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British Cohabitation and the Household Division of Labour

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Chapter 1: Introduction

The structure of the family unit in the United Kingdom has undergone monumental changes in recent decades. The legal definition of a family has evolved substantially to include a wider range of family forms, most recently same-sex marriage, which became legal in the United Kingdom (excluding Northern Ireland) in 2014. Legal changes in the family accompany a range of social changes – among the most common of these is an expansion in the number of different-sex non-marital co-residential unions (concisely called "cohabitation") (Ermisch and Francesconi, 2000; Beaujouan and Bhrolcháin, 2011).

Since the 1970s, these types of relationships have become widely accepted (Coast, 2009) and increasingly common (Office for National Statistics, 2012a). However, despite its prevalence, cohabitation in the United Kingdom is seldom studied independently of marriage. My dissertation strives to fill this gap in the literature.

Specifically, my dissertation adds to the understanding of the household division of labour during cohabitation. Instead of merely examining cohabitation as one homogenous relationship type, Chapter 2 profiles three groups of cohabitants: 1) pre-marital cohabitants; 2) non-marital short-term cohabitants; 3) long-term cohabitants who reside together for five years or longer. Subsequent chapters examine how each of these groups, in turn, addresses the household division of labour – pre-marital and early couple formation cohabitation in Chapter 3, couples transitioning from cohabitation to marriage in Chapter 4, and during long-term cohabitation in Chapter 5. This dissertation is a significant contribution to the field of economic sociology because the household division of labour has not yet been explored during cohabitation in this way.

1.0 Reasoning for the Order of the Substantive Chapters

The reasoning for the order of the three substantive chapters is as follows. Chapter 3 examines the household division of labour during non-marital short-term and pre-marital cohabitation. Since Chapter 3 examines cohabitants that plan to and do in fact marry (i.e. pre-marital cohabitants) then it follows that the subsequent chapter (4) looks at the impact of the household division of labour on the probability of transitioning from cohabitation to marriage. The last substantive chapter (5) examines the household division of labour of a different type of cohabitation: long-term. In this way the first two substantive chapters examine the division of labour related to marriage (premarital cohabitation in Chapter 3 and the transition to marriage in Chapter 4) while the third substantive chapter is an exploration of those living in long-term cohabitation.

1.1 An Overview of Changes in Domestic Arrangements Among Couples in the United Kingdom

This chapter frames the context in which the analysis in this dissertation takes place. Cohabitation has a long history in the United Kingdom and occurs in the context of changes in the way couples form and interact in Europe. This chapter first considers the critical social changes in recent decades which have sparked the rise in cohabitation and framed the expectations people in this country have of their options in partnership. This chapter then summarises the research into the household division of labour among married different-sex couples and sets out what gaps can be explored for cohabiting couples. Finally, this chapter provides the major theories of the household division of labour, showing how these relate but

have not yet been thoroughly tested during cohabitation. These three sections, in turn, inform the subsequent empirical work in the following three chapters.

Beginning in the early 1960s, interrelated societal-level changes created the right climate for the expansion of cohabitation in the United Kingdom. The 1960s brought a significant erosion of long-held societal norms against living together outside of wedlock – central of these was the sexual revolution (Bumpass, 1990; Cherlin, 2009) and secularism and the diminished strength of religious institutions (Thornton, Axinn and Hill, 1992; McLennan, 2012). Cherlin (2009) argues that the sexual revolution of the 1960s eroded the central area of disapproval of cohabitation - unmarried couples having sexual relationships (see also, Bumpass 1990). Thornton, Axinn and Hill (1992) emphasise the importance of the decreasing power of religious institutions and increasing secularism in facilitating the expansion of cohabitation.

Secondly, there is also an association between revolutionary medical technological developments and the rise of cohabitation (Bumpass, 1990; Thornton, Axinn and Xie, 2006). Thornton, Axinn and Xie (2006) discuss the importance of the introduction of oral contraception, "the Pill", and the legalisation of abortion, which became legal in England, Wales and Scotland in 1967 with the passage of the Abortion Act, in the rise of cohabitation since the 1960s. Oral contraception and abortion enabled women to delay or forego marriage and to avoid the then still prevalent social stigma of unwed motherhood (Thornton, Axinn and Xie, 2006).

Thirdly, an association also exists between the liberalisation of English and Welsh divorce law and the growth of cohabitation. In 1969 Divorce Reform Act, created "no-fault" divorces in England and Wales. This law meant that couples no longer had to prove fault, such as adultery, to attain a divorce. The passage of this bill also had the consequence of increasing the number of couples that were once married but before their subsequent relationship(s) decided

to live together without marrying their new partners or they decided to live together as a form of trial marriage before marrying again. Cohabitation with a new partner after a divorce or separation is relatively common, with a third of all cohabitations falling into this category (Office for National Statistics, 2011).

Finally, changes in access to higher education also played a significant role in the expansion of cohabitation in the United Kingdom. In 1961 Lionel Robbins was commissioned by the government to write a report about the state of higher education in the United Kingdom - two years later Robbins presented his report to Parliament. The Higher Education: Report of the Committee Appointed by the Prime Minister under the Chairmanship of Lord Robbins (1963), or simply the "Robbins Report" as it later became known, argued for a significant increase in access to higher education for women and under-represented minorities.

Though the earliest instances of cohabitation in the United Kingdom predate this period (Appendix 1 summarises this history), the macro level changes in gender ideology becoming more widespread from the 1960s have been observed by various influential academics and gradually advanced into a larger societal dialogue. In a series of provocative and wildly popular lectures, the first Vice-Chancellor of the University of Essex Albert Sloman (1963) described the importance of equal treatment of men and women in higher education. For instance, in one of these radio lectures Sloman (1963) discussed why his university would house female and male students in the same buildings, something that was revolutionary at the time, and why this is important to the "moral" development of students:

> the segregating of men and women in separate [university] buildings is no longer the answer. It has never assured good morals. And it is against the whole spirit of the day. We rather hope the proximity of men and women in our towers will have a civilizing effect! (p. 5)

For numerous reasons, there is a strong relationship between educational attainment and delays in marriage as well as with the rise in cohabitation (Blossfeld, 1995). Firstly, there is a link between education, especially higher education, and a more egalitarian gender ideology (Rhodebeck, 1996; Cherlin, 2009) that is more consistent with cohabitation than with marriage. Rhodebeck (1996) writes that "Education provides women and men with alternative interpretations of the world and their roles in it and may inhibit the perpetuation of traditional gender myths" (p. 397). A second reason for the positive association between education and cohabitation is that higher women's educational attainment leads to greater financial independence. This financial independence then allows for extended marital-search which can include cohabitation as a final stage (Oppenheimer, 1988) or, alternatively, it enables women to forego marriage entirely (Becker, 1981). In light of the importance of the association between education and cohabitation, it is not surprising that the earliest cohabitants in the United Kingdom were also the best educated (Bhrolcháin and Beaujouan, 2013).

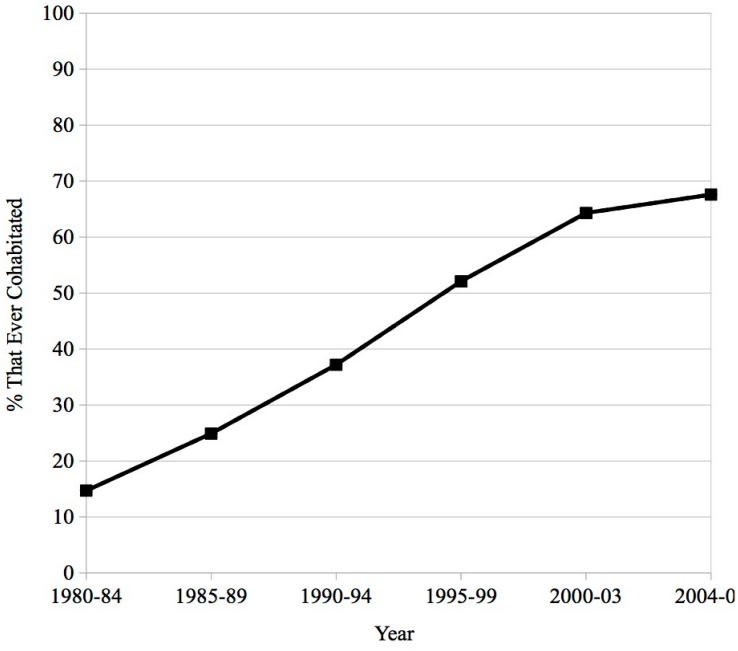
Retrospective relationship data in the General Household Survey shows that the first adopters of modern cohabitation in the 1970s and 1980s were the best educated (Bhrolcháin and Beaujouan, 2013)[1]. During these decades, Bhrolcháin and Beaujouan (2013) show that the cohabitation was most common for women who recently completed higher education. It is important to note that this group of graduates was larger and more socially diverse than previous

[1] Kiernan (1989) is skeptical about the assertion that the educated middle and upper-middle-classes were one of the first adopters of cohabitation in 1960s and 1970s in the United Kingdom. She argues that because of the rapid growth of cohabitation in the United Kingdom it may not be possible to trace the beginnings of cohabitation to any one group (Kiernan, 1989). The difficulty in talking about early modern cohabitation in the 1970s is the lack of available data. The General Household Survey only started asking about cohabitation in 1979. Therefore, when examining early cohabitants it is necessary to rely on retrospective relationship histories from either the GHS (as is done by Bhrolcháin and Beaujouan, 2013) or other data that also include retrospective relationship records such as the BHPS.

cohorts. The participation rate in higher education more than doubled between the early and late 1960s and continued to rise in 1970s and 1980s (Blanden and Machin, 2004). These cohorts were more heterogeneous than their predecessors because of their improved accessibility to higher education. Between 1977 and 1984 university students in the United Kingdom received the greatest level of support from the government (compared to previous and subsequent policy). The local education authority paid the educational fees of many students and some even received means-tested maintenance grants and or unemployment benefits during school vacations (Blanden and Machin, 2004). The relatively large size and heterogeneity of these students who completed higher education in the 1970s and 1980s meant that once they returned home, cohabitation quickly expanded to all facets of society.

Since the collection of reliable statistics began three decades ago, the rate of cohabitation has increased substantially. When the General Household Survey (GHS) started to track regularly changes in cohabitation in 1979 less than one in ten women under the age of 50 had

Figure 1-1. Percentage that have Ever Cohabitated by Age 30, Female Respondents



source: Centre for Population Change (CPC) General Household Survey (GHS)
data as published in Beaujouan and Bhrolcháin (2011), Table A1.

ever lived with a romantic partner outside of wedlock (Office for National Statistics, 2001). In the following decades, the rate of cohabitation changed dramatically. GHS data shows that about two in ten women in the United Kingdom lived in at least one cohabitation by the age of 35 between the years 1985 to 1989 in contrast to the years 2004 to 2007 when this jumped to about seven in ten women (Beaujouan and Bhrolcháin, 2011; see Figure 1-1). So, cohabitation experienced a significant transformation in only a few short decades from being obscure in the late 1970s to mainstream in the present.

The vast majority of adults and young people in the United Kingdom now find cohabitation socially acceptable. The social stigma of living together outside of wedlock has, except for some religious groups, all but disappeared (Axinn and Thornton, 2000). When asked whether "it is alright for people to live together even if they have no interest in considering marriage" seven in ten adults in the United Kingdom either agree or strongly agree and only one in ten disagree or strongly disagree (Coast, 2009). Further, less than two percent of respondents disagree or strongly disagree with this statement if they have ever cohabited (Coast, 2009). The support for cohabitation is even stronger among youth: only about one in ten young people in the United Kingdom aged eleven to fifteen agree or strongly agree that "living together outside of marriage is always wrong" (Coast, 2009). These changes in attitudes and living arrangements in the United Kingdom developed in parallel with similar changes elsewhere in Europe (summarised in Appendix 2). As British people observed and commented on developments in living arrangements in neighbouring countries, these related European experiences contributed to changing British attitudes (see Appendix 2)

However, despite the nearly universal acceptance of cohabitation in the United Kingdom, a strong preference for marriage remains[2]. The majority of adults in the United Kingdom believe that "even though it might not work out for some people, marriage is still the best kind of relationship" (Barlow, 2006). Further, less than one in ten believe that "there is no point getting married – it's only a piece of paper" (Barlow, 2006). The most telling statistic that demonstrates the importance of cohabitation in the transition to marriage in the United Kingdom is that pre-marital cohabitation precedes approximately 80% of marriages (Beaujouan and Bhrolcháin, 2011). Therefore, even though social attitudes are very permissive towards cohabitation in the United Kingdom (Coast, 2009), there is still a strong preference for marriage, including among cohabitants (Beaujouan and Bhrolcháin, 2011; Nazio and Saraceno, 2013).

The desire to marry or not is an important theoretical dividing line of cohabitation (Brown and Booth, 1996; Casper and Bianchi, 2002; Meggiolaro, 2014). Two theoretically relevant forms of cohabitation are those that transition to marriage (what is referred to as a "trial marriage", "spousal cohabitation" or "pre-marital cohabitation") and those that do not (what is sometimes referred to as an "alternative to marriage") (Brown and Booth, 1996; Casper and Bianchi, 2002; Meggiolaro, 2014). In the United Kingdom, the vast majority of cohabitations are pre-marital (Ermisch, 2000, Ermisch, 2005; Nazio and Saraceno, 2013; Berrington and Stone, 2015), but a sizeable and growing minority are long-term and do not lead to marriage (Beaujouan and Bhrolcháin, 2011). Chapter 2 profiles short-term cohabitants who resided together for less than five years before ending their relationships, long-term cohabitants who

[2] The preference for marriage in the United Kingdom is also encouraged by the current Conservative government through various incentives.

lived together for more than five years, and pre-marital cohabitants, whose relationships lead to marriage.

Most previous research shows that the household division of labour is more egalitarian during cohabitation than in marriage (e.g. Batalova and Cohen, 2002; Baxter, 2005; Davis, Greenstein and Gerteisen Marks, 2007). However, other research shows that labour allocation does not differ between cohabitation and marriage (e.g. South and Spitze, 1994; Smock, 2000). This difference in findings may be the result of the failure to disentangle different types of cohabitation (Brown and Booth, 1996; Meggiolaro, 2014). Previous domestic labour research often fails to distinguish between pre-marital and other forms of cohabitation – instead, in the analysis of the household division of labour cohabitation is usually treated as one homogenous group. Recently, some researchers (Meggiolaro, 2014) have begun to question this analytical strategy by arguing that at the very least cohabitation should be separated into pre-marital and non-marital when analysing household dynamics. Separating cohabitants this way is theoretically necessary because pre-marital cohabitants, who by definition plan to marry, may, for instance, behave more like married couples than other types of non-marital cohabitants (Meggiolaro, 2014).

In recent decades same-sex cohabitation also expanded and became widely accepted in the United Kingdom. In 1983, 62% of Britons viewed homosexuality as always or mostly wrong compared to only 28% in 2012 and the percentage of Britons who consider homosexuality as "not at all wrong" increased during this same period from 17% to 47% (Clements and Field, 2014). These changing attitudes have coincided with increased rights for same-sex couples. Homosexuality was decriminalised in England and Wales, Scotland and Northern Ireland in the years 1967, 1980 and 1982, respectively with the passage of the Sexual Offences Act, the

Criminal Justice Act and the Homosexual Offences Order, respectively. Moreover, same-sex marriage became legal in England, Wales and Scotland only in 2014.

Debates leading to the legal recognition of same-sex relationships have helped redefine the meaning of family in the United Kingdom, which in turn also has led to a wider public discussion of expectations all partners might have of each other. It is worth noting that there is a lack of reliable cross-sectional and longitudinal data in the United Kingdom on same-sex couples (while, in contrast, there is a wealth of under-explored data on different-sex cohabiting couples which this dissertation examines). In the past national studies very rarely explicitly inquired about sexual orientation (Fisher and Suen, 2014). No time use survey asked about the respondent's sexual orientation until 2015 (Fisher and Suen, 2014).

Cohabiting different-sex couples, cohabiting same-sex couples and married same-sex couples, make choices about their division of domestic labour[3] that are framed different cultural contexts. All three groups are under-researched and justify a dissertation in their own right. My thesis concentrates on the household division of labour during (non-marital and pre-marital) different-sex cohabitation. This chapter now turns to the changing ways in which families accomplish necessary domestic tasks, which similarly has shaped the expectations cohabiting couples might now have of each other.

1.2 Historical Changes in British Domestic Labour from the Beginning of the 20th Century to the Present

In recent decades, the rate of cohabitation increased dramatically. During this period, the household division of labour also experienced substantial changes (Gershuny, 2000). To explore

[3] This dissertation uses the terms domestic labour and housework interchangeably.

how these wider changes in gendered behaviour might influence cohabiting couples, this section first summarises these changes. Gershuny's (1993; 2000) analysis of time-use data that examines several dozen Western countries, including the United Kingdom, best describes these historical trends. Gershuny (1993) divides days into three components which comprise the vertices of his time-use triangle: paid work, unpaid work and leisure[4]. This research shows a significant "post-industrial convergence in time allocation", conceptualised in the form of the time-use triangle (Gershuny, 1993, p. 578).

Using time-use data from the United Kingdom from the 1960s to the 1990s Gershuny (2000) and Sullivan and Gershuny (2001) argue that the expansion of labour-saving appliances, such as the washing machine, contributed to a decrease in the domestic labour of working-class women from the 1920s to the 1960s. These authors also argue that between the 1920s and 1960s, the decrease in working-class women's domestic labour was offset by a corresponding increase in middle-class women's domestic labour due to a decline in domestic services. These offsetting factors resulted in no change in the total amount of domestic labour done by all women between the 1920s and the 1960s (Gershuny, 2000). However, after the end of the 1950s, a true decline in domestic labour occurred for all groups of women so that by the 1990s women did significantly less routine domestic labour (cleaning and cooking) than women did in the 1960s (Sullivan and Gershuny, 2001).

Since the GHS first started to inquire about cohabitation in 1979 little is known about domestic labour during these relationships before this year. However, since the rise of early cohabitation in the 1970s among the best educated (Bhrolcháin and Beaujouan, 2013) it is

[4] The other component of the day is sleep which is more or less constant.

reasonable to assume that the overall decline in women's domestic labour that Sullivan and Gershuny (2001) describe happening between the 1960s to 1990s also impacted cohabitation. Since cohabitants were the most highly educated, they are likely both to be better off financially and to divide their housework more equally.

Overall, domestic labour is becoming more egalitarian because women are doing less (especially cooking) and men are doing slightly more (Geist and Cohen, 2011; Kan, Sullivan and Gershuny, 2011; Gershuny and Robinson, 1988; Gershuny, 2000; Sullivan and Gershuny, 2001; Hook, 2006). Using time-diary based estimates, Kan, Sullivan and Gershuny (2011) show that men's domestic labour time increased from 90 minutes per day in the 1960s to 148 minutes per day at the beginning of the 21st century. However, despite men's increase in domestic labour women's still continue to perform the vast majority of housework (Bittman and Pixley, 1997; Kan, Sullivan and Gershuny, 2011; Geist and Cohen, 2011).

Even though domestic labour is becoming gradually less gendered in the United Kingdom and other Western countries, two caveats are relevant to the understanding of this trend (Gershuny, 2000; Kan, Sullivan and Gershuny, 2011). Firstly, the convergence between men's and women's housework time is largely the result of women doing substantially less rather than due to men doing much more (Gershuny, 2000; Sullivan and Gershuny, 2001; Hook, 2006; Kan, Sullivan and Gershuny, 2011). Men have only slightly increased their domestic labour time (Gershuny and Robinson, 1998; Gershuny, 2000; Sullivan and Gershuny, 2001; Hook, 2006; Kan, Sullivan and Gershuny, 2011). Secondly, this convergence is smaller when the category of housework excludes childcare, which is necessary as other unique factors influence childcare.

