering the panel only at the year of first birth

	<i>Entry at year of 1st birth</i>	
	<i>Coeff.</i>	<i>SE</i>
Mother has main childcare responsibility	-0.776	0.303
Woman's housework share	-0.008	0.007
Woman's paid work share	-0.013	0.009
Woman's relative hourly earnings	0.017	0.009
Woman's gender role attitudes	-0.370	0.286
Man's gender role attitudes	-0.207	0.266
Both less than A-Levels	0.481	0.382
Both A-Levels or equiv.	-0.123	0.367
Both college degree	0.397	0.472
Man more educated	0.350	0.345
Woman more educated - omitted		
Woman's age	-0.036	0.028
Age difference (woman - man)	0.010	0.025
Cohabitation duration	-0.403	0.105
Married before birth	-0.537	0.505
First child age in months	-0.049	0.035
Child is male	-0.332	0.244
Survey year	0.197	0.045
Constant	2.567	1.455
No. of couples		694
Couples entering late		148
Pseudo R ² ^a		0.249
No. of imputation cycles ^b		5

Note: All covariates are measured in the year of the first birth when the couples join the panel; ^a The Pseudo R² is based on models containing the same variables but before imputing item non-response; ^b Missing items are imputed using chained equations.

8.4 Descriptive statistics and regression results for Chapter 6

Table A6.1: Descriptive statistics

<i>Descriptives in year before the first birth:</i>	<i>Analysis of satisfaction with the partner</i>		<i>Analysis of separation risk</i>	
	<i>Mean/Perc.</i>	<i>Std Dev.</i>	<i>Mean/Perc.</i>	<i>Std. Dev.</i>
<i>Woman's pre-birth satisfaction with partner:</i>				
Woman dissatisfied	3.74		3.74	
Woman somewhat satisfied	3.43		3.43	
Woman fairly satisfied	22.43		22.43	
Woman completely satisfied	70.40		70.40	
<i>Man's pre-birth satisfaction with partner:</i>				
Man dissatisfied	3.21		3.21	
Man somewhat satisfied	6.95		6.95	
Man fairly satisfied	21.12		21.12	
Man completely satisfied	68.72		68.72	
<i>Descriptives in the second year after birth</i>	<i>Mean/Perc.</i>	<i>Std Dev.</i>	<i>Mean/Perc.</i>	<i>Std. Dev.</i>
Woman's total housework time	14.67	8.29	15.58	8.86
Woman's housework share	71.93	19.71	73.57	19.41
Increase in woman's HW share since pre-birth	5.42	20.41	6.66	19.37
Woman more responsible for childcare	72.49		72.65	
Childcare shared or father more responsible	27.51		27.35	
Couple has 2 nd child within 3 years	29.51		29.02	
Woman works full-time	32.61		31.21	
Woman works part-time	43.67		41.55	
Man's paid work hours	42.02	15.94	42.46	16.24
Woman holds egalitarian attitudes	23.56		23.78	
GRA difference (woman more egalitarian)	0.02	6.22	0.01	0.64
At least one partner holds liberal divorce	84.39		83.64	
Both partners low education	10.82		13.83	
Both partners medium education	23.93		24.49	
Both partners high education	15.74		12.93	
Man more educated than woman	23.18		26.95	
Woman more educated than man	23.18		20.09	
Couples' real monthly gross earnings in GBP	2145.23	1150.6	2091.51	1284.7
One or both partners previously married	7.54		7.94	
Married at time of birth	20.00		19.50	
Man has a child with previous partner	6.23		6.12	
Woman's age at birth	30.49	6.11	30.32	6.66
Partners' age difference (women-man)	-2.13	4.67	-2.21	4.41
Relationship duration	7.38	4.84	7.42	4.96
Index of woman's psychological distress	2.17	3.17	2.19	3.06
Age of first child in months	29.09	4.57	29.17	4.45
Age of second child in months	2.44	4.75	2.49	4.72
First child is male	51.95		53.11	
Scotland	13.76		11.80	
Wales	4.59		4.56	
England	81.65		83.38	

Table A6.2: Bivariate correlation of housework share and fairness perceptions among mothers of children aged 0-3 in 1997

<i>Pearson's r</i>	<i>Is the allocation of housework unfair?</i>
Mothers' housework share	0.325
Significance (N=60)	0.011
Increase in mothers' housework share since pre-birth	0.219
Significance (N=60)	0.092

Table A6.3: Cox proportional hazard model of non-response between the second and fifth year after the first birth

	<i>Non-response</i>	
	<i>Coeff.</i>	<i>SE</i>
Woman's total housework time	0.008	0.022
Woman's housework share	-0.011	0.011
Woman's gender role attitudes	-0.050	0.299
Man's gender role attitudes	-0.476	0.302
Woman has main childcare responsibility	0.558	0.435
Woman works part time	0.319	0.475
Woman works full time	0.449	0.534
Man's paid work hours	-0.021	0.013
Couple's gross monthly earnings	0.250	0.189
Both partners low education - omitted		
Both partners medium education	-0.137	0.523
Both partners high education	-0.507	0.708
Man more educated than woman	-0.089	0.556
Woman more educated than man	-0.595	0.604
Either partner holds liberal divorce attitudes	0.340	0.459
Woman's psychological distress	0.025	0.054
Woman's age at birth	-0.074	0.045
Age difference (Woman-man)	0.062	0.045
Not married at birth	0.011	0.420
Either partner previously divorced	-1.052	1.066
Man fathered child in previous relationship	-0.224	0.789
Relationship duration	-0.076	0.064
No. of children	-0.597	0.550
Age of first child in months	0.006	0.007
Age of second child in months	0.016	0.026
First child is male	-0.025	0.316
Scotland	0.684	0.411
Wales	0.326	0.556
Survey year	0.004	0.052
No. of couples		560
Couples with non-response		51
No. of imputations cycles ^a		5

Note: ^a Missing items are imputed using chained equations.