The analysis of childcare sometimes occurs within the category of domestic labour or "housework" (Gupta, 1999). However, research shows that the determinants of a parents'

childcare are different from those of routine domestic labour (Sayer, Bianchi and Robinson, 2004). Taking care of children is vital to parents, which does not necessarily apply to domestic labour (Sayer, Bianchi and Robinson, 2004). Folbre (2008; 2001) argues that childcare is seen by both parents as a mixture of work but also love. The positive emotional component of childcare means that it is often better understood as a form of leisure rather than as work (Hallberg and Klevmarken, 2003; Sayer, Bianchi and Robinson, 2004)[5]. Research shows that childcare time in the United Kingdom is increasing for both mothers and fathers (Sullivan and Gershuny, 2001). Findings such as these illustrate the difference between childcare and routine domestic labour. Childcare is more enjoyable than housework and something that most parents value, enjoy and do not want to "bargain away" if given the opportunity to do so (Hallberg and Klevmarken, 2003; Sayer, Bianchi and Robinson, 2004). Childcare is an especially important issue in cohabitation because about half of these relationships include at least one dependent child (Office for National Statistics, 2012b), which is why this dissertation places particular emphasis on this variable.

The difference between men's and women's domestic labour time is usually smaller during cohabitation, which is more egalitarian than marriage (Batalova and Cohen, 2002; Baxter, 2005; Davis, Greenstein and Gerteisen Marks, 2007). Women spend less time doing domestic labour during cohabitation than in marriage (Batalova and Cohen, 2002; Baxter, 2005; Davis, Greenstein and Gerteisen Marks, 2007) and, the opposite is true for men (Davis, Greenstein and Gerteisen Marks, 2007) who spend more time doing domestic labour during cohabitation than

[5] Whether parents consider childcare work or a form of leisure often depends on the kind of childcare that is performed, as all forms of childcare are not equal in terms of their potential enjoyment. Physical childcare, such as changing a diaper, is more likely considered work than a more enjoyable form of childcare, such as playing with or talking to a child.

in marriage. However, although the household division of labour during cohabitation is more egalitarian than during marriage, women still do the majority share of domestic labour within both types of relationships (Gupta, 1999; Baxter, Hewitt and Haynes, 2008). Gupta (1999) finds that regardless of the kind of co-residential relationship (marriage or cohabitation) women spend more time performing domestic labour when they move-in with men while men spend less time doing domestic labour when they move-in with women (for similar findings see also Baxter, Hewitt and Haynes, 2008).

The literature discussed in this section considers the daily activities of women and men generally, or concentrates on people in couples, without in general distinguishing cohabiting from married couples. Cohabitants are the minority of these couples, and differences in their behaviours compared with married couples is often overlooked. The subsequent chapters reveal and explore these differences. The next section sets out the theories of the household division of labour as they relate to domestic labour and employment, building to the framework which I will use to make sense of my findings.

1.3 Theoretical Explanations for Gendered Patterns of Domestic Labour Among Cohabiting Couples

Since August Comte coined the term "sociology" in 1838 (Scott and Marshall, 2005), social scientists first became interested in the household division of labour. Comte and his (male) contemporaries considered men's participation in the public sphere (employment) and women's involvement in the private sphere (domestic labour) as "natural". Comte himself argued that "Sociology will prove that the equality of the sexes, of which so much is said, is incompatible with all social existence [and that] women's life is essentially domestic, public life

being confined to men" (Adams and Sydie, 2001, p. 44). Comte's contemporaries made similar arguments about the gendered division of labour being natural.

In his classic book The Division of Labor in Society, Emile Durkheim (1984 [1893]), used the term "marital solidarity" to describe the importance of the gendered division of labour between husband ("breadwinner") and wife ("homemaker") in facilitating and maintaining marriage. This theoretical tradition continued well into the next century with such notable sociologists as Talcot Parsons (1959) arguing for the necessity of the gendered division of labour in marriage and for achieving marital stability.

The 1960s and 1970s brought monumental societal-level changes, including the beginning of modern cohabitation which coincided with, among other things, the sexual revolution (Bumpass, 1990; Cherlin, 2009), a rise in secularism and the diminished power of traditional institutions such as religious institutions (Thornton, Axinn and Hill, 1992), the introduction of new technologies such as oral contraception (Thornton, Axinn and Xie, 2006), changes in divorce laws (such as the 1969 Divorce Reform Act) and changes in education (Sloman, 1963). In this new social climate, several major theories emerged that questioned the validity of the long-standing assumption that the gendered household division of labour is "natural". A central theory of the household division of labour that emerged during this time examines the potential association between relative financial resources within a couple and domestic labour.

Relative resources theory is a rationalist bargaining explanation of labour allocation which proposes that the division of household labour is the result of a struggle within the couple (Blood and Wolfe, 1960; Braun et al., 2008; Knudsen and Waerness, 2008; Lachance-Grzela and Bouchard, 2010; Fetterolf and Rudman, 2014). In one of the first studies that explores

relative resources theory, Blood and Wolfe (1960) find that married women perform less domestic labour (excluding childcare) when they are employed. Blood and Wolfe's (1960) research led to the creation of a kind of social exchange theory of the household division of labour they call Resource Theory of Marital Power. This theory proposes that "comparative resources" have replaced normative authority as the foundation of power in (American) marriages (Blood and Wolfe, 1960). Specifically, the amount of marital power (defined as control over household finances, the division of domestic labour and other aspects of the relationship) a spouse has depends on the amount of economic resources which they bring into the relationship.

In this struggle the spouse / partner who has the relatively greater financial resources uses this as a source of "marital power" in the relationship to bargain out of having to perform domestic labour (Blood and Wolfe, 1960; Braun et al., 2008; Knudsen and Waerness, 2008; Lachance-Grzela and Bouchard, 2010; Fetterolf and Rudman, 2014). In other words, the partner that has relatively greater financial resources performs less domestic labour because of his or her larger bargaining power in the relationship. In contrast, the partner with the relatively smaller financial resources does a greater proportion of the domestic labour because of his or her weaker bargaining power in the relationship. Moreover, relative resources is a gender-neutral theory of the household division of labour in that the bargaining process is argued to occur without the consideration of gender norms (Mannino and Deutsch, 2007; Knudsen and Waerness, 2008; Lachance-Grzela and Bouchard, 2010) – there is a correlation between greater relative financial resources and less personal domestic labour regardless of whether the respondent is male or female. Couples often choose cohabitation to avoid being beholden to the gender norms of marriage. This rejection of gender norms helps make relative resources theory suitable for the

study of household dynamics during cohabitation because at its core relative resources theory is gender neutral as many of those who choose cohabitation over marriage aspire to be (see section 4.3). Recent qualitative research suggests that female cohabitants are particularly aware of the importance of their personal earnings in negotiating a more egalitarian division of domestic labour (Miller and Carlson, 2016).

Developed by Gary Becker (1964; 1981), Human Capital Theory is a variation of Relative Resources Theory but it is also a substantial departure from Resource Theory of Marital Power first envisioned by Blood and Wolfe (1960). Both relative resource theory and Becker's (1981) "New Household Economics" – the application of Human Capital Theory to the household division of labour - are essentially rationalist bargaining explanations of household labour allocation. Both theories argue that the gendered division of labour is the result of a negotiation that occurs within a couple. The result of this negotiation, for both forms of relative resources theory, is that the person with the relatively greater financial resources does less housework than their partner who does more. However, whereas relative resource theory proposes that marital power determines the division of domestic labour Becker's Human Capital Theory (1964; 1981) proposes that it is determined by Utility Maximization.

The main difference between these two theories is how the outcome (i.e. the allocation of labour) is brought about. While, classic relative resources theory states that the household division of labour is the result of a struggle, during which the partner with the greater economic (marital) power buys out from doing domestic work, new household economics argues that this process is the result of a negotiation in which couples try to achieve the greatest amount of labour efficiency possible (Becker, 1981). New household economics argues that couples aim to maximise labour efficiency, which is why it is sometimes referred to as "Utility Maximization

Theory", by allocating labour (domestic and paid) based on the ability of each partner to perform it (Becker, 1981). Therefore, each spouse or partner takes on the type of work that he or she performs most efficiently.

Traditionally, this has meant that women did the dominant share of domestic work because this is the kind of work that they were socialised and specialised to do (Becker, 1981). On the other hand, men specialised in employment because they possessed greater human capital and earning potential (Becker, 1981). Becker's (1981) new household economics focuses solely on maximising the efficiency of household labour and so no consideration is given to individual preferences favouring one form of labour over another. In contrast, traditional relative resources theory assumes that, whenever possible, people try to minimise or avoid domestic labour.

For several decades relative resources theory was central in explaining gender differences in the household division of labour. In the 1980's, Ross, Mirowsky and Huber (1983) also find that married women perform less domestic labour when they are employed, which they attribute to these women possessing greater relative resources - other researchers find similar results in the early 1990's (Blair and Lichter, 1991; Ferree, 1991).

The mid-1990's saw a significant challenge to relative resources theory. In 1994 Brines wrote the article titled "Economic Dependency, Gender, and the Division of Labor at Home", which helped to shift the debate in the household division of labour literature. In this article Brines (1994) finds that men who earn less than their (female) partners do less domestic labour, which is contrary to what relative resources theory predicts. Brines (1994) interprets her results to mean that when men earn less than their partners, men consider their masculinity and their traditional gender ideology identity of sole or primary earner threatened. This perceived threat may result in men compensating by behaving in more "traditionally masculine" ways by

performing less domestic labour (Brines, 1994). Brines (1994) also argues that when there is "economic dependency" on women in the household, women compensate for this "deviance" by increasing their contribution to domestic labour, which is known in the literature as "gender-deviance neutralisation".

Brines' (1994) seminal article has helped inspire over two decades of research that has tried to replicate her results. Using American and Australian data, Bittman et al. (2003) show that when women earn between 51% and 100% of the total household income, the allocation of domestic labour is less egalitarian. Similarly, Evertsson and Nermo (2004) find that American women do more housework when their (male) partners are economically dependent on them. Greenstein (2000), also finds similar results when he uses Brines' (1994) methodology with additional controls. However, several authors have started to question the importance and methodological validity of these findings (Gupta, 2006; Gupta, 2007; Gupta and Ash, 2008; Sullivan, 2011; England, 2011).

England (2011) argues that even though recent research supports Brines' (1994) results and gender-deviance neutralisation, the same research also, at least in part, supports a relative resources interpretation. England (2011) refers to her own research (i.e. Bittman et al., 2003) in which she and her co-authors find support for gender-deviance neutralisation for those couples where women earn more than men. However, they also find that for those couples where women earn less than their partners standard bargaining applies (i.e. there is a significant association between greater relative financial resources and less domestic labour) (Bittman et al., 2003). Further, England (2011) argues that this is true in Brines' (1994) own research which also finds an association between smaller women's relative earnings and greater domestic labour.

In an exhaustive review Sullivan (2011) finds limited support for gender-deviance neutralisation. According to Sullivan (2011), many articles in the field do not support gender-deviance neutralisation. Moreover, she argues that when research supports gender-deviance neutralisation, it is usually only for a relatively small proportion of couples where: (1) women are the sole household earners and (2) women reside in dual-earner households where their earnings are greater than their partners (Sullivan, 2011). Sullivan (2011) also shows that many of the studies that find supporting evidence for gender-deviance neutralisation contain miss-specified models. She points to a series of influential articles by Gupta (2006; 2007; Gupta and Ash, 2008) which show that women's total earnings are much better at explaining the household division of labour than relative earnings.

Despite having differing predictions Gupta (2007) argues that both relative resources and gender-deviance neutralisation theories try to explain a married couple's domestic labour with relative earnings. Gupta (2007) drawing on previous research (i.e. Soberon-Ferrer and Dardis, 1991; Cohen, 1998; Phipps and Burton, 1998; Brandon, 1999) argues that women's earnings may have an "autonomous" association with their domestic labour. However, few studies have tested this hypothesis. In his research Gupta (2006; 2007; Gupta and Ash, 2008) finds support for his autonomy hypothesis by showing that during marriage women's domestic labour time is better explained by women's total earnings than by their relative earnings (to their husbands).

This dissertation builds on Gupta's (2007) autonomy hypothesis and examines whether it also applies to cohabitation in the United Kingdom. The substantive chapters research whether women's total (as the autonomy hypothesis proposes) or relative earnings (as the relative resources theory proposes) are better at explaining domestic labour time.

In my dissertation I hypothesis that the autonomy hypothesis better describes the household division of labour during marriage because these relationships are more "traditional" and, hence they are less likely to be consistent with bargaining / relative resources theory, which are more consistent with more progressive relationships such as cohabitation. Conversely, many cohabitants may not hold the same long-term goals of owning joint property as married individuals. The perceived temporariness and desire for equality of many cohabitants, especially those in short-term relationships, is more consistent with the bargaining process that underpins classic relative resources theory as envisioned by Blood and Wolfe (1960).

1.4 Contributions of this Thesis

My dissertation adds to the discussion of the household division of labour in several unique ways. The growing prevalence of cohabitation in the United Kingdom might mean simply that an increasing proportion of people believe that all couples should be able to adopt the roles once mainly seen as acceptable only for married couples. Alternatively, the growing prevalence of cohabitation might mean that more British people see more options for the way people can live in couples which means that instead of more people taking up narrower couple roles, people forming couples can adopt a wider range of roles. If the expectations cohabitants have of each other differ from the expectations married couples hold, we would expect different types of couples to manage their allocation of labour differently. Not only do British longitudinal data suggest that there are different expectations between married and non-married couples, but this data also suggests that there are different expectations between pre-marital cohabitants (those who contemplate possible future marriage) and those who do not plan a change of their legal status. I show that the autonomy hypothesis, developed for research into married couples,

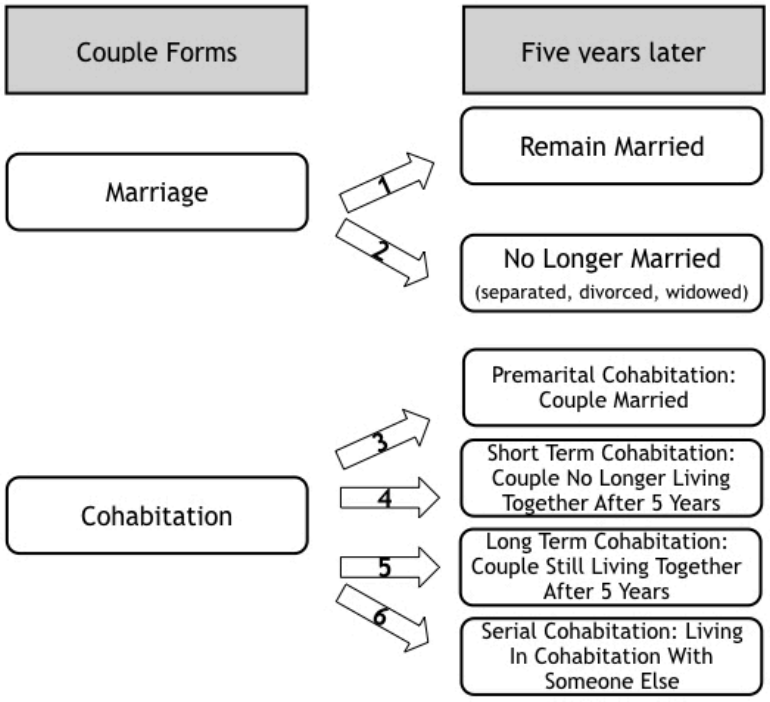
does not also explain choices among cohabitants well, which are instead better explained by relative resources theory. In this respect, I cover new research ground by looking at previously under-researched cohabiting couples.

I profile the main groups of these couples in Chapter 2. The subsequent chapters extend the use of the autonomy hypothesis and relative resources theory. Chapter 3 concentrates on those cohabitants for whom couple status is a trial or preparation for future marriage. Chapter 4 follows couples through the transition to marriage, and Chapter 5 explores the behaviours of long-term cohabitants. In addition to making a theoretical contribution, the concluding chapter of this thesis examines the potential considerations for public policy and private sector actors providing services to couples which arise from understanding the changing household division of labour in cohabiting relationships.

Chapter 2: British Household Panel Survey Data – a Key Resource for Exploring How Cohabiting Couples Arrange Their Domestic Affairs

When people enter relationships, they embark on a journey which may – or may not – progress in the direction in which they initially intend. As with marriages, some cohabitations prove more successful than others. Nevertheless, as Figure 2-1 shows, cohabitation offers a wider range of paths than marriage. Following the recent literature on cohabitation (Brown and Booth, 1996; Casper and Bianchi, 2002; Meggiolaro, 2014), in this and in subsequent chapters, I consider whether different people choose the transition to marriage or the various cohabitation paths. The five-year threshold shown in Figure 2-1 matters as British pre-marital cohabitations tend to have transitioned into marriage (path 3), remained stable by continuing as long-term cohabitation (path 5), or broken down by the five year anniversary, such as non-marital short-

Figure 2-1. Types of Co-Residential Unions And Their Status After Five Years

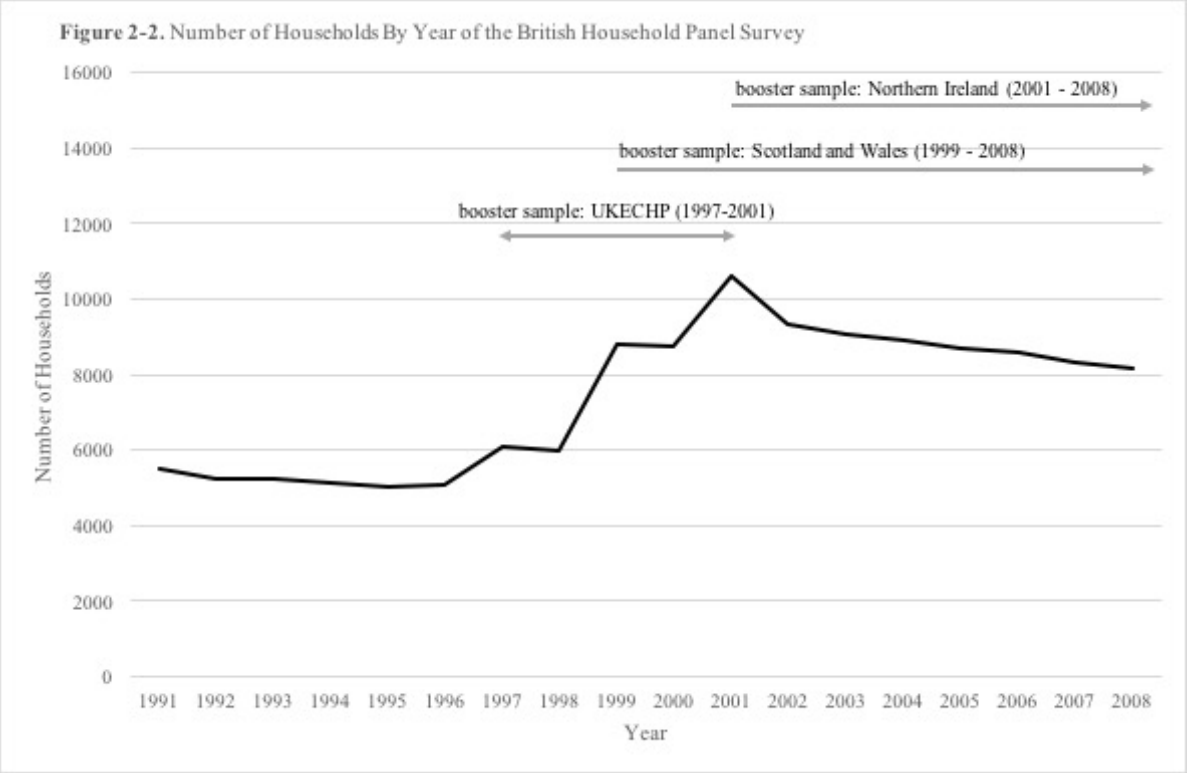


term cohabitation (path 4) (Kasearu and Kutsara, 2011). While I have access to longitudinal data in the British Household Panel Survey, which allows me to explore the differences between those who chose to marry and those who remain as cohabiting couples, other less happy outcomes await some couples. Future research will need to explore the factors associated with cohabiting couple dissolution, though one important conclusion of this thesis is that future research should continue to explore the differences between the experiences of people who marry from the start and those who engage in cohabitation. This chapter has two goals. First, I describe the data on which I base my analysis as well as the key variables needed to compare relative resources theory with Gupta's autonomy hypothesis during marriage and cohabitation. Second, I profile, using descriptive statistics, those in Britain who have chosen each cohabitation path, and consider whether, and to what extent, these groups differ.

2.1 Data – The British Household Panel Survey (BHPS)

To test how well Gupta's explanations or classic relative resources theory better holds when considering the behaviour of cohabiting couples, this dissertation uses the longitudinal data provided by the British Household Panel Survey (1991-2008). This data is approximately a yearly panel in which each respondent is re-interviewed about 12 months later – approximately 9 in 10 interviews occur within 400 days from the previous one. The vast majority of the interviews occur either in September, October or November.

This data follows the same representative sample of 10,300 individuals from 5,500 households. If respondents leave the household where they were initially interviewed, then all adults in the respondent's new household are added to the BHPS sample. The BHPS over-



samples Wales (booster sample 1999 - 2008), Scotland (booster sample 1999 - 2008) and Northern Ireland (booster sample from a sub-sample of the United Kingdom European Community Household Panel (UKECHP) 1997 – 2001; booster sample 2001 - 2008) (Figure 2-2 shows this graphically). This dissertation uses the full adult sample (the original sample as well as the Wales, Scotland and Northern Ireland supplements), but excludes the children's supplements. Nearly half of all cohabitations in the United Kingdom include at least one dependent child (Office for National Statistics, 2012b), however they are not (yet) cohabiting themselves. The complete BHPS sample (1991 to 2008), including all of the booster samples and all of the new individuals that became part of the original BHPS households, consists of 32,380 individuals which have 238,996 observations. On average, an individual is in the sample

for 7 waves or years, which makes it possible to study different types of cohabitation such as long-term cohabitation, defined here as 5 years or more of living together.

This dissertation also takes advantage of a unique opportunity associated with the BHPS. In 1997, the Institute for Social and Economic Research (which manages the BHPS and it successor survey, Understanding Society) collaborated with British Telecom to organise a one week diary time use survey (Home On-Line or HOL) among 1000 households which were BT customers.[6]

The HOL (1999-2001) survey asked the stylised housework questions included in the BHPS which I use in this thesis. The same respondents then also completed one week time diaries. Kan and Pudney (2008) developed a time-use calibration of the stylised housework reports in the BHPS using the Home On-Line stylised estimate and diary answers. Kan and Pudney's (2008) calibration takes advantage of the strengths of each of the two surveys: HOL and the BHPS. The strength of time diary surveys, such as the HOL, are better accuracy and reliability in measuring time-use. However, these types of surveys have lower response rates and are very costly, which often makes them impractical for large longitudinal studies such as the BHPS (Kan and Pudney, 2008). The HOL and BHPS have some of the same time-use predictors variables (Kan and Pudney, 2008). This allows, Kan and Pudney (2008) to calibrate time use in the BHPS for these common predictor variables by multiplying the (time-diary) regression coefficients from the HOL analysis with the same BHPS predictor variables that are part of the HOL analysis. This produces a calibrated index of time-use for the BHPS

[6]In 1999 the survey sampled British Telecom customers who lived in England, Wales, and southern Scotland. The sample covered 500 households who used BT home internet services, and 500 BT customers who had no home internet services. Home On-Line then collected time diaries from the same people once more over the following two years (the years 2000 and 2001), though the response rates were low in later waves (1100 people completed diaries in the first wave, only 136 people completed diaries in all three waves).

questionnaire, which includes all major daily activity categories, including domestic labour (the focus of this dissertation) from 1994 (wave 4) to 2004 (wave 14) (Kan and Pudney, 2008). This is the only data with a closely associated variable to correct the potential estimation error in a stylised question.

However, HOL did not ask respondents about cohabitation. Using the estimation corrections potentially introduces an unmeasurable level of error which I cannot test across the various groups of cohabitants. In Chapter 3 I use the stylised housework time questions as respondents were asked the same questions. Moreover, in Chapter 3, Tables 3-2 and 3-5 in particular, I compare results using the BHPS stylised questions with the adjusted time use estimates after applying the Kan-Pudney calibration. This calibration is only applied in Chapter 3 and is done only for the pre-marital cohabitation category and the comparison category of marriage. The results differ in small and subtle ways, which raise possibilities for the design of future longitudinal surveys as well as time use surveys to better capture the gendered behaviour of cohabiting couples. I will return to these implications in the concluding chapter.

2.2 Key BHPS Variables Which Help Explain the Housework and Care Choices of British Cohabiting Couples

Tables 2-1, 2-2, 2-3 and 2-4 show basic descriptive statistics for the three cohabitation types analysed in the dissertation (pre-marital, non-marital short-term, and long-term cohabitation) as well as marriage and short-term marriage and divorce/separation/widowhood. Serial cohabitation, path 6 in Figure 2-1, is not part of these descriptive statistics because too few individuals in the data (the BHPS) engage in these relationships. Serial cohabitation occurs when the same individual resides with different partners soon after each other. Unlike other

cohabitation types, the definition of serial cohabitation requires relationship histories to establish multiple distinct co-residential unions with different partners. Serial cohabitation occurs if biographical information shows subsequent relatively brief co-residential unions. Therefore, serial cohabitation is not a distinct cohabitation type but it is rather usually two or more episodes of short-term cohabitation. Due to these reasons the cross tabs in Tables 2-1, 2-2, 2-3 and 2-4 do not include a separate column for serial cohabitation; instead, it is part of the short-term cohabitation category. Serial cohabitation also is not part of the analysis in this dissertation because of the very small number of cohabitants in the BHPS who can be classified as engaging in this type of relationship.

Pre-marital cohabitation is, usually, a brief, co-residential union which transitions to marriage (Ermisch, 2000, Ermisch, 2005; Nazio and Saraceno, 2013; Berrington and Stone, 2015). Specifically, this dissertation defines pre-marital cohabitation using both outcomes and intentions: (1) cohabitation is pre-marital if marital status information from subsequent years (of the BHPS) establishes that the relationship transitions to marriage – this requires the use of the longitudinal nature of the BHPS - or (2) cohabitation is pre-marital if cohabitants declare (in their responses in the BHPS) that they want to marry their current partner. Pre-marital cohabitants are those who state that they are "planning to marry" or "probably" will marry their current partners (also see Table 3-6). Chapter 3 discusses this distinction between pre-marital cohabitation and other forms of cohabitation in greater detail. Short-term marriage is a subcategory of all marriages created to allow for a comparison with short-term cohabitation. In Tables 2-1, 2-2, 2-3 and 2-4, short-term marriage refers to any marriage which ends after less

Table 2-1. Cross Tabs For Household Characteristics By Union Type in the BHPS

	Couple Together			Unions Ends In 5 Years Or Less			All Obs. (Row Mean)	All Obs. (Row Total)
		5 Years or More [1]						
	Premarital Cohabitation	Marriage	Long Term Cohabitation	Short Term Cohabitation	Short Term Marriage [2]	Marriage Ends [3]		
Number Of Observations	3085	8013	345	395	321	4010	N/A	10978 [4]
Mean Usual Weekly Housework Hours Of Females	12.3	17.4	13.9	12.8	16.5	15.2	14.7	N/A
Mean Usual Weekly Housework Hours Of Males	6.0	5.7	7.0	6.1	5.7	N/A	6.1	N/A
Mean And Median Age Of Females [5]	29 (27)	44 (42)	28 (25)	29 (24)	41 (38)	57 (59)	38 (36)	N/A
Mean And Median Age Of Males	31 (29)	46 (44)	31 (28)	29 (25)	36 (34)	N/A	35 (32)	N/A
% Of Households With Internet Access At Home In 1998 And 2008 [6]	81 / 50	68 / 81	62 / 38	45 / 57	64 / 48	50 / 51	62 / 54	N/A
% Of Households With One Or More Father(s) Of Either Cohabitants/Spouses	4	2	6	9	3	3	4	N/A
% Of Households With One Or More Mother(s) Of Either Cohabitants/Spouses	3	1	4	6	3	1	3	N/A
% Of Households With At Least One Dependent Child	31	39	39	33	53	26	37	N/A
% Of Households With One Or More Children Aged 0 To 4 Years Old	16	17	23	23	24	8	19	N/A
Region of Residence:								
London	8.2	5.7	9.0	6.6	7.3	5.7	7.1	N/A
South East	15.8	11.8	15.4	14.1	13.7	11.3	13.7	N/A
South West	7.6	5.8	8.1	4.3	6.7	5.2	6.3	N/A
East of England	3.6	2.6	2.6	2.2	5.0	2.6	3.1	N/A
East Midlands	7.3	5.2	9.0	7.7	7.0	5.0	6.9	N/A
West Midlands	6.2	5.7	7.5	7.7	6.2	5.6	6.5	N/A
Northwest England	8.2	6.6	8.1	7.0	7.8	7.2	7.5	N/A
Yorkshire	7.3	5.8	9.9	3.4	8.1	6.1	6.8	N/A
Northeast	5.0	4.2	4.9	2.7	5.0	4.1	4.3	N/A
Wales	12.5	15.0	7.8	18.2	16.0	16.1	14.3	N/A
Scotland	13.5	16.4	16.2	20.8	12.9	18.1	16.3	N/A
Northern Ireland	4.8	15.2	1.5	5.3	4.2	13.1	7.4	N/A

Note: [1] This dissertation defines long-term cohabitation as a co-residential union that lasts for at least five consecutive years. The summary statistics in this table provide information about the entire length of these relationships including the first five years. Premarital cohabitation is most often less than five years but it can also be more than five. [2] Marriage that lasts less than five years. [3] Individual is divorced, separated or widowed. [4] 10,978 is the number of observations of either marriage or one of the types of cohabitation. The number of "marriage ends" observations, including divorced and separated individuals (4,010), is not included in the calculation of all observations (i.e. 10,978) because these respondents are no longer in couples. It is important to note that the sum of all marriage and cohabitation columns is more than the row total of 10,978 because about one in ten respondents are in more than one category. For example, if someone is in the premarital cohabitation category and that person then marries they also become part of the marriage category. [5] Median ages are in parentheses. [6] These are the first, 1998, and last years, 2008, of the BHPS that contain the variable for internet use in the respondent's household. 1998 is the first number in each

Table 2-2. Cross Tabs for Employment, Earnings and Education Variables By Union Type

	Couple Together			Unions Ends In 5 Years Or Less			All Couples Row Total Or Mean
		5 Years or More [1]					
	Premarital Cohabitation	Marriage	Long Term Cohabitation	Short Term Cohabitation	Short Term Marriage[2]	Marriage Ends[3]	
Employment Rate of Female Cohabitants (%)	76.2	65.2	62.3	61.6	62.3	55.1	63.8
Mean Monthly Gross-Pay of Female Cohabitants / Spouses (£)	1088	912	897	970	1168	960	999
Mean Monthly Gross-Pay of Male Cohabitants / Spouses (£)	1533	1559	1291	1316	1540	N/A	1448
Female Percentage of Relative Gross-Pay (%)	42.6	36.8	44.7	41.6	42.0	N/A	41.5
Mean Female Cohabitants' Number of Hours Normally Worked Per Week	34	29	34	32	31	29	32
Mean Male Cohabitants' Number of Hours Normally Worked Per Week	40	40	41	40	40	N/A	40
Respondent's Home Is Owned Outright Or Owned With Mortgage By One Or More Household Members (%)	66	76	50	38	63	53	58
Respondent's Home Is Leased By One Or More Household Members (%)	32	22	47	59	36	44	40
Goldthorpe Social Class Present Job Of Female Cohabitants (%):							
I Service Class; Higher Grade	13.9	10.4	8.6	10.0	13.3	11.3	11.2
II Service Class; Lower Grade	26.3	25.0	27.6	18.6	22.5	22.5	23.7
IIIa Routine Non-Manual Employees	27.6	22.9	23.7	25.9	25.0	21.8	24.5
IIIb Personal Service Workers	11.0	13.1	13.8	17.3	11.2	13.5	13.3
IVa Small Proprietors With Employees	0.7	1.6	1.7	0.5	1.0	0.8	1.1
IVb Small Proprietors Without Employees	1.7	3.2	0.4	2.3	3.1	3.0	2.3
IVc Farmers and Smallholders	0.3	0.4	0.4	0.0	0.0	0.3	0.2
V Foreman; Technicians	4.6	3.9	4.7	5.0	3.1	4.7	4.3
VI Skilled Manual Workers	2.5	2.3	3.9	1.4	3.1	2.9	2.7
VIIa Semi, Unskilled Manual Workers	11.3	16.7	14.7	17.3	17.9	18.7	16.1
VIIb Agricultural And Other Workers	0.1	0.5	0.4	1.8	0.0	0.7	0.6
Female Cohabitants' / Spouses' Highest Academic Qualification (%):							
Higher Degree	2.7	1.8	1.2	0.8	1.7	0.9	1.5
1st Degree	16.9	8.6	8.3	10.3	8.4	4.0	9.4
HNC; HND; Teaching	7.8	6.2	6.9	6.3	4.9	4.5	6.1
A Level	22.5	13.3	22.9	25.6	15.1	8.7	18.0
O Level	29.6	26.2	34.8	30.9	32.2	20.0	28.9
Certificate of Secondary Education	8.2	4.8	11.0	7.9	8.1	3.5	7.3
None of These	12.3	39.2	14.9	18.2	29.6	58.4	28.8
Male Cohabitants' / Spouses' Highest Academic Qualification (%):							
Higher Degree	2.9	2.8	1.2	1.5	2.82		2.2
1st Degree	15.6	9.0	6.9	8.2	8.47		9.6
HNC; HND; Teaching	8.2	7.3	10.4	9.7	6.21	N/A	8.4
A Level	25.4	17.7	19.6	25.1	24.86		22.5
O Level	27.4	22.3	31.9	24.7	30.51		27.4
Certificate of Secondary Education	7.0	3.6	8.1	7.5	10.17		7.3
None of These	13.6	37.2	21.9	23.2	16.95		22.6

Note: [1] This dissertation defines long-term cohabitation as a co-residential union that lasts for at least five consecutive years. The summary statistics in this table provide information about the entire length of these relationships including the first five years. Premarital cohabitation is most often less than five years but it can also be more than five. [2] Marriage that lasts less than five years. [3] Individual is divorced, separated or widowed.

Table 2-3. Cross Tabs for Relationship Satisfaction and Domestic Appliances Variables by Union Type, Female Respondents

	Couple Together			Unions Ends In 5 Years Or Less		All Couples Row Total Or Mean
		5 Years or More [1]				
	Premarital Cohabitation	Marriage	Long Term Cohabitation	Short Term Cohabitation	Short Term Marriage [2]	
Gender Ideology Scale (5 = Most Egalitarian)	3.44	3.18	3.46	3.46	3.35	3.38
Satisfaction With Partner (7 = Completely Satisfied)	6.57	6.47	6.07	5.81	5.07	6.00
Financial Situation (%):						
Living Comfortably	25	32	19	15	20	22
Doing Alright	43	32	35	43	36	38
Just About Getting By	23	27	30	27	29	27
Finding It Quite Difficult	6	6	12	11	11	9
Finding It Very Difficult	3	3	4	4	4	4
Fairness of Housework (%):						
Very Fair	39	43	44	31	30	37
Somewhat Fair	38	30	29	35	30	32
Somewhat Unfair	21	15	21	8	22	17
Very Unfair	2	11	6	27	19	13
Fairness of Childcare (%):						
Very Fair	65	55	50	50	50	54
Somewhat Fair	32	30	25	20	25	26
Somewhat Unfair	3	10	15	20	17	13
Very Unfair	0	5	10	10	8	7
% Of Households With Freeze Or Fridge Freezer	92	95	87	90	92	91
% Of Households With Washing Machine	94	97	91	91	94	93
% Of Households With Tumble Drier	52	62	42	50	57	53
% Of Households With Dish Washer	18	29	16	15	23	20
% Of Households With Microwave Oven	83	81	74	82	87	81

Note: Since, all relationship satisfaction variables require the existence of a relationship, unlike in Tables 2-1 and 2-2, there is no marriage ends category (divorced, separated or widowed) in the present table. [1] This dissertation defines long-term cohabitation as a co-residential union that lasts for at least five consecutive years. The summary statistics in this table provide information about the entire length of these relationships including the first five years. Premarital cohabitation is most often less than five years but it can also be more than five. [2] Marriage that lasts less than five years.

Table 2-4. Mean Weekly Housework Hours For Male and Female Respondents, By Cohabitation Type

	Couple Together 5 Years or More [1]			Unions Ends In 5 Years Or Less			All Couples Row Mean
	Premarital Cohabitation	Marriage	Long Term Cohabitation	Short Term Cohabitation	Short Term Marriage[2]	Marriage Ends[3]	
Usual Weekly Housework Hours Male Respondents	6.3	5.8	6.6	6.2	6.5	9.4	6.8
Usual Weekly Housework Hours Female Respondents	12.3	17.4	13.9	12.8	16.5	15.2	14.7
Housework (In Hours Per Week) Derived From Calibrated Time Use Variables Male Respondents	3.1	3.1	3.5	3.3	3.8	5.2	3.7
Housework (In Hours Per Week) Derived From Calibrated Time Use Variables Female Respondents	8.3	9.1	7.5	7.3	11.1	11.0	9.0

Note: [1] This dissertation defines long-term cohabitation as a co-residential union that lasts for at least five consecutive years. The summary statistics in this table provide information about the entire length of these relationships including the first five years. [2] Marriage that lasts less than five years. [3] Marriage ends means either in divorce, separation or widowhood.

than five years. Similarly, short-term cohabitation is any cohabitation which ends after less than five years.

Table 2-2 shows that compared to other cohabitants female pre-marital cohabitants have a greater rate of employment and higher earnings. Women's employment rate is 76.2% during pre-marital cohabitation compared to 62.3% and 61.6%, for long-term and short-term cohabitation, respectively. Mean monthly gross pay of female cohabitants is highest at £1088 during pre-marital cohabitation compared to £897 and £970, for long-term and short-term cohabitation, respectively. Moreover, the mean gross pay of male cohabitants is also highest at £1533 during pre-marital cohabitation compared to £1291 and £1316, for long-term and short-term cohabitation, respectively. Table 2-2 also shows that compared to other cohabitants, female pre-marital cohabitants and their partners have the highest educational qualifications. They are

also highest on Goldthorpe's social class scale, and they have the highest rate of homeownership. Moreover, Table 2-3 finds that, compared to other cohabitants, pre-marital cohabitants are most satisfied with their financial situation. Therefore, overall, compared to all other cohabitants in the United Kingdom these descriptive statistics show that pre-marital cohabitants and their partners are more successful (academically and professionally) and wealthier. Since pre-marital cohabitation is a stepping stone for marriage it is sensible that couples that do in fact marry have the greatest earnings and that they are most content with their partners - this is what the descriptive statistics show. Chapter 3 examines the household division of labour during pre-marital cohabitation.

The descriptive statistics in Tables 2-1, 2-2, 2-3 and 2-4 also suggest that differences exist between short-term and long-term cohabitants. Homeownership is lower among short-term than long-term cohabitants, 38% versus 50% respectively. Fairness in the division of domestic labour is highest among long-term female cohabitants and lowest among female short-term cohabitants.

2.3 Characteristics Which Help Explain Choices in Cohabitation

The following paragraphs discuss many of the primary independent variables which are part of the analysis of the household division of labour throughout the entire dissertation and the theoretical reasoning for their inclusion. Many of the same variables are used throughout the thesis because they are an integral and necessary part of the analytic strategy (outlined greater detail in section 3.3) which examines the association between earnings and domestic labour. This dissertation, in part, expands on the analytic strategy first proposed by Gupta (2007) to compare the role of absolute and relative earnings in the allocation of the household division of

labour. Since one aim of the dissertation is to compare Gupta's (2007) autonomy hypothesis, (i.e. the importance of women's total earnings in the household division of labour) with relative resources theory during pre-marital, non-marital short-term and long-term cohabitation it is essential to utilize a similar analytic strategy, which includes many of the same independent variables (such as in Table 3, p. 409, Gupta, 2007). The first of these variables are relative and total earnings (Appendix 4 includes a chart that summarizes all the key variables).

Relative resources are quantified using relative gross pay, which is the percentage of the couple's gross earnings that is contributed by the female respondent. When a female cohabitant earns £1500 gross pay per month, and her partner earns £500 gross pay per month then the couple's total household earnings is £2000 per month, which means that the female cohabitant's relative gross pay is 75% (the female cohabitant's gross pay divided by the total household gross pay: £1500 / £2000=0.75 or 75%). In the results sections in the following chapters, this variable is modelled using a continuous variable (i.e. ranging from 0% to 100%).

In addition to using absolute and relative earnings to control for employment in the analysis of the household division of labour, the number of hours usually spent working is another important control variable. Past research shows a negative association between women's work time and women's domestic labour time (Mannino and Deutsch, 2007; Knudsen and Waerness, 2008; Pinto and Coltrane, 2009; Craig and Baxter, 2016) and a positive association between women's work time and her partner's domestic labour time (Kroska, 2004; Cunningham, 2007; Nooman, Estes and Glass, 2007). Further, there is a negative relationship between men's work time and men's domestic labour time (Hook, 2006; Pinto and Coltrane, 2009; Craig and Baxter, 2016). The theoretical reasoning for this negative association between paid employment time and domestic labour time is often explained using time availability

constraints theory[7] which is a rationalist gender-neutral explanation of the household division of labour (Coltrane, 2000; Lachance-Grzela and Bouchard, 2010).

Time availability constraints theory proposes that couples divide housework according to the time availability of each partner, which is dependent on how much time each partner spends at their place of employment (Coltrane, 2000; Lachance-Grzela and Bouchard, 2010). Thus, the more time a person spends at their place of employment the less time he or she has available for domestic labour, or, alternatively it is possible to think of time spent working constraining housework time. According to this theory, labour time (including domestic labour and paid employment time) is rationally distributed within couples: so, when one partner has less time available for domestic labour due to spending more time working the other partner will compensate by doing more domestic labour. For these theoretical reasons work time is a control variable in the analysis of housework in this dissertation.

Gender ideology is another essential independent variable in the analysis of the household division of labour[8]. Despite its usefulness in explaining the allocation of labour, many

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[7] Researchers sometimes separate relative resources and time availability constraints theories (for a review see Coltrane, 2000). However, in practise, they can be very difficult to disentangle (Gough and Killewald, 2010). Gough and Killewald (2010), for example, argue that:

> if one spouse works fewer hours in paid labor and consequently has lower earnings, both the time availability hypothesis and the relative resources hypothesis predict that spouse would spend more time in housework, but it is not clear which mechanism is at work in this division—having more non-market time for housework or having less power to get out of housework. (p. 17)

Time availability and financial resources are often intertwined: working more means that there is less time available for domestic labour but it also often (not always) means greater income. Consequently, household division of labour research sometimes can be in interpreted to support either time availability-constraints or relative resources effects (Gough and Killewald, 2010).

[8] Researchers use various phrases when describing a person's support for a division of paid and domestic labour that is based on gender. Some of these phrases include: gender role attitudes, gender-related attitudes, gender egalitarianism, and gender ideology as well as others (Davis and Greenstein, 2009). A researcher's choice of a certain phrase may arise from personal theoretical differences about terminology or certain phrases may be deemed outdated because they are biased / sexists or phrase choice may be the result of the preference of the journal where

researchers express concerns about the limitations of relative resources theory in explaining the household division of labour (Bianchi et al., 2000; Tichenor, 2005). Even though relative resources can help explain a significant portion of time allocation to domestic labour, after controlling for this factor gender is still important (Bianchi et al., 2000; Tichenor, 2005). Some researchers suggest that gender ideology influences behaviour and not the other way around (for an overview of this research, see Davis and Greenstein 2009).

Irrespective of the complicated causal direction between gender ideology and behaviour there is a strong statistically significant association between them (Kroska and Elman, 2009; McDonald, 2013). There is a strong association between gender ideology and female labour force participation (Kroska and Elman, 2009; McDonald, 2013). Moreover, there is also a significant association between both women's and men's gender role ideologies and their allocation of domestic labour (Kroska, 2004; Davis and Greenstein, 2009; Chesters, 2010; Miller and Carlson, 2016). This association between gender ideology and domestic labour exists in numerous countries including in Canada (Brayfield, 1992), China (Pimentel, 2006), Germany (Lavee and Katz, 2002), Israel (Lavee and Katz, 2002; Lewin-Epstein, Stier and Braun, 2006), Sweden (Nordenmark and Nyman, 2003; Nordenmark, 2004), Taiwan (Hu and Kamo, 2007), the United Kingdom (Kan, 2008) and the United States of America (Greenstein, 1996; Bianchi et al., 2000; Cunningham, 2005).

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the article is published - the Journal of Marriage and Family, which is an important journal in this field, dissuades the use of the phrase "gender roles" in its publication (Davis and Greenstein, 2009). In their review of 168 articles in Sociological Abstracts published between 2000 and 2008 Davis and Greenstein (2009) find that the most common phrases used to describe a person's support for a division of paid and domestic labour that is based on gender are gender role attitudes (75 uses), gender ideology (53 uses) and gender related attitudes or simply gender attitudes (24 uses combined). This dissertation follows Davis and Greenstein (2009) as well as many others by using the phrase gender ideology to describe a person's support for a division of paid and domestic labour that is based on gender.

Exclusively focusing on rationalist explanations of the household division of labour, such as the autonomy hypothesis or relative resources theory, fails to take into account the role that socialisation, culture and ideology play in influencing gender relations within the household (Bianchi et al., 2000; Tichenor, 2005; Fetterolf and Rudman, 2014). For these reasons, empirical studies that examine the household division of labour frequently include one or more gender ideology variables or scales (Aassve, Fuochi, and Mencarini, 2014; Fetterolf and Rudman, 2014), and why this variable is also an essential control in the analysis of domestic labour in this dissertation[9].

The British Household Panel Survey (BHPS) contains numerous gender ideology questions. Responses to these questions occur on a five-point Likert scale that has five potential responses: strongly agree, agree, not agree / disagree, disagree and strongly disagree. The following half a dozen questions are part of this scale because they capture personal gender ideologies toward the household division of labour:

Do you personally agree or disagree [with the following statements]
- A pre-school child is likely to suffer if his or her mother works
- All in all, family life suffers when the woman has a full-time job
- A woman and her family would all be happier if she goes out to work
- Both the husband and wife should contribute to the household income
- Having a fulltime job is the best way for a woman to be an independent person
- A husband's job is to earn money; a wife's job is to look after the home and family

In the analysis in Chapters 3, 4 and 5, the gender ideology scale is a combination of the responses to these six gender ideology questions. To create this scale, half of the original

[9] Appendix 3 describes in greater detail the gender ideology scale.

variables are recoded so that all six questions are in the same "direction". The BHPS asks respondents to what extent they disagree with various statements about gender ideology – lower scores correspond to smaller disagreement while higher scores correspond to greater disagreement. The maximum score of five means strongly disagree with "All in all, family life suffers when the woman has a full-time job" but a score of five also means strongly disagree with "Both the husband and wife should contribute to the household income", whereas disagreeing with the former statement implies a more egalitarian gender ideology but disagreeing with the latter implies a less egalitarian gender ideology. The three questions in which there is an association between greater disagreement and less egalitarian gender ideologies ("A woman and her family would all be happier if she goes out to work"; "Both the husband and wife should contribute to the household income" and "Having a fulltime job is the best way for a woman to be an independent person") are recoded so that a higher score corresponds to more egalitarian gender ideologies.

Related to gender ideology is highest educational attainment which is another important control variable in the analysis of the household division of labour. As described in the opening chapter there is a substantive relationship between higher educational attainment and both egalitarian gender ideology and higher personal income that can help contribute to economic independence (Becker, 1981; Rhodebeck, 1996; Cherlin, 2009).

Two other independent variables relevant to the analysis of the household division of labour are age and year/wave/time. Age is a critical control variable in the analysis because housework may change over the lifespan. The elderly are often less able to perform certain types of domestic labour due to health reasons so they may need to outsource this work to relatives or, for those that can afford it, paid domestic help. The analysis also includes a control variable

for time to control for potential period effects. The British Household Panel Survey takes place over 18 years/waves beginning in 1991. Therefore, since various household dynamics may have significantly changed over these nearly two decades, it is necessary to include a control variable for time.

During the nearly two-decade observation window of the BHPS, domestic labour has evolved in numerous ways. The rising prevalence of Internet-use and web-based services have changed the way people accomplish some household management and shopping tasks[10]. New household technologies and popular culture-inspired discussions of gender roles also contribute to the way people in cohabiting couples might think about and share domestic tasks. Therefore, both time and the respondent's age are important independent variables which are part of the analysis. However, including both age and time in the same analysis can be confounding.

Age and time are perfectly collinear in that a change in age by X years always corresponds to an identical change in X years in the time variable and vice versa. My dissertation overcomes the collinearity problem by creating an age group variable. This transformation is more informative than performing a simple age-squared or age-cubed transformation.

The transformation of the age variable contains the following five groups: 25 years or younger, 26 to 30 years old, 31 to 35 years old, 36 to 40 years old and over 40 years old. Since cohabitation is most frequent between the ages of 20 and 40 in the United Kingdom, this requires numerous age categories in this range. Conversely, relatively few individuals cohabit after the age of 40, which is why this is only one category. Table 2-1 shows that the median age of men

[10] The largest food retailer in the United Kingdom, Tesco, which has a 28% market share of grocery sales (Wrigley, 2010), launched its online shopping website in the year 2000 (Tesco, 2013). Since its inception, Tesco's website has grown to nearly half of a million weekly customers many of whom order groceries online (Tesco, 2013). Therefore, both time and the respondent's age are important independent variables which are part of the analysis. However, including both age and time in the same analysis can be confounding.

living in pre-marital, long-term and short-term cohabitation is 29, 28 and 25, respectively, and the median age of women living in pre-marital, long-term and short-term cohabitation is 27, 25 and 24, respectively. If in a generation or two as cohabitation becomes even more widespread among older persons, the age group variable will need to include several categories of cohabitants that are 40 years or older.

The presence of children is another important control variable when studying the household division of labour[11]. Children are reliable indicators of domestic labour demand (Mattingly and Sayer, 2006). In general, research finds that after the birth of a child, women's housework time significantly increases (Berk, 1985; Dribe and Stanfors, 2009; Bianchi and Milkie, 2010; Craig and Mullan, 2010; Kühhirt, 2012; Grunow, Schulz and Blossfeld, 2012). Kan and Gershuny (2009) find that mothers increase their routine housework time by over 50% in the first year following the birth of a child while fathers experience no statistically significant increase.

Children require the care from household adults, but they can also perform domestic labour. Parents often want to instill in their children a "good work ethic" so they encourage or require their children to perform household chores (Goldscheider and Waite, 1991). The amount (as well as kind) of domestic labour that a child can do is highly dependent on the age of the

[11] The British Household Panel Survey does not consider whether there is a biological relationship between parent(s) and the household child(ren). In roughly half of the waves, the BHPS includes questions about whether the respondent is the "natural parent of [any] children". However, the BHPS interview does not inquire as to whether these children are present in the household – they may be living in another household if the parents are divorced or separated. The lack of this information limits how the possible association between the presence of children and routine housework can be studied. Compared to "social" (non-biological) fathers, biological fathers are often theorized to invest more time in childcare (Cherlin and Furstenberg, 1994; Daly and Wilson, 2000, Hofferth and Anderson, 2003; Combs-Orme and Renkert, 2009). The present research is limited in that it cannot control for these differences between biological and social fathers when examining domestic labour within cohabitation.

child, as older children are more capable of performing a greater quantity and variety of household jobs.[12] Unfortunately, the BHPS does not collect information about the total volume of housework done in households by all members or by any paid help. Therefore, this thesis concentrates on the housework done by both individuals in the couple, who in any event perform most of the housework.

As well as controlling for the total number of household children, all the statistical models in this chapter also include a dummy variable for the presence of at least one child five years or younger. There should be an association between the presence of one or more young child and that child's parents doing more housework because the younger the child, the greater the housework he or she requires from his or her parent/guardian (Craig, Mullan and Blaxland, 2010). Previous research finds a strong association between the birth of a child and a more traditional (non-egalitarian) household division of labour (Hortacsu, 1999; Fox, 2001; Dribe and Stanfors, 2009; Bianchi and Milkie, 2010; Craig and Mullan, 2010; Kühhirt, 2012). This correlation and previous research make it theoretically necessary to include the presence of young children as a dummy variable in the analysis of domestic labour.

[12] In addition to age, the child's gender is an important factor affecting how much domestic labour children perform (Bianchi and Robinson, 1997; Raley, 2006). Girls are more encouraged than boys by their parents to contribute to household chores (Bianchi and Robinson, 1997; Gager, Cooney and Call, 1999; Raley, 2006). This socialisation leads to girls doing much more domestic labour than boys (Berk, 1985; Bianchi and Robinson, 1997; Gager, Cooney and Call, 1999; Raley, 2006; Bonke, 2010). However, even though most research finds that girls do more domestic labour than boys, girls still do only a small proportion of the total household domestic labour because adults (their parents) do the majority of it (Bonke, 2010). Therefore, children may not only require housework (from household adults), but they may also produce it – this is especially true for older girls (Bianchi and Robinson, 1997; Raley, 2006; Bonke, 2010). The BHPS does not contain specific questions about the gender of household children. However, it is possible to discern a child's gender by matching a respondent's individual questionnaire with demographic information from the other household respondents – including children. The gender of household children was part of initial models, but it has no significant bearing on the results, which is why it is not part of the final analysis.

Another theoretically relevant independent variable in the analysis of domestic labour during cohabitation is homeownership. This variable is often part of the analysis of the household division of labour (Gupta, 2007; Schneider, 2012). Homeownership is a theoretically necessary variable in the analysis of housework because the increased responsibilities of homeownership require greater domestic labour (South and Spitze, 1994; Craig and Baxter, 2016). Thus, homeownership is a reliable indicator of domestic labour demand (Mattingly and Sayer, 2006), which is why it is an important control variable.

The rate of homeownership is lower during cohabitation than in marriage (Kerr, Moyser, and Beaujot, 2006). Homeownership is less common during cohabitation than in marriage because homeownership correlates with financial, career and relationship stability often in the form of marriage (Clark, Deurloo and Dieleman, 1994; Clark and Huang, 2003; Grinstein-Weiss et al., 2011). Many cohabiting couples may not have the same long-term expectations of owning joint property as married couples, especially in the early years of cohabitation (Bernhardt, 2002), especially if they are in brief relationships, such as non-marital short-term cohabitations which are the subject of the following chapter. For instance, Lauster and Fransson (2006) find that the rate homeownership in Sweden is lower among cohabiting couples and single persons than among married couples. Another reason, why the rate of homeownership is lower during cohabitation than in marriage is because cohabitants are younger and hence possess lesser financial means to purchase a home.

Past research usually finds a negative association between women's domestic labour time and their paid employment time (Greenstein, 1996; Gershuny, Bittman and Brice, 2005; Aassve, Fuochi and Mencarini, 2014). A significant body of research finds that women perform less routine domestic labour when they work longer hours (Greenstein, 1996; Gershuny, Bittman

and Brice, 2005; Aassve, Fuochi and Mencarini, 2014). In addition to the control variable of women's paid work time, the analysis in this dissertation also includes the control of men's paid work time to control for its association with women's domestic labour.

When cohabitants live in the same household as one or more of their parents, the presence of these additional adults may change the household division of labour. Additional adults (in this case the cohabitants' parents) living with their child and his or her partner may increase overall household domestic labour because more adults may mean that there is more cleaning, dishwashing, clothes washing and other kinds of domestic labour that is needed. On the other hand, the presence of a cohabitant's parents may also mean that there are more adults to do housework, which may result in an overall decrease in female cohabitant's domestic labour. Therefore, the presence of additional adults (in the form of a cohabitant's parent(s)) may impact domestic work which is why it is necessary to control for this in the analysis. Specifically, the analysis includes two variables:

A. One or More Father(s) of Either the Respondent or Her Spouse
(Reference Category Is No Father of Either the Respondent or Her Spouse)

B. One or More Mother(s) of Either the Respondent or Her Spouse
(Reference Category Is No Mother of Either the Respondent or Her Spouse)

Variable A is assigned the value one if either the female cohabitant's father or her male partner's father is living with the cohabiting couple. Otherwise, variable A is assigned the value of zero. Similarly, variable B is assigned the value one if either the female cohabitant's mother or her partner's mother is living in the same household as the cohabitants.

There are several things to note about these variables. Firstly, there are no cases in the BHPS in which cohabitants live with both of their parent(s) and their partner's parent(s). Secondly, cohabitants that are living with one or both parents are usually young and are often

(still) living in their parent's home. In contrast, married couples that are living with one or both of their parents are usually much older. This age difference may mean that the association between the presence of parent(s) and women's domestic labour time may be different between marriage and cohabitation because married couples and consequently their parents are much older than cohabiting couples and their parents. This age difference may mean that the elderly parents of married couples may require that their adult children to do more domestic labour while the younger parents of cohabiting couples may need their children to do less housework. The frequency of cohabitants living with one or more of their parents is relatively rare. Only about two percent of cohabitations in the BHPS include one or more parents of one of the cohabitants. Therefore, even though there may exist an association between the presence of parents of cohabitants and increased domestic labour in certain households, this does not apply to the majority of cohabitations which do not include the parents of the cohabitants.

2.4 Benefits and Limitations of Using Weekly Housework Hours as the Dependent Variable

In this dissertation, usual weekly housework hours is the primary dependent variable in the analysis of the association between earnings and domestic labour during cohabitation and marriage. Surveys which collect domestic labour information mostly collect this using one of two methods: stylised questions asking people to estimate time in a specific activity; or time-diaries. The British Household Panel Survey uses direct questioning to collect information about domestic labour time, asking the respondent “about how many hours do you spend on housework in an average week, such as time spent cooking, cleaning and doing the laundry?”. In contrast, time-diaries ask the respondent to keep a record of every activity, including domestic labour, they undertake during one (or more) day(s). Time-diary measures of time use are often

more accurate than stylised measurements, which over-inflate domestic labour time (Marini and Shelton, 1993; Bianchi et al., 2000; Juster, Ono, and Stafford, 2003; Kan, 2008; Kan and Pudney, 2008).

Using American data Bianchi et al. (2000) and Juster, Ono, and Stafford (2003) independently find that stylised measurements of domestic labour are usually higher than those collected through time-diaries. Despite their documented tendency to overestimate, stylised measurements are important measures of housework (Stuart, 2014), which is why the stylised estimate of domestic labour is a common dependent variable in the analysis of the household division of labour.

In Chapter 3, this thesis also uses the adjustments to the stylised estimate errors from the Kan and Pudney calibrations to address this shortcoming. The adjusted estimates do not change the overall picture. Nevertheless, as I discuss in my conclusions, future work using time-diary estimates from cohabiting couples could yield more illuminating findings.

2.5 Chapter Summary

The following chapters now investigate how the different groups of cohabiting couples at different stages in their relationships (as outlined in Figure 2.1) arrange their domestic labour. The descriptive profiles of these groups suggest that there may be significant differences between various types of cohabitation. Moreover, the following three substantive chapters seek to explain why these differences might occur using various types of statistical analysis. Though this work takes advantage of the material available in the BHPS, the concluding chapter will consider other variables and avenues of research which the next steps in the study of cohabitation might consider.

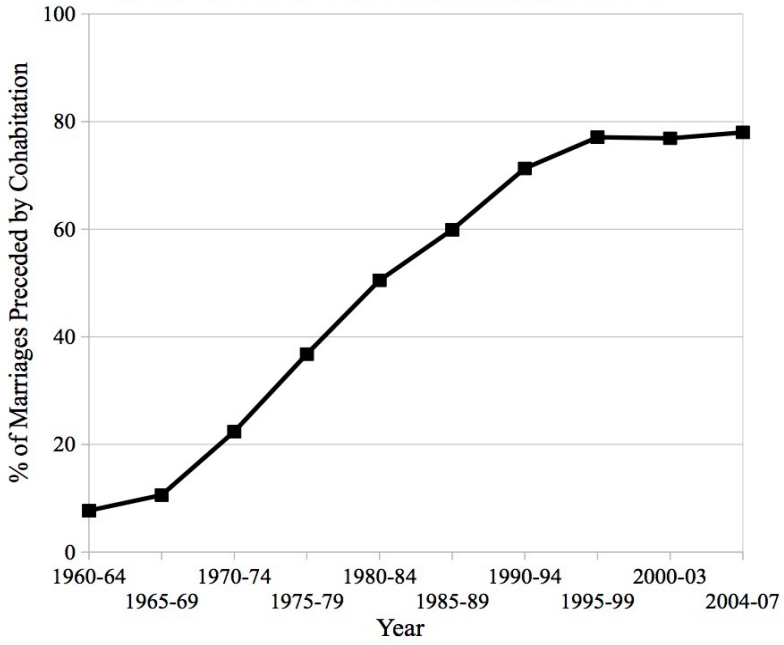
Chapter 3: Domestic Labour during Pre-Marital Cohabitation

The present chapter examines the household division of labour during marriage and two different cohabitation paths illustrated in Figure 2-1: pre-marital cohabitation (path 3) and non-marital short-term cohabitation (path 4). The majority of cohabitations in the United Kingdom are pre-marital and, they usually transition to marriage within a couple of years (Ermisch, 2000, Ermisch, 2005; Nazio and Saraceno, 2013; Berrington and Stone, 2015). However, research seldom examines the household division of labour of these couples while they are in the pre-marriage phase. This chapter discusses whether relative earnings or, as predicted by Gupta's (2007) autonomy hypothesis, total female earnings have a stronger influence on the amount of domestic labour done by women in these relationships. The findings in the present chapter suggest that not only does this association between earnings and housework differ between marriage and cohabitation but they show that it is also essential to consider cohabitation type (such as the comparison between pre-marital cohabitation versus non-marital short-term cohabitation) when studying these household dynamics.

3.1 The Rising Prevalence of Pre-Marital Cohabitation

Figure 3-1 shows that the majority of marriages in the United Kingdom now are preceded by some, usually short, period of pre-marital cohabitation. Many couples often decide that they want to marry before they enter cohabitation, and some even make their entry into cohabitation conditional on their partner agreeing that they will eventually get married (Priema, Bailey, and Fazio, 2015). Beaujouan and Bhrolcháin (2011) find that between the years 1960 to 1964, only 5% of marriages were preceded by cohabitation for women who married before the age of 30, compared to 73% of marriages for younger women between the years 2004 to 2007. Similarly,

Figure 3-1. Percentage Of Marriages That Are Preceded By Cohabitation For Female Respondents Aged 25 To 29



source: Centre for Population Change (CPC) General Household Survey (GHS) as published in Beaujouan and Bhrolcháin (2011), Table 1

Haskey (2001) observed that only 6% of marriages were preceded by cohabitation in the late 1960s, compared to 33% and 77%, in the late 1970s and 1990s, respectively. More recent data From the Office for National Statistics (2012a) shows that a period of cohabitation precedes roughly four out of five marriages in the United Kingdom. For many couples in the United Kingdom, cohabitation represents a stage in the marital process rather than an alternative to it (Beaujouan and Bhrolcháin, 2011; Nazio and Saraceno, 2013).

3.2 Why Absolute Earnings Offers a Key Test to the Autonomy Theory

There is an ongoing debate in the family sociology literature about whether relative or women's total earnings are better predictors of the household division of labour during marriage and cohabitation. Researchers who focus on relative resources theory (Mannino and Deutsch,

2007; Wight, Bianchi and Hunt, 2013) and gender-deviance neutralisation theory (Brines, 1994; Bittman et al., 2003) sometimes have differing predictions about how they expect couples to behave. Gupta (2007) observes that both groups of researchers explain a married couple's domestic labour using relative earnings. Drawing on previous research (including, Soberon-Ferrer and Dardis, 1991; Cohen, 1998; Phipps and Burton, 1998; Brandon, 1999), Gupta (2007) argues that women's earnings may have an autonomous association with housework. In his research Gupta (2006; 2007; Gupta and Ash, 2008) finds support for the autonomy hypothesis by showing that among full-time employed couples women's domestic labour time is better explained by women's total earnings than by their relative earnings (to their husbands).

A central goal of this chapter is to test whether Gupta's (2007) autonomy hypothesis also applies to pre-marital and non-marital short-term cohabitation in the United Kingdom. Gupta's (2007) autonomy hypothesis specifically seeks to test the impact of women's total earnings on their domestic labour, for this reason the analysis in this chapter focuses exclusively on analyzing women's domestic labour. Therefore, the goal is to examine the intersection between household income and domestic labour by comparing relative and absolute earnings.

3.3 Explaining the Domestic Arrangements During Pre-marital and Non-Marital Short-Term Cohabitation with an Adaptation of the Autonomy Hypothesis

A central goal of Gupta's (2007) analytic strategy is to examine the association between earnings and the household division of labour by comparing relative resources theory and the autonomy hypothesis. The present chapter builds on Gupta's (2007) analytic strategy by expanding it to include pre-marital and short-term cohabitation. Gupta does not apply his autonomy hypothesis to pre-marital and non-marital short-term cohabitation. In this dissertation

I hypothesis that the autonomy hypothesis, as presented by Gupta, better describes the household division of labour during marriage because these relationships are more traditional, longer, and are perceived to be indefinite. These properties of marriage encourage greater investment in the relationship than in non-marital short-term cohabitation which only last for a few years. Moreover, these properties all provide the necessary time to establish the kind of household dynamics that the autonomy hypothesis describes. In contrast, the perceived temporariness and desire for equality of many cohabitants is more consistent with classic relative resources theory and marital bargaining.

Chapter 3, however, also differs from Gupta's (2007) analytic strategy in various other meaningful ways. First, the goal of this chapter is to examine the autonomy hypothesis during pre-marital and short-term cohabitation, which is not usually done, as this theory generally considers married couples. Secondly, the analysis of the household division of labour in the present chapter conditions on the future, using the longitudinal nature of the BHPS, and uses marital intentions to distinguish between pre-marital cohabitation from relationships that do not later become marriage. Distinguishing between different types of cohabitation in the study of the household division of labour is a significant evolution from previous research because cohabitants live together for a variety of reasons which may impact family dynamics.

The subsequent analyses examine the household division of labour during marriage and cohabitation. The six results tables from 3-1 to 3-6 contain the following variables:

Model 1:

A. Women's Percentage of the Couple's Gross Pay
(called Percentage of the Relative Gross Pay in all tables)
B. Couple's Total Earnings which is the
Gross Pay of the Respondent + Gross Pay of the Respondent's Partner
C. Other control variables (see section 2.2)

Model 2:

A. Women's Percentage of the Couple's Gross Pay
B1. Gross Pay of the Respondent
B2. Gross Pay of the Respondent's Partner
C. Other control variables

Model 3:

B1. Gross Pay of the Respondent
B2. Gross Pay of the Respondent's Partner
C. Other control variables

Model 1 represents the traditional way of testing relative resources theory as it includes a measure of relative resources (A. percentage of the relative gross pay), a control for total earnings (B. couple's total earnings) and other control variables (C. other control variables).

Gupta (2006) argues that statistical models of women's domestic labour time during marriage / cohabitation, such as Model 1, which include one variable that is a summation of a couple's total earnings (i.e. the total gross pay of both partners) wrongly assume that men's and women's wages always have the same effect on women's domestic labour time. Instead in his research Gupta (2006; 2007) shows that women's earnings have a strong association with their domestic labour, while the relationship between men's earnings and women's domestic labour time is negligible. Therefore, Model 2 continues to build upon Gupta's (2006; 2007) analytic strategy by, separately modelling the (B1) Gross Pay of the (female) Respondent and the (B2) Gross Pay of the (female) respondent's (male) partner to avoid the incorrect theoretical assumption that men's and women's earnings have the same relationship with women's domestic labour time. Whereas, Models 1 and 2, include a measure of relative resources – this variable is

Table 3-1. OLS Models Of Time Spent Performing Housework (In Usual Weekly Hours)
For Married Women Who Cohabited With Their Husbands Before Marriage

	Model 1		*Model 2*		*Model 3*	
	B	**S.E.**	***B***	**S.E.**	***B***	**S.E.**
Percentage of Relative Gross-Pay	-0.09 **	0.03	-0.07	0.04		
Percentage of Relative Gross-Pay Squared	0.00	0.00	0.00	0.00		
Couple's Total Earnings (Gross-Pay of Respondent + Gross-Pay of Respondent's Spouse) (in 1000s of £)	-0.27 *	0.12				
Gross-Pay of Respondent (in 1000s of £)			-0.75 *	0.33	-1.02 ***	0.29
Gross-Pay of Respondent's Spouse (in 1000s of £)			-0.13	0.16	0.00	0.13
Number of Hours Normally Worked Per Week by Respondent	-0.13 ***	0.02	-0.13 ***	0.02	-0.16 ***	0.02
Number of Hours Normally Worked Per Week by Respondent's Spouse	0.00	0.01	0.00	0.01	0.00	0.01
Respondent's Home is Owned Outright or Owned with Mortgage by One or more Household Member's (Ref. Cat. is the Home is Rented)	-0.40	0.62	-0.40	0.62	-0.41	0.63
Respondent's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-0.80	0.86	-0.69	0.87	-0.77	0.86
A Level / O Level	-0.41	0.76	-0.40	0.76	-0.45	0.76
Respondent's Spouse's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-0.44	0.75	-0.44	0.75	-0.38	0.75
A Level / O Level	0.51	0.68	0.51	0.67	0.55	0.68
Gender Ideology Scale	-1.44 ***	0.38	-1.40 ***	0.37	-1.43 ***	0.37
Age Group (ref. cat. is 25 years or younger) :						
26 to 30 years	1.39 **	0.51	1.42 **	0.51	1.40 **	0.52
31 to 35 years	1.73 **	0.61	1.77 **	0.61	1.73 **	0.62
36 to 40 years	2.17 **	0.75	2.22 **	0.76	2.20 **	0.76
over 40 years	4.23 ***	0.80	4.27 ***	0.80	4.23 ***	0.80
Number of Dependent Children	2.12 ***	0.30	2.10 ***	0.30	2.11 ***	0.30
One or More Household Children Aged 0 to 4 Years Old (Ref. Cat. is No Household children Aged 0 to 4 years Old)	0.28	0.45	0.30	0.45	0.24	0.45
One or More Father(s) of either the Respondent or Her Spouse (Ref. Cat. is No Father of Either the Respondent or Her Spouse)	-1.59	1.20	-1.60	1.18	-1.55	1.17
One or More Mother(s) of either the Respondent or Her Spouse (Ref. Cat. is No Mother of Either the Respondent or Her Spouse)	3.35 *	1.41	3.32 *	1.39	3.34 *	1.40
Year / BHPS Wave	-0.13 *	0.05	-0.12 *	0.05	-0.13 *	0.05
Constant	23.48 ***	1.78	22.82 ***	1.83	22.35 ***	1.90
R-Squared	0.269		0.270		0.268	
Number of Cases [1]	5851		5851		5851	
Number of Distinct Individuals [1]	1045		1045		1045	

Levels of statistical significance: * = p < .05; ** = p < .01; *** = p < .001

Note: [1] The number of "distinct individuals" refers to the number of unique people, in this case the number of married women who cohabited with their husbands before marriage. The number of cases refers to the number observations for these women. For example, the number of cases (5851) divided by the number of distinct (1045) means that on average each unique person in the data is observed over 5.6 years (waves) in the BHPS. The descriptive statistics in Chapter 2 (e.g. Table 2-1) include 8013 married "couples". This means 8013 men and 8013 women. The analysis in Table 3-1 only includes those presently married women who cohabited with their husbands before marriage.

called (A1) percentage of the relative gross pay – Model 3 only includes absolute measures of earnings – these variables are (B1) gross pay of the (female) respondent and (B2) the gross pay of the (female) respondent's (male) partner. Therefore, Model 3 is nested within Model 2. Specifically, Model 2 includes (A) percentage of the relative gross pay, (B1) gross pay of the respondent, (B2) gross pay of the respondent's partner, and (C) other control variables while Model 3 includes everything except (A) percentage of the relative gross pay which means this includes (B1) gross pay of the respondent, (B2) gross pay of the respondent's partner, and (C) other control variables. Nesting Model 2 within Model 3 allows for the statistical comparison of relative resources theory, represented by Model 2, and Gupta's autonomy hypothesis, represented by Model 3.

Table 3-1 shows the analysis of women's domestic labour during marriage. The goal of this first table is to build upon Gupta's (2007) analytic strategy using the BHPS to see if the results are similar during marriage. Overall, when examining relative resources theory and the autonomy hypothesis during marriage, the findings in Table 3-1 are similar to Gupta's (2007) findings, except for time spent working[13]. In Model 1 of Table 3-1, relative gross pay is statistically significant. Relative resources theory proposes that the allocation of domestic labour is, in part, the result of a power struggle in which the partner/spouse with the relatively smaller

[13] One substantive difference is in employment hours (number of hours normally worked per week by respondent) which is significant in Table 3-1 and other subsequent models but which is not significant in Gupta's (2007) research. The reason for this is that Gupta's (2007) research examines only those in full-time employment while this dissertation includes those that are in full-time and part-time employment as well as those that are not working. However, it is important to note that these differences in these two samples do not alter the substantive findings about relative resources theory and the autonomy hypothesis: specifically, the coefficients of the first five earnings variables in Table 3-1 and in other subsequent variables, are statistically significant in the same ways either when all types of employment are included, which is the case in this dissertation, or when only those in full-time employment are analyzed. To illustrate this, Appendix 7 (Table A7-1) reruns the analysis in Table 3-1 but only for those in full-time employment. The substantive results in Table A7-1 for the first five key variables measuring relative and absolute earnings are similar to those in Table 3-1. However, as is predicted, employment hours are no longer significant as is the case in Gupta's (2007) work.

financial resources and, hence, smaller marital power performs the relatively larger share of housework (Coltrane, 2000; Mannino and Deutsch, 2007; Braun et al., 2008; Knudsen and Waerness, 2008; Lachance-Grzela and Bouchard, 2010; Fetterolf and Rudman, 2014).

The percentage of the relative gross pay coefficient in Table 3-1 Model 1 is - 0.09 and is statistically significant ($P<0.01$). Thus, a one percent increase in female relative gross pay proportional to her spouse correlates with her doing approximately five minutes less housework per week (0.09 hours multiplied by 60 minutes is 5.4 minutes). Moreover, just as in other research which tests the autonomy hypothesis couple's total earnings are also significant. Specifically, Table 3-1 Model 1 shows that married women, who cohabited with their husbands before marriage, do 16 minutes less weekly hours of housework (0.27 hours multiplied by 60 minutes is 16.2 minutes) for each £1000 that the couple earns. In general, the results displayed in Table 3-1 Model 1 are similar to Gupta's (2007) findings for marriage.

One major difference between Gupta's (2007) results and those in the present chapter is that Table 3-1 Model 1 shows a statistically significant association between women's domestic labour time and paid employment time, which does not exist in Gupta's (2007) models – this can be explained by Gupta's (2007) research including only those in full-time employment while this dissertation analyzes those in full-time and part-time employment as well as those that are not working (see footnote 14). Table 3-1 Model 1 shows for every hour that a woman works her domestic labour decreases by six minutes per week (0.1 hours multiplied by 60 minutes is 6 minutes, $p<0.001$). This association is also consistent with past research which finds that women do less housework when they spend more time working (Greenstein, 1996; Gershuny, Bittman and Brice, 2005; Aassve, Fuochi and Mencarini, 2014).

Table 3-2. OLS Models of Housework Time (Converted to Hours Per Week)
Derived from the Kan-Pudney Calibrated Time Use Variables for Married Women
Who Cohabited with their Husbands Before Marriage

	Model 1		*Model 2*		*Model 3*	
	B	**S.E.**	***B***	**S.E.**	***B***	**S.E.**
Percentage of Relative Gross-Pay	-0.03	0.02	0.00	0.02		
Percentage of Relative Gross-Pay Squared	0.00	0.00	0.00	0.00		
Couple's Total Earnings (Gross-Pay of Respondent + Gross-Pay of Respondent's Spouse) (in 1000s of £)	-0.12 *	0.05				
Gross-Pay of Respondent (in 1000s of £)			-0.69 ***	0.21	-0.72 ***	0.18
Gross-Pay of Respondent's Spouse (in 1000s of £)			0.08	0.07	0.11	0.06
Number of Hours Normally Worked Per Week by Respondent	-0.15 ***	0.01	-0.14 ***	0.01	-0.14 ***	0.01
Number of Hours Normally Worked Per Week by Respondent's Spouse	0.00	0.01	0.00	0.01	0.00	0.01
Respondent's Home is Owned Outright or Owned with Mortgage by One or more Household Member's (Ref. Cat. is the Home is Rented)	-0.20	0.27	-0.13	0.26	-0.10	0.26
Respondent's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-0.72	0.37	-0.56	0.37	-0.56	0.37
A Level / O Level	-0.24	0.30	-0.20	0.30	-0.20	0.30
Respondent's Spouse's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-0.25	0.31	-0.26	0.31	-0.25	0.31
A Level / O Level	-0.06	0.29	-0.08	0.28	-0.07	0.29
Gender Ideology Scale	-0.81 ***	0.16	-0.80 ***	0.16	-0.81 ***	0.16
Age Group (ref. cat. is 25 years or younger) :						
26 to 30 years	1.81 ***	0.24	1.86 ***	0.24	1.85 ***	0.24
31 to 35 years	3.36 ***	0.28	3.42 ***	0.28	3.41 ***	0.28
36 to 40 years	4.84 ***	0.33	4.92 ***	0.33	4.91 ***	0.33
over 40 years	6.78 ***	0.35	6.88 ***	0.35	6.87 ***	0.35
Number of Dependent Children	0.67 ***	0.13	0.66 ***	0.13	0.66 ***	0.13
One or More Household Children Aged 0 to 4 Years Old (Ref. Cat. is No Household children Aged 0 to 4 years Old)	0.24	0.20	0.23	0.20	0.23	0.19
One or More Father(s) of either the Respondent or Her Spouse (Ref. Cat. is No Father of Either the Respondent or Her Spouse)	-0.60	0.69	-0.58	0.66	-0.58	0.66
One or More Mother(s) of either the Respondent or Her Spouse (Ref. Cat. is No Mother of Either the Respondent or Her Spouse)	0.51	0.99	0.46	0.96	0.48	0.96
Year / BHPS Wave	-0.01	0.03	-0.01	0.03	-0.01	0.03
Constant	15.54 ***	0.79	14.63 ***	0.83	14.51 ***	0.83
R^2	0.663		0.667		0.667	
Number of Cases	2673		2673		2673	
Number of Distinct Individuals	660		660		660	

Levels of statistical significance: * = p < .05; ** = p < .01; *** = p < .001

In Table 3-1 Model 2, separating total household earnings into its two components (men's and women's gross pay) provides support for Gupta's (2007) autonomy hypothesis during marriage. Table 3-1 Model 2 shows that for each £1000 that a married woman earns she does 45 fewer minutes of domestic labour per week (0.75 hours multiplied by 60 minutes is 45 minutes, $P<0.05$). In contrast, there is no statistically significant association between married women's housework time and her husband's earnings (the coefficient is also smaller, -0.13 versus -0.75). Further, these significant and nonsignificant statistical relationships between women's and men's earnings and married women's housework respectively, continue to hold when relative earnings are excluded from the analysis as is the case in Table 3-1 Model 3. This table shows that there is a correlation of approximately one hour (1.02 hours, $P<0.001$) less in married women's housework time for each £1000 that she earns per month. Further, in Table 3-1 Model 3, there is no statistically significant association between a woman's domestic labour and her husband's monthly gross pay. These findings suggest a significant relationship between married women's total earnings and their domestic labour time, which is consistent with Gupta's (2007) autonomy hypothesis. Performing, the Kan-Pudney calibration in Table 3-2, which also analyzes the domestic labour of married women, produces substantively similar results.

However, the R-squared is much larger in the analysis of women's domestic labour using the Kan-Pudney calibration which is shown in Table 3-2 than in the analysis of the self-reported domestic labour measured with usual weekly housework hours in Table 3-1. The main reason for this difference in R-squareds comes from the large difference in variance between these two measures of domestic labour. The standard deviation for usual weekly housework hours (Table 3-1) is more than double the standard deviation in the analysis of domestic labour using the

Table 3-3. OLS Models Of Housework Time (In Usual Weekly Hours) For Female Non-Marital Short-Term Cohabitants

	Model 1		*Model 2*		*Model 3*	
	B	**S.E.**	***B***	**S.E.**	***B***	**S.E.**
Percentage of Relative Gross-Pay	-0.20 ***	0.05	-0.17 ***	0.05		
Percentage of Relative Gross-Pay Squared	0.00 **	0.00	0.00 **	0.00		
Couple's Total Earnings (Gross-Pay of Respondent + Gross-Pay of Respondent's Partner) (in 1000s of £)	-0.35	0.20				
Gross-Pay of Respondent (in 1000s of £)			-1.08	0.65	-1.50	0.76
Gross-Pay of Respondent's Partner (in 1000s of £)			-0.07	0.31	0.16	0.30
Number of Hours Normally Worked Per Week by Respondent	-0.10 *	0.03	-0.10 **	0.03	-0.18 ***	0.04
Number of Hours Normally Worked Per Week by Respondent's Partner	0.07 *	0.03	0.08 *	0.04	0.08 **	0.03
Respondent's Home is Owned Outright or Owned with Mortgage by One or More Household Member's (Ref. Cat. is the Home is Rented)	0.59	1.20	0.61	1.19	0.40	1.21
Respondent's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-4.32 **	1.57	-4.13 **	1.60	-4.50 **	1.64
A Level / O Level	-0.92	1.41	-0.92	1.41	-1.19	1.43
Respondent's Partner's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-3.52 *	1.54	-3.44 *	1.55	-3.52 *	1.56
A Level / O Level	-1.48	1.39	-1.42	1.40	-1.46	1.41
Gender Ideology Scale	0.09	0.82	0.04	0.82	-0.14	0.83
Age Group (ref. cat. is 25 years or younger) :						
26 to 30 years	1.38	0.84	1.42	0.85	1.31	0.87
31 to 35 years	5.09 *	2.06	5.13 *	2.06	5.22 *	2.10
36 to 40 years	4.88 **	1.81	4.96 **	1.81	4.86 **	1.84
over 40 years	9.59 ***	1.66	9.51 ***	1.65	9.33 ***	1.67
Number of Dependent Children	2.15 ***	0.67	2.13 ***	0.66	2.09 **	0.68
One or More Household Children Aged 0 to 4 Years Old (Ref. Cat. is No Household children Aged 0 to 4 years Old)	1.52	1.63	1.48	1.61	1.61	1.62
One or More Father(s) of either the Respondent or Her Partner (Ref. Cat. is No Father of Either the Respondent or Her Partner)	-4.48 *	2.22	-4.65 *	2.18	-5.35 **	1.96
One or More Mother(s) of either the Respondent or Her Partner (Ref. Cat. is No Mother of Either the Respondent or Her Partner	-0.82	2.24	-0.86	2.20	-0.22	1.98
Year / BHPS Wave	-0.05	0.11	-0.04	0.11	-0.03	0.11
Constant	17.18 ***	3.33	16.51 ***	3.43	16.37 ***	3.32
R^2	0.408		0.410		0.403	
Number of Cases	1172		1172		1172	
Number of Distinct Individuals	429		429		429	

Levels of statistical significance: * = p < .05; ** = p < .01; *** = p < .001

Kan-Pudney calibration (Table 3-2). R-squared is a measure of how well the regression line fits the data that is why the differences in the variance of the dependent variable (domestic labour) explain the differences in the R-squareds between these two models. The Kan-Pudney calibration of domestic labour is based on a daily estimate, which means less variance, than weekly housework hours. Also, the Kan-Pudney calibration has less variance because it estimates extreme housework hours more conservatively. For example, there are 11 individuals who report zero usual weekly housework hours in the observations that are common to Tables 3-1 and 3-2, however, in Kan-Pudeny's calibration 10 out 11 of these respondents are calibrated to be performing at least some domestic labour per day - averaging 47 minutes. Further, the usual weekly housework hours data in the BHPS contains approximately 1% of individuals who report doing more than 40 usual weekly housework hours and some as high as 98 hours! – Kan and Pudney estimate the domestic labour of these individuals to be substantially lower.

Table 3-1 examines the association between earnings and married women's domestic labour. The remainder of this chapter explores these household dynamics during cohabitation. In particular, this current section focuses on the household division of labour during two types of cohabitation: those that dissolve in less than five years (called non-marital short-term cohabitation) and those that become marriage (called pre-marital cohabitation). Table 3-3 uses future relationship status information from the BHPS to create the non-marital short-term cohabitation subgroup. The following is an illustration of one of these relationships. If a female cohabitant lives with her partner in wave one but she is either "single" or lives with someone else in the successive wave, then her relationship is classified as not ending in marriage, and she becomes part of the analysis in Table 3-3. In contrast, a female cohabitant lives with her partner

in wave one, and she marries that same partner in the successive wave then she is excluded from the analysis in Table 3-3.

The results in Table 3-3 show the association between earnings and women's domestic labour time during non-marital short-term cohabitation. These results are substantively different from those in Table 3-1, which show the same analysis during marriage. Specifically, the relative earnings coefficient is statistically significant in both charts. However, unlike in Table 3-1 Model 1 (marriage) where the couple's total earnings coefficient is also statistically significant, this coefficient is not statistically significant in Table 3-3 Model 1 (non-marital short-term cohabitation). Even more importantly for testing of the autonomy hypothesis, the couple's total earnings are not statistically significant during non-marital short-term cohabitation either in Table 3-3 Model 2 nor in Table 3-3 Model 3 which separates men's and women's individual earnings from the couple's total earnings. Therefore, Table 3-3 does not provide support for the autonomy hypothesis. Instead, these results support relative resources theory which proposes an association between relative earnings and women's domestic labour. Not finding a statistically significant relationship between total earnings and women's domestic work during short-term cohabitation makes sense within the United Kingdom where cohabitation is often brief (Ermisch, 2000, Ermisch, 2005; Nazio and Saraceno, 2013; Berrington and Stone, 2015). This difference in the association between earnings and women's domestic labour time in marriage (Table 3-1) and non-marital short-term cohabitation (Table 3-3) is logical. Table 3-1 shows that there is a statistically significant relationship between total earnings and married women's domestic labour, but Table 3-3 does not find this same association during non-marital short-term cohabitation.

Table 3-4. OLS Models Of Housework Time (In Usual Weekly Hours) For Female Premarital Cohabitants (Premarital Cohabitation Is Established Using Future Marital Status Information)

	Model 1		*Model 2*		*Model 3*	
	B	**S.E.**	***B***	**S.E.**	***B***	**S.E.**
Percentage of Relative Gross-Pay	-0.08	0.05	-0.09	0.06		
Percentage of Relative Gross-Pay Squared	0.00	0.00	0.00	0.00		
Couple's Total Earnings (Gross-Pay of Respondent + Gross-Pay of Respondent's Partner) (in 1000s of £)	-0.43	0.22				
Gross-Pay of Respondent (in 1000s of £)			-0.39	0.55	-0.78	0.52
Gross-Pay of Respondent's Partner (in 1000s of £)			-0.47	0.36	-0.10	0.25
Number of Hours Normally Worked Per Week by Respondent	-0.10 **	0.04	-0.10 **	0.04	-0.15 ***	0.03
Number of Hours Normally Worked Per Week by Respondent's Partner	0.00	0.02	0.00	0.02	0.01	0.02
Respondent's Home is Owned Outright or Owned with Mortgage by One or More Household Members (Ref. Cat. is the Home is Rented)	-0.70	0.85	-0.69	0.83	-0.83	0.83
Respondent's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-1.36	1.23	-1.38	1.23	-1.56	1.24
A Level / O Level	-1.07	1.19	-1.08	1.19	-1.12	1.20
Respondent's Partner's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-1.40	1.07	-1.39	1.03	-1.46	1.05
A Level / O Level	-0.67	1.08	-0.67	1.07	-0.75	1.07
Gender Ideology Scale	-0.91 **	0.46	-0.91	0.46	-0.98 *	0.46
Age Group (ref. cat. is 25 years or younger) :						
26 to 30 years	1.10	0.68	1.10	0.68	1.05	0.68
31 to 35 years	3.56 ***	0.99	3.56 ***	1.00	3.49 ***	0.99
36 to 40 years	3.49 **	1.13	3.48 **	1.11	3.46 **	1.12
over 40 years	5.98 ***	1.04	5.98 ***	1.04	5.78 ***	1.00
Number of Dependent Children	1.89 **	0.72	1.90 *	0.73	1.88 *	0.73
One or More Household Children Aged 0 to 4 Years Old (Ref. Cat. is No Household children Aged 0 to 4 years Old)	2.78 *	1.07	2.77 *	1.09	2.89 **	1.09
One or More Father(s) of either the Respondent or Her Partner (Ref. Cat. is No Father of Either the Respondent or Her Partner)	0.05	2.19	0.05	2.19	0.04	2.13
One or More Mother(s) of either the Respondent or Her Partner (Ref. Cat. is No Mother of Either the Respondent or Her Partner	-0.71	2.68	-0.73	2.68	-0.75	2.65
Year / BHPS Wave	-0.17 *	0.08	-0.17 *	0.08	-0.18 *	0.08
Constant	22.36 ***	3.08	22.41 ***	3.26	21.50 ***	2.98
R^2	0.323		0.323		0.319	
Number of Cases	2327		2327		2327	
Number of Distinct Individuals	869		869		869	

Levels of statistical significance: * = p < .05; ** = p < .01; *** = p < .001

Table 3-5. OLS Models of Housework Time (Converted to Hours Per Week)
Derived from the Kan-Pudney Calibrated Time Use Variables for Female Premarital Cohabitants
(Premarital Cohabitation is Established using Future Marital Status Information)

	Model 1		*Model 2*		*Model 3*	
	B	**S.E.**	***B***	**S.E.**	***B***	**S.E.**
Percentage of Relative Gross-Pay	-0.03	0.02	-0.03	0.03		
Percentage of Relative Gross-Pay Squared	0.00	0.00	0.00	0.00		
Couple's Total Earnings (Gross-Pay of Respondent + Gross-Pay of Respondent's Partner) (in 1000s of £)	-0.12	0.11				
Gross-Pay of Respondent (in 1000s of £)			-0.18	0.28	-0.26	0.26
Gross-Pay of Respondent's Partner (in 1000s of £)			-0.07	0.15	0.02	0.10
Number of Hours Normally Worked Per Week by Respondent	-0.13 ***	0.02	-0.13 ***	0.02	-0.14 ***	0.01
Number of Hours Normally Worked Per Week by Respondent's Partner	0.01	0.01	0.01	0.01	0.01	0.01
Respondent's Home is Owned Outright or Owned with Mortgage by One or More Household Members (Ref. Cat. is the Home is Rented)	-0.22	0.41	-0.24	0.40	-0.27	0.40
Respondent's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-0.98	0.57	-0.97	0.57	-1.02	0.57
A Level / O Level	-0.64	0.52	-0.64	0.51	-0.65	0.51
Respondent's Partner's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-0.60	0.45	-0.63	0.44	-0.66	0.45
A Level / O Level	0.18	0.42	0.17	0.42	0.12	0.42
Gender Ideology Scale	-0.54 *	0.22	-0.54 *	0.22	-0.54	0.22
Age Group (ref. cat. is 25 years or younger) :						
26 to 30 years	1.70 ***	0.29	1.70 ***	0.29	1.69	0.30
31 to 35 years	3.14 ***	0.36	3.15 ***	0.36	3.15	0.36
36 to 40 years	4.75 ***	0.40	4.78 ***	0.39	4.80	0.39
over 40 years	7.67 ***	0.45	7.68 ***	0.44	7.66	0.44
Number of Dependent Children	1.02 ***	0.26	1.02 ***	0.27	1.02	0.27
One or More Household Children Aged 0 to 4 Years Old (Ref. Cat. is No Household children Aged 0 to 4 years Old)	0.01	0.40	0.02	0.40	0.01	0.40
One or More Father(s) of either the Respondent or Her Partner (Ref. Cat. is No Father of Either the Respondent or Her Partner)	0.25	1.18	0.24	1.18	0.26	1.17
One or More Mother(s) of either the Respondent or Her Partner (Ref. Cat. is No Mother of Either the Respondent or Her Partner	-3.34 *	1.33	-3.32 *	1.33	-3.35	1.32
Year / BHPS Wave	-0.05	0.05	-0.06	0.05	-0.06	0.05
Constant	13.62 ***	1.04	13.50 ***	1.12	13.23	1.01
R^2	0.719		0.719		0.718	
Number of Cases	1008		1008		1008	
Number of Distinct Individuals	432		432		432	

Levels of statistical significance: * = p < .05; ** = p < .01; *** = p < .001

This dissimilarity in findings probably arises from differences in (non-marital) short-term versus long-term marital bargaining. Since marriage is a long-term, ideally permanent, institution this allows for greater personal investments such as those described in the autonomy hypothesis. In contrast, the bargaining processes (first outlined in Chapter 1) that relative resources theory describes, better reflect short-term relationships such as non-marital short-term cohabitation, which may be more transactional in nature as they are often not seen as permanent as marriage.

Table 3-4 uses relationship information from subsequent waves to condition on the future to study the association between women's domestic labour time and earnings during pre-marital cohabitation. If a female cohabitant lives with her partner and in the subsequent year she marries that person, then this case becomes part of the analysis in Table 3-4. On the other hand, if a female cohabitant lives with her partner and in the following year she is single (defined as not living in any type of co-residential union), or she is living with someone else then she is excluded from the analysis. In this way, using future marital status information, the groups of cohabitants in Tables 3-3 and 3-4 are opposites.

There are substantial differences between the results in Table 3-4 and those in Tables 3-1 and 3-3. Table 3-1 shows a statistically significant association between absolute earnings and married women's domestic labour time. In contrast, Table 3-3 shows an association between relative earnings and women’s housework time during non-marital short-term cohabitation. Table 3-4 differs from both Tables 3-1 and 3-3 as it does not show a statistically significant relationship between domestic labour and any kind of earnings (neither absolute or relative) for female pre-marital cohabitants.

Table 3-6. OLS Models Of Housework Time (In Usual Weekly Hours) For Female Premarital Cohabitants (Premarital Cohabitation Is Established Using Self-Reported Marital Intentions)

	Model 1		*Model 2*		*Model 3*	
	B	**S.E.**	***B***	**S.E.**	***B***	**S.E.**
Percentage of Relative Gross-Pay	0.05	0.06	0.05	0.07		
Percentage of Relative Gross-Pay Squared	0.00	0.00	0.00	0.00		
Couple's Total Earnings (Gross-Pay of Respondent + Gross-Pay of Respondent's Partner) (in 1000s of £)	-0.30	0.25				
Gross-Pay of Respondent (in 1000s of £)			-0.54	0.72	-0.74	0.63
Gross-Pay of Respondent's Partner (in 1000s of £)			-0.18	0.38	0.03	0.24
Number of Hours Normally Worked Per Week by Respondent	-0.12 **	0.04	-0.11 **	0.04	-0.09 *	0.04
Number of Hours Normally Worked Per Week by Respondent's Partner	-0.03	0.04	-0.03	0.04	0.00	0.03
Respondent's Home is Owned Outright or Owned with Mortgage by One or More Household Members (Ref. Cat. is the Home is Rented)	0.90	0.82	0.89	0.82	0.88	0.82
Respondent's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-2.17	1.30	-2.10	1.30	-2.06	1.30
A Level / O Level	-1.22	1.36	-1.18	1.35	-1.05	1.37
Respondent's Partner's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-1.57	1.18	-1.56	1.18	-1.42	1.19
A Level / O Level	-1.26	1.16	-1.26	1.16	-1.11	1.16
Gender Ideology Scale	-1.20	0.66	-1.20	0.66	-1.20	0.66
Age Group (ref. cat. is 25 years or younger) :						
26 to 30 years	1.02	0.88	1.05	0.87	1.07	0.87
31 to 35 years	2.41	1.34	2.46	1.37	2.39	1.38
36 to 40 years	-0.05	1.94	-0.04	1.94	-0.03	1.93
over 40 years	4.63 **	1.48	4.69 **	1.48	4.68 **	1.48
Number of Dependent Children	2.40 **	0.81	2.37 **	0.82	2.39 **	0.83
One or More Household Children Aged 0 to 4 Years Old (Ref. Cat. is No Household children Aged 0 to 4 years Old)	2.44	1.41	2.46	1.42	2.53	1.43
One or More Father(s) of either the Respondent or Her Partner (Ref. Cat. is No Father of Either the Respondent or Her Partner)	-3.19 *	1.35	-3.21 *	1.36	-3.50 *	1.41
One or More Mother(s) of either the Respondent or Her Partner (Ref. Cat. is No Mother of Either the Respondent or Her Partner	0.73	1.59	0.77	1.59	1.04	1.63
Year / BHPS Wave	-0.08	0.10	-0.07	0.10	-0.07	0.10
Constant	20.65 ***	3.24	20.28 ***	3.62	18.97 ***	3.26
R^2	0.299		0.299		0.295	
Number of Cases / Distinct Individuals	674		674		674	

Levels of statistical significance: * = p < .05; ** = p < .01; *** = p < .001

Table 3-5 applies the Kan-Pudney calibration to the same type of pre-marital cohabitants in Table 3-4. Performing this adjustment in Table 3-5 provides substantively similar results to when domestic labour is measured using usual weekly housework hours in Table 3-4 because both analyses do not find a statistically significant association between female earnings (either absolute or relative) and domestic labour during pre-marital cohabitation. Therefore, the results in Table 3-3 and 3-4 (including those in Table 3-5 following the calibration) suggest that the association between relative earnings and housework differs during various cohabitation types.

3.4 Investing for the Future - A Closer Look at Pre-Marital Cohabitation

There are several different ways of defining pre-marital cohabitation. Table 3-4 uses the longitudinal nature of the BHPS data to define pre-marital cohabitation using future marital status information. Another approach to defining pre-marital cohabitation is to use present relationship intentions. The BHPS asks cohabitants about their marital intentions for their current relationship three times, in waves H, M and R. The analysis in Table 3-6 includes only those cohabitants who respond to these questions that they are either "planning to marry" their

Table 3-7. Relationship Intentions During Cohabitation
For Relationships That Transition To Marriage[1]

	Year(s) Before Marriage		
Intentions During Cohabitation	1	2	3 or more
Planning to Marry	81.25	45.59	14.75
Probably will Marry	12.50	42.65	61.48
Non-Marital Intentions[2]	6.25	11.76	23.77

[1] Columns are percentages of total for each year.
[2] Non-Marital Intentions during cohabitation include those that want to "just live together" and those that have "no thought to the future".

current partners or that they will "probably marry" their current partners. Hence, Table 3-6 uses responses about wanting to get married to create the pre-marital cohabitation category. There is a statistically significant association between these marital intentions and getting married. One year before getting married 81.25% of cohabitants state that they are planning to marry their current partner, 12.5% state that they will probably marry their current partner, and only 6.25% have other non-marital intentions (see Table 3-7). Moreover, the vast majority of cohabitants share the same marital plans as their partner in that both state that they want to marry each other or both declare that they do not plan to marry their current partner. Thus, the results in Table 3-6 include only respondents who self-classify as living in pre-marital cohabitation. The results in Tables 3-4 and 3-6 are similar in that neither relative, nor total earnings are statistically significant in either of these charts.

3.5 Chapter Summary

This dissertation examines the household division of labour during different types of cohabitation - this chapter focuses on pre-marital and non-marital short-term cohabitation. The analysis in Table 3-1 shows that there is a stronger association between married women's total, rather than relative, earnings and their domestic labour time. These finding support Gupta's (2007) autonomy hypothesis only during marriage.

However, the analysis in this chapter of the household division of labour during short-term cohabitation does not support the autonomy hypothesis. Table 3-3 shows that there is a statistically significant correlation between greater women's relative earnings and lower women's domestic labour time during non-marital short-term cohabitation. In contrast, Table 3-4 shows that there is no significant relationship between neither total nor women's relative

earnings and women's domestic labour during pre-marital cohabitation. These results suggest not only that the correlation between earnings and women's housework differs between marriage and cohabitation but also that the association between earnings and housework also depends on the kind of cohabitation – whether it is pre-marital or short-term.

These findings suggest that a multifaceted approach geared toward different relationship types (pre-marital cohabitation, non-marital short-term cohabitation and marriage) may be necessary when addressing inequalities in the household division of labour in the United Kingdom. This chapter finds a relationship between married women's total earnings (Table 3-1) and their domestic labour. But, the present chapter also shows a relationship between relative, rather than total, women's earnings and less women's domestic labour time during short-term cohabitation. This difference in household division of labour findings between these short-term and long-term relationships is logical considering that marriage is described a permanent institution which allows for greater personal investments such as those described in the autonomy hypothesis as well as more time to establish these household dynamics. In contrast, the bargaining processes (first outlined in Chapter 1), that relative resources theory describes, more closely resembles short-term relationships such as non-marital short-term cohabitation, which may better foster a transactional relationship dynamic.

The primary focus of Chapter 3 is on the household division of labour during pre-marital cohabitation, which is why the following chapter examines how these same dynamics impact the transition to marriage for couples that choose to marry (the first section of Chapter 1 provides more in-depth reasoning for the order of the three substantive chapters).

Chapter 4: Domestic Labour during the Transition to Marriage

This chapter examines the transition from pre-marital cohabitation to marriage. Many of the same explanatory variables are common to all substantive chapters. Specifically, this chapter also focuses on several key earnings and employment explanatory variables, which allow for the comparison of relative resources theory with the autonomy hypothesis during the transition to marriage.

Prior research shows that employment status and financial security of both partners are important in this transition (Gibson-Davis, Edin and McLanahan, 2005; Gibson-Davis, 2009; Schneider, 2015). Research consistently finds that men's stable employment increases the likelihood of marriage (Xie et al., 2003; Smock, Manning and Porter, 2005, Schneider, 2015). In contrast, past research examining the role of women's employment during the transition from cohabitation to marriage has mixed finding: some research finds a negative association (Schultz, 1994; Lloyd and South, 1996), some research does not find a statistically significant association (Manning and Smock, 1995; Sassler and Schoen, 1999; Xie et al., 2003) and other research finds a positive relationship (Gassman-Pines and Yoshikawa, 2006; Mamum, 2008; Schneider, 2015). More recent studies, however, suggest that stable employment of both partners increases the likelihood of cohabitation transitioning to marriage (Gassman-Pines and Yoshikawa, 2006; Mamum, 2008; Schneider, 2015). While there appears to be a change both in gender ideologies and the financial circumstances that many couples face, couples who follow the cohabitation to marriage path might make different choices to those who marry from the outset. As research has as yet seldom examined the distribution of tasks in these couples separately from married couples, this chapter explores new research ground.

A generational gender ideology shift in the importance of women's employment during marriage and cohabitation has occurred. For instance, Sweeney (2002) finds a positive association between women's earnings and the transition to marriage for women who are born in later cohorts (the 1960s) but not for those born in earlier ones (the 1950s). Moreover, research that examines historically recent cohorts (Esping-Andersen and Billari, 2015) is more likely to find a positive association between women's employment and the transition to marriage than research examining more historically distant cohorts.

In the Western world, dual income families are often a financial necessity. The world once described by Becker (1964; 1981) that encourages couples to specialise in either paid or domestic labour, for men and women respectively, is gone. The economic reality for most couples is that both partners need to work, which makes working women more not less desirable prospective spouses or partners for men (Moffitt, 2000; Gassman-Pines and Yoshikawa, 2006; Mamum, 2008; Schneider, 2015). For example, Mamum's (2008) study of participation in the (American) Job Corps program finds that financially disadvantaged women who find employment through this program are more likely to marry than unemployed women. Similarly, Gassman-Pines and Yoshikawa (2006) find that working both exposes women to a larger pool of potential spouses (at work), and employment makes women more desirable mates.

Past research shows that employment and earnings are important in the transition to marriage. Cherlin (2009) argues that a societal change has occurred from marriage being a "cornerstone" to it being a "capstone". Entry into marriage, Cherlin (2009) argues, is no longer a capstone or stamp of entry into adulthood rather it is a signal that the two people who are about to get married are already financially successful adults. For many cohabitants, the financial security of both partners is a requirement for entry into marriage. In an article entitled

"Everything's There Except Money": How Money Shapes Decisions to Marry Among Cohabitors" Smock, Manning and Porter (2005) examine the importance of money in the transition from cohabitation to marriage. In their qualitative study of over a hundred current and former cohabitants, the authors find that there are a variety of reasons for why employment is significant in the decision to marry (Smock, Manning and Porter, 2005). Some of these reasons include: (1) money is a signal of personal and relationship stability; (2) the conflict resulting from a lack of money hinders cohabitation transitioning to marriage; (3) an expensive wedding ceremony is a prerequisite of marriage (Smock, Manning and Porter, 2005). Overall past research shows that adverse financial circumstances (such as in the form of low and or part-time pay, job instability and so on) have a modest but consistently negative association with the likelihood of marriage (Lichter, McLaughlin and Ribar, 2002; Wilcox, Wolfinger and Stokes, 2015).

Paid employment is not isolated from other work which is why it is important to consider the interaction between paid and unpaid domestic work when examining the transition from cohabitation to marriage. Relative resources theory predicts a negative association between employment income and housework within couples. In the present chapter, I expect that the interaction between employment and domestic labour will also remain important in the transition from cohabitation to marriage.

4.1 Explaining the Transition to Marriage Using Key Variables from Relative Resources Theory and the Autonomy Hypothesis

The following section describes the statistical models that are part of this chapter and it provides a justification for their sequence. The previous chapter modifies and builds upon Gupta's (2007) analytic strategy to examine the association between earnings and domestic labour by comparing relative resources theory and the autonomy hypothesis during pre-marital and non-marital short-term cohabitation (see section 3.3). The goal of the present chapter is to examine these processes during the transition to marriage by using an analytic strategy that incorporates many of the same key variables (in terms of relative and absolute earnings) as the previous chapter, however, with several important exceptions. As in the previous chapter I am again using Gupta's analytic strategy, however, now I am modifying it further by incorporating Event History Analysis (see next section) which means that usual weekly housework hours cannot be a dependent variable (as it is in Chapters 3 and 5). The analysis in the other two substantive chapters examine how various household economic factors (i.e. absolute and relative earnings) impact usual weekly housework hours (the dependent variable) during different types of cohabitation. In comparison, the Event History Analysis in this chapter examines how various factors, namely key financial variables, such as relative and absolute earnings, alter the likelihood of a cohabitating couple entering marriage. For these reasons, the present chapter incorporates the same household earnings variables (represented by letters A and B, below) but in addition this analysis also includes usual weekly housework hours (represented by letter D, below) as an explanatory variable so as to include both types of work (paid employment and domestic labour), as well as an interaction variable, in the analysis. The results tables in this chapter contain the following variables:

Model 1:

A. Women's Percentage of the Couple's Gross Pay
(called Percentage of the Relative Gross Pay in all tables)
B. Couple's Total Earnings which is the
Gross Pay of the Respondent + Gross Pay of the Respondent's Partner
C. Other control variables (see section 2.2)
D. Usual Weekly Housework Hours (explanatory variable in current chapter; dependent variable in Chapters 3 and 5)

Model 2:

A. Women's Percentage of the Couple's Gross Pay
B1. Gross Pay of the Respondent
B2. Gross Pay of the Respondent's Partner
C. Other control variables
D. Usual Weekly Housework Hours (explanatory variable in current chapter; dependent variable in Chapters 3 and 5)

Model 3:

B1. Gross Pay of the Respondent
B2. Gross Pay of the Respondent's Partner
C. Other control variables
D. Usual Weekly Housework Hours (explanatory variable in current chapter; dependent variable in Chapters 3 and 5)

4.2 Event History Analysis of Domestic Labour During the Transition to Marriage

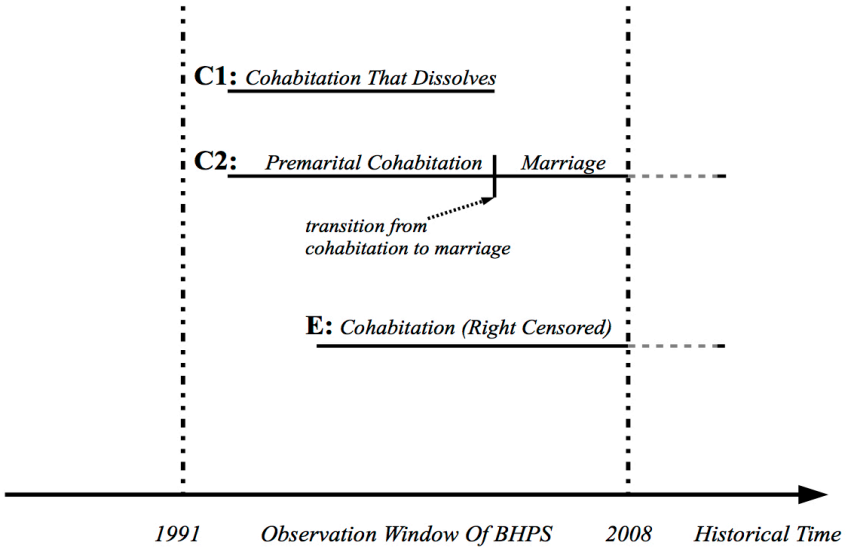
This chapter utilises Event History Analysis (EHA) to examine the household division of labour during the transition from cohabitation to marriage. Early forms of event history analysis date back centuries, but model designs used today have origins in the late 1960s (Allison, 2014), with the introduction of new techniques such as Cox proportional hazard regression (Cox, 1972). Event history analysis techniques use longitudinal data to examine social, demographic or natural science phenomenon over the observation period or "window".

Censoring is a common problem with longitudinal data. The observation window of any longitudinal data is finite, in the case of the BHPS 18 years. Censoring means that certain, potentially valuable, information about particular cases is unknown because it occurs outside of

the observation period. In this chapter, which examines the household division of labour during the transition from cohabitation to marriage, the most important missing information due to censoring concerns relationship outcomes - does the cohabitation event that begins during the observation window of the BHPS but is censored, ends, becomes marriage or continues as long-term cohabitation? (Appendix 5 provides details about all possible types of censoring related to cohabitation in the BHPS).

There are numerous types of event history analysis (Allison, 2014). One of the earliest forms of this kind of analysis, which is still commonly used, is Cox proportional hazard regression (Cox, 1972). Cox regression can model event history data that fails due to one particular cause or ends due to censoring. However, Cox regression and other similar types of event history analysis are not suitable for modelling the transition from cohabitation to marriage because this kind of data has two distinct end points (marriage and the dissolution of the cohabitation). A couple's separation and transition to marriage both constitute the end of

Figure 4-1. Event History Analysis Of The BHPS



Notes: This table is a condensation and adaption of Figure 2.1.1 (p. 40) in Blossfeld, Golsch and Rohwer, (2009)

cohabitation but in qualitatively different ways. Figure 4-1 represents these two distinct endings to cohabitation in episodes C1 and C2, respectively. C1 is an event of cohabitation that begins after 1991 and dissolves before the end of the observation window in 2008. In contrast, C2 is a cohabitation event that also begins after 1991, but it transitions to marriage during the observation window. A couple's separation and transition to marriage both constitute the conclusion of cohabitation but in qualitatively different ways. Cox regression cannot include two distinct failure types (letters C1 and C2 in Figure 4-1) in the same analysis as well as censoring (letter E in Figure 4-1). Therefore, examining the transition from cohabitation to marriage requires a different kind of event history analysis, which allows for modelling two separate failures. One such type of analysis that fulfils these requirements is Competing Risks Analysis (Gutierrez, 2010).

Competing risks regression is a type of event history analysis commonly used in the study of the transition from cohabitation to marriage, in part, because of its ability to model survival data that has two or more distinct ("competing") outcomes/failures (Gabrielli and Hoem, 2010; Shaw, 2011; Brown, Bulanda and Lee, 2012). Appendix 6 describes in greater detail Fine and Gray's (1999) competing risks analysis, which is the type of competing risks event history analysis that this chapter uses.

Competing risks regression analysis is widely used when studying relationship transitions into and out of cohabitation (Gabrielli and Hoem, 2010; Shaw, 2011; Brown, Bulanda, and Lee, 2012). For example, Brown, Bulanda, and Lee (2012) use competing risks analysis to examine the transition into and out of cohabitation for Americans who are 50 years or older. These authors find that many older American couples choose to live together as an alternative to marriage (Brown, Bulanda, and Lee, 2012). Shaw (2011) also uses competing risks analysis to

Table 4-1. Competing Risks Analysis During Cohabitation That Transitions To Marriage (Failure Event) Or Ends (Competing Event), For Female Respondents

	Model 1		*Model 2*		*Model 3*	
	SHR	S.E.	SHR	S.E.	SHR	S.E.
Usual Weekly Housework Hours	1.00	0.01	1.00	0.01	1.00	0.01
Percentage Of Relative Gross-Pay	1.01	0.01	1.02	0.01		
Percentage Of Relative Gross-Pay Squared	1.00	0.00	1.00	0.00		
Couple's Total Earnings (Gross-Pay Of Respondent + Gross-Pay Of Respondent's Partner) (In 1000s Of £)	0.83 ***	0.04				
Gross-Pay Of Respondent (In 1000s Of £)			0.67 ***	0.07	0.72 ***	0.06
Gross-Pay Of Respondent's Partner (In 1000s Of £)			0.94	0.07	0.91	0.05
Number Of Hours Normally Worked Per Week By Respondent	1.01 *	0.01	1.01	0.01	1.01 ***	0.00
Number Of Hours Normally Worked Per Week By Respondent's Partner	1.01	0.01	1.01	0.01	1.01 *	0.00
Respondent's Home Is Owned Outright Or Owned With Mortgage By One Or More Household Member's (Ref. Cat. Is The Home Is Rented)	1.51 **	0.20	1.48 **	0.20	1.53 ***	0.20
Respondent's Highest Level Of Educational Attainment (Ref. Cat. Is None Of These Or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	1.16	0.17	1.18	0.17	1.17	0.17
A Level / O Level	0.98	0.13	0.96	0.13	0.98	0.13
Respondent's Partner's Highest Level Of Educational Attainment (Ref. Cat. Is None Of These Or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	1.42 *	0.22	1.41 *	0.22	1.44 *	0.22
A Level / O Level	1.16	0.16	1.16	0.16	1.17	0.16
Gender Ideology Scale	0.81 *	0.07	0.82 *	0.07	0.82 *	0.07
Age Group (Ref. Cat. Is 25 Years Or Younger) :						
26 To 30 years	1.30 *	0.16	1.31 *	0.16	1.32 *	0.16
31 To 35 years	0.86	0.14	0.89	0.14	0.87	0.14
36 To 40 years	0.78	0.15	0.78	0.15	0.78	0.15
Over 40 years	0.54 ***	0.10	0.55 ***	0.10	0.53 ***	0.10
Number Of Dependent Children	0.93	0.08	0.92	0.08	0.92	0.08
One Or More Household Children Aged 0 To 4 Years Old (Ref. Cat. Is No Household Children Aged 0 To 4 years Old)	0.96	0.15	0.96	0.15	0.96	0.15
One Or More Parents(s) Of Either Cohabitant (Ref. Cat. Is No Parent Of Either Cohabitant)	0.23 *	0.14	0.23 *	0.13	0.23 *	0.14
Total Observations:	1533		1533		1533	
Marriage ("Failure" Events):	576		576		576	
Cohabitation Dissolution W/O Marriage ("Competing" Events):	287		287		287	
Censored:	670		670		670	

Levels Of Statistical Significance: * = p < .05; ** = p < .01; *** = p < .001

examine labour force participation during the transition into and out of cohabitation in the United States. One of her central findings is that men's employment increases the likelihood of transitioning from cohabitation to marriage (Shaw, 2011). Competing risks analysis is also used to study regional differences in the transition from cohabitation to marriage in various countries. Gabrielli and Hoem (2010) find that cohabitation is much more common in northern and central Italy where these relationships also often transition to marriage.

Even though research examining the transition from cohabitation to marriage is becoming more common and diverse, domestic labour is still only rarely studied during these crucial life course transitions. For example, the allocation of domestic labour is not a control variable in any of the competing risks analyses in the three previously discussed articles which examine the transition from cohabitation to marriage (i.e. Gabrielli and Hoem, 2010; Shaw, 2011; Brown, Bulanda, and Lee, 2012).

4.3 The Multifaceted Relationship Between Employment and the Transition to Marriage

In this chapter, the results of the event history analysis take the form of subhazard ratios, which are exponentiated coefficients. The interpretation of these results is similar to those of Cox regression hazard ratios (Stata, 2012): a positive coefficient increases the subhazard and the entire Cumulative Incidence Function (CIF) (Stata, 2012). Conversely, a negative coefficient decreases the subhazard and the entire Cumulative Incidence Function (CIF) (Stata, 2012). Therefore, subhazard ratios that are greater than one represent an increase in the risk of the failure event happening (in this case marriage) and subhazard ratios that are smaller than one represent a decrease in the likelihood of the failure event happening. For example, the coefficient in Table 4-1 Model 1 for the 26 to 30-year-old age group is 1.30 ($p<0.05$). Thus, compared to

the reference category (25 years or younger) 26 to 30-year-olds are 30% (SHR = 1.30, 1.30 - 1 = 0.30) more likely to transition from cohabitation to marriage. Conversely, compared to the reference category (25 years or younger) cohabitants who are 40 years or older category are 46% (SHR = 0.54, 0.54 - 1 = -0.46) less likely to transition to marriage.

The results in Table 4-1 Model 1 show a negative correlation between a couple's total earnings and the likelihood of cohabitation transitioning to marriage. The analysis indicates that each additional thousand pounds earned by a couple per month corresponds to a reduction of 17% (SHR = 0.83, 0.83 - 1 = -0.17) in the likelihood of cohabitation transitioning to marriage. Table 4-1 Models 2 and 3, follow the analytic strategy first introduced in the previous chapter by breaking down the couple's total monthly earnings into their individual components: men's and women's gross pay. These two models indicate that there is a correlation only between women's (not men's) earnings and a reduced chance of cohabitation transitioning to marriage: each £1000 increase in gross monthly women's earnings correlates with a 33% (SHR = 0.67, 0.67 - 1 = -0.33) and 28% (SHR = 0.72, 0.72 - 1 = -0.28), decrease in cohabitation transitioning to marriage in Models 2 and 3, respectively. These findings are consistent with new home economics (Becker, 1981) which argues that there is an association between greater women's earnings and a decline in marriage. Even though some research shows that stable employment of both partners increases the likelihood of marriage (Gassman-Pines and Yoshikawa, 2006; Mamum, 2008; Schneider, 2015) – the results in Table 4-1 suggest the opposite. However, other coefficients in this same analysis support the idea that there is a correlation between financial stability and a greater likelihood of entering into marriage. Homeownership either in the form of a mortgage or outright ownership by at least one or by both of the cohabitants correlates with

Table 4-2. Competing Risks Analysis During Cohabitation That Transitions To Marriage (Failure Event) Or Ends (Competing Event) With Household Income Satisfaction Variable, For Female Respondents

	Model 1		*Model 2*		*Model 3*	
	SHR	S.E.	SHR	S.E.	SHR	S.E.
Usual Weekly Housework Hours	1.00	0.01	1.00	0.01	1.00	0.01
Percentage Of Relative Gross-Pay	1.00	0.01	1.01	0.01		
Percentage Of Relative Gross-Pay Squared	1.00	0.00	1.00	0.00		
Couple's Total Earnings (Gross-Pay Of Respondent + Gross-Pay Of Respondent's Partner) (In 1000s Of £)	0.79 ***	0.04				
Satisfaction With Household Income	1.22 ***	0.06	1.22 ***	0.06	1.23 ***	0.06
Gross-Pay Of Respondent (In 1000s Of £)			0.65 ***	0.08	0.65 ***	0.06
Gross-Pay Of Respondent's Partner (In 1000s Of £)			0.89	0.08	0.89	0.06
Number Of Hours Normally Worked Per Week By Respondent	1.02 **	0.01	1.02 **	0.01	1.02 ***	0.01
Number Of Hours Normally Worked Per Week By Respondent's Partner	1.02	0.01	1.02 *	0.01	1.02 **	0.01
Respondent's Home Is Owned Outright Or Owned With Mortgage By One Or More Household Member's (Ref. Cat. Is The Home Is Rented)	1.48 *	0.24	1.44 *	0.23	1.45 *	0.23
Respondent's Highest Level Of Educational Attainment (Ref. Cat. Is None Of These Or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	1.32	0.23	1.33	0.23	1.32	0.23
A Level / O Level	0.96	0.16	0.94	0.15	0.95	0.15
Respondent's Partner's Highest Level Of Educational Attainment (Ref. Cat. Is None Of These Or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	1.31	0.25	1.31	0.25	1.32	0.24
A Level / O Level	1.10	0.18	1.11	0.18	1.12	0.18
Gender Ideology Scale	0.77 **	0.08	0.77 *	0.08	0.78 *	0.08
Age Group (Ref. Cat. Is 25 Years Or Younger) :						
26 To 30 years	1.13	0.16	1.14	0.16	1.15	0.16
31 To 35 years	0.71	0.14	0.73	0.14	0.72	0.14
36 To 40 years	0.59 *	0.13	0.60 *	0.13	0.60 *	0.13
Over 40 years	0.51 ***	0.11	0.52 **	0.11	0.52 **	0.11
Number Of Dependent Children	0.98	0.10	0.97	0.09	0.98	0.09
One Or More Household Children Aged 0 To 4 Years Old (Ref. Cat. Is No Household Children Aged 0 To 4 years Old)	1.04	0.19	1.04	0.19	1.04	0.19
One Or More Parents(s) Of Either Cohabitant (Ref. Cat. Is No Parent Of Either Cohabitant)	0.23 *	0.15	0.22 *	0.15	0.23 *	0.15
Total Observations:	1182		1182		1182	
Marriage ("Failure" Events):	418		418		418	
Cohabitation Dissolution W/O Marriage ("Competing" Events):	198		198		198	
Censored:	566		566		566	

a 51% (SHR = 1.51, 1.51 - 1 = 0.51) increase in the likelihood of marriage in Table 4-1 Model 1.

Homeownership can be a better predictor of long-term financial stability than gross monthly earnings, which is a snapshot of present income. Homeownership assumes long-term financial stability. Being able to secure a home loan requires not only a sizeable down payment but also proof of previous and the potential for future long-term financial stability presented to the building society or bank or other mortgage lenders. Moreover, a "cash" (i.e. without a loan) home purchase often assumes even greater financial stability because of the significant capital investment this requires.

Attitudinal variables reinforce the importance of earnings and employment in the transition from cohabitation to marriage (Gassman-Pines and Yoshikawa, 2006; Mamum, 2008; Schneider, 2015). Table 4-2 includes the variable called "satisfaction with household income", in which respondents are asked to rate on a scale from one (the lowest possible response) to seven (the highest possible response) their satisfaction with their household's total income. Unlike other attitudinal variables, such as satisfaction with a spouse/partner, which show very little variability (more than half of respondents are completely satisfied with their partner during cohabitation – a score of seven - and 80% give a score of six or more), there is much more variability in the satisfaction with household income during cohabitation (the mean score is four, which is not satisfied / dissatisfied, and only 6% of cohabitants state that they are completely satisfied with their household income). Moreover, even though there is a statistically significant association between household earnings and satisfaction with household income, this relationship is by no means perfect as many wealthier cohabitants are not satisfied with their household income (less than 10% of cohabitants who are in the top quarter of earnings are

Table 4-3. Competing Risks Analysis During Cohabitation That Transitions To Marriage (Failure Event) Or Ends (Competing Event) With Number of Hours Normally Worked Per Week Groups Variable, For Female Respondents

	SHR	S.E.
Usual Weekly Housework Hours	1.00	0.01
Percentage Of Relative Gross-Pay	1.00	0.01
Percentage Of Relative Gross-Pay Squared	1.00	0.00
Couple's Total Earnings (Gross-Pay Of Respondent + Gross-Pay Of Respondent's Partner) (In 1000s Of £)	0.83 ***	0.04
Number Of Hours Normally Worked Per Week By Respondent (Ref. Cat. Is Not Employed)		
Less Than 35 Hours	1.39	0.30
35 To 45 Hours	1.89 **	0.46
More Than 45 Hours	1.31	0.49
Number Of Hours Normally Worked Per Week By Respondent's Partner	1.01	0.01
Respondent's Home Is Owned Outright Or Owned With Mortgage By One Or More Household Member's (Ref. Cat. Is The Home Is Rented)	1.50 **	0.20
Respondent's Highest Level Of Educational Attainment (Ref. Cat. Is None Of These Or CSE) :		
Higher Degree / 1st Degree / HND, HNC, Teaching	1.16	0.17
A Level / O Level	0.95	0.12
Respondent's Partner's Highest Level Of Educational Attainment (Ref. Cat. Is None Of These Or CSE) :		
Higher Degree / 1st Degree / HND, HNC, Teaching	1.40 *	0.22
A Level / O Level	1.16	0.16
Gender Ideology Scale	0.82 *	0.07
Age Group (Ref. Cat. Is 25 Years Or Younger) :		
26 To 30 years	1.28 *	0.15
31 To 35 years	0.87	0.14
36 To 40 years	0.78	0.15
Over 40 years	0.55 **	0.10
Number Of Dependent Children	0.93	0.08
One Or More Household Children Aged 0 To 4 Years Old (Ref. Cat. Is No Household Children Aged 0 To 4 years Old)	1.02	0.16
One Or More Parents(s) Of Either Cohabitant (Ref. Cat. Is No Parent Of Either Cohabitant)	0.24 *	0.14

Total Observations:	1542
Marriage ("Failure" Events):	580
Cohabitation Dissolution W/O Marriage ("Competing" Events):	289
Censored:	673

Levels Of Statistical Significance: * = $p < .05$; ** = $p < .01$; *** = $p < .001$

completely satisfied with their household income) while some cohabitants in lower earning households are satisfied with their household income (more than a third of cohabitants in the bottom quarter of household earnings give a household income satisfaction score of 5 or more). The analysis in Table 4-2 shows that a one point increase in the satisfaction of female cohabitants with their household income increases the chance of marrying their current partner by 22% (SHR = 1.22, 1.22 - 1 = 0.22). This strong statistical association remains even after controlling for other attitudinal measures such as satisfaction with partner. These findings show that how total earnings are perceived matters significantly in helping explain these transitions.

The gender ideology scale depicts another important attitudinal measure. The gender ideology scale is present in all statistical models in this dissertation (see also section 2.2 and Appendix 3). Gender ideology may be a significant factor contributing to how domestic labour is divided. In all of the event history analysis results presented in the current chapter (these include Tables 4-1, 4-2, 4-3 and 4-4) there is a correlation between the gender ideology score of female cohabitants and the likelihood of their relationship leading to marriage. In all statistical models in this chapter a one point change (on a scale of one to five) towards more egalitarian gender ideologies correlates with a decrease of about one-fifth in the likelihood of marriage. In other words, female cohabitants with more egalitarian gender ideologies are less likely to marry. For these reasons, even though gender ideology is not the primary focus of this dissertation, it is still an important control variable in the analysis.

Even though the British government does not currently have a formal definition of what constitutes part-time and full-time employment (British Government Website, 2013), it is important to differentiate between these two distinct types of labour force participation when

Table 4-4. Competing Risks Analysis During Cohabitation That Transitions To Marriage (Failure Event) Or Ends (Competing Event) With Employment As A Binary Variable, For Female Respondents

	Model 1		*Model 2*	
	SHR	S.E.	SHR	S.E.
Usual Weekly Housework Hours	1.01	0.01	1.02 **	0.01
Employed (Ref. Cat. Is Not Employed)	1.55 ***	0.20	2.18 ***	0.43
Usual Weekly Housework Hours X Employed (Interaction Term) (Ref. Cat. Is Not Employed)			0.98 *	0.01
Respondent's Partner Is Employed (Ref. Cat. Is Respondent's Partner Is Not Employed)	1.63 **	0.31	1.67 **	0.31
Couple's Total Earnings (Gross-Pay Of Respondent	0.89 ***	0.03	0.89 ***	0.03
Respondent's Home Is Owned Outright Or Owned With Mortgage By One Or More Household Member's (Ref. Cat. Is The Home Is Rented)	1.46 ***	0.17	1.46 ***	0.17
Respondent's Highest Level Of Educational Attainment (Ref. Cat. Is None Of These Or CSE) :				
Higher Degree / 1st Degree / HND, HNC, Teaching	1.07	0.15	1.07	0.15
A Level / O Level	0.92	0.11	0.92	0.11
Respondent's Partner's Highest Level Of Educational Attainment (Ref. Cat. Is None Of These Or CSE) :				
Higher Degree / 1st Degree / HND, HNC, Teaching	1.29	0.18	1.27	0.17
A Level / O Level	1.08	0.13	1.10	0.13
Gender Ideology Scale	0.82 *	0.07	0.81 **	0.06
Age Group (Ref. Cat. Is 25 Years Or Younger) :				
26 To 30 years	1.29 *	0.14	1.27 *	0.14
31 To 35 years	0.90	0.13	0.91	0.13
36 To 40 years	0.84	0.15	0.85	0.15
Over 40 years	0.48 ***	0.08	0.50 ***	0.08
Number Of Dependent Children	0.86	0.07	0.86	0.07
One Or More Household Children Aged 0 To 4 Years Old (Ref. Cat. Is No Household Children Aged 0 To 4 years Old)	1.12	0.16	1.16	0.17
One Or More Parents(s) Of Either Cohabitant (Ref. Cat. Is No Parent Of Either Cohabitant)	0.21 **	0.12	0.20 **	0.12
Total Observations:	1956		1956	
Marriage ("Failure" Events):	709		709	
Cohabitation Dissolution W/O Marriage ("Competing" Events):	392		392	
Censored:	855		855	

Levels Of Statistical Significance: * = $p < .05$; ** = $p < .01$; *** = $p < .001$

examining their potential association with the transition to marriage. Nearly half of all employed British women work part-time (Dulk, Peper, Sadar and Lewis, 2011). Many British mothers switch from full-time to part-time employment work because of a lack of affordable childcare (Dulk, Peper, Sadar and Lewis, 2011).

Table 4-3 introduces women's employment as a variable separated into three categories: 1 to 34 hours per week, 35 to 45 hours per week and more than 45 hours. There is no statistically significant association between part-time women's employment (defined here as regularly working 1 to 34 hours per week) and the likelihood of transitioning from cohabitation to marriage. In contrast, there is a statistically significant correlation between full-time women's employment (defined here as regularly working 35 to 45 hours per week) and a greater likelihood of transitioning from cohabitation to marriage. In the analysis there is also a significant relationship between the number of hours regularly worked per week (i.e. the continuous variable in Tables 4-1 and 4-2) and a greater chance of marriage. These findings are consistent with previously reviewed research which finds an association between women's employment and a greater likelihood of marriage because working women are more desirable spouses (Gassman-Pines and Yoshikawa, 2006).

Table 4-4 quantifies work using a binary variable, instead of the continuous earnings variables in Tables 4-1 and 4-2 and the categorical variable in Table 4-3. Table 4-4 shows a significant relationship between women’s and men’s employment and a greater chance of marriage when work is measured using a binary variable which distinguishes those who are working from those who are not. Table 4-4 Model 1 shows that cohabitation is 55% (SHR = 1.55, 1.55 - 1 = 0.55) and 63% (SHR = 1.63, 1.63 - 1 = 0.63) more likely to lead to marriage when female and male cohabitants are working, respectively.

Paid employment and domestic labour do not occur in isolation from each other. Working more hours leaves less time, physical energy and or desire for domestic labour. Moreover, working more and potentially earning more also leads to greater bargaining power to limit or decrease domestic labour, as relative resources theory proposes. This relationship between paid employment and domestic labour makes it necessary to account for this interaction in the analysis of the transition from cohabitation to marriage in this chapter. For these reasons, Table 4-4 Model 2 includes an interaction term between labour force participation and domestic labour time. Unlike other interaction effects that can be difficult to interpret such as those that interact two continuous variables, the interpretation of the interaction between the variables "Employed" and "Usual Weekly Housework Hours" is straightforward because labour force participation (i.e. the "Employed" variable) is binary – a person is either employed or not employed – and domestic labour (i.e. Usual Weekly Housework Hours) is continuous. The interaction of a binary variable and a continuous variable is relatively straightforward. This interaction effect is included in Table 4-4 Model 2 which shows that there is a 2% (SHR = 0.98, 0.98 - 1 = -0.02) smaller chance of cohabitation leading to marriage for each hour of weekly domestic labour only when female cohabitants are employed - this represents the vast majority of women living in cohabitation. This statistically significant interaction effect is an important finding because most female cohabitants are employed. In conclusion, the previous section, which describes Table 4-4 Model 2, shows that an increase in the domestic labour of employed female cohabitants decreases the chance of them marrying their current partners by 2%.

4.4 Chapter Summary

The central aim of this dissertation is to study the household dynamics during various types of cohabitation in the United Kingdom. A goal of this chapter is to examine these dynamics within the transition from cohabitation to marriage. This is an important area of research because the vast majority of individuals in the United Kingdom now live with a partner outside of marriage at least once, but often several times, during their lives (Beaujouan and Bhrolcháin, 2011). Since most of these cohabitants want to and do in fact marry (Ermisch, 2000, Ermisch, 2005; Nazio and Saraceno, 2013; Berrington and Stone, 2015) it is essential to understand the dynamics that facilitate these transitions. The present chapter examines the household division of labour within these transitions in the United Kingdom, something yet to be fully studied until now.

This chapter shows that employment/income is important in the transition from cohabitation to marriage but that it is also multidimensional. This chapter supports previous research that labour force participation and earnings impact the likelihood of marriage (Gibson-Davis, Edin and McLanahan, 2005; Gibson-Davis, 2009; Schneider, 2015). Moreover, this chapter finds an interaction effect between domestic labour and employment in the transition to marriage. However, this chapter also argues that the impact of employment on the transition between cohabitation and marriage needs to be explored in other ways, such as with satisfaction with household income. The findings show that satisfaction with income is an important indicator of marriage but, importantly, higher earnings do not necessarily imply greater satisfaction.

Chapter 5: Domestic Labour during Long-Term Cohabitation

The previous two chapters explore the household division of labour during pre-marital (path 3 in Figure 2-1) and non-marital short-term cohabitation (path 4 in Figure 2-1) and during the transition from cohabitation to marriage. The present chapter continues to examine the household division of labour during another infrequently studied group of cohabitants here referred to as "long-term", which is the sixth and final path in Figure 2-1. The definition of long-term cohabitation in this dissertation is a co-residential union that lasts at least five consecutive years without transitioning to marriage or dissolving. The present chapter builds on the findings of the previous two and again contrasts the usefulness of the relative resources theory and the autonomy hypothesis in explaining the results.

The majority of cohabitations in the United Kingdom transition to marriage within one or two years, but a sizeable and growing minority of couples remain in cohabitation for the long-term (Ermisch, 2000; Beaujouan and Bhrolcháin, 2011). Beaujouan and Bhrolcháin (2011) find that about a quarter of all cohabitants in the United Kingdom are still living with their partners after five years and, more than one in ten are still living together after ten years. Additionally, Haskey (2001) finds that the median duration of cohabitation has increased from two to three years between the mid-1980's and the late 1990's – currently it is four years (Kasearu and Kutsara, 2011). Therefore, even though long-term cohabitation is still relatively rare in the United Kingdom it is experienced by a sizeable and modestly growing minority. Cross-sectional research shows that the household division of labour is more egalitarian during cohabitation than in marriage (Batalova and Cohen, 2002; Baxter, 2005; Davis, Greenstein and Gerteisen Marks, 2007). However, this research only rarely focuses on long-term cohabitation. Moreover, cross-sectional analysis makes it impossible to establish causal processes because, by definition, all variables in this type of analysis occur during the same period or cross-section of time. The

results of cross-sectional analysis inherently cannot establish whether individuals with more egalitarian gender ideologies self-select into cohabitation or whether the institution of cohabitation itself contributes to a more egalitarian household division of labour. Since panel data like the BHPS examines individuals over time, analysis of this type of data allows for making causal inferences.

Household division of labour research that uses panel data sometimes explores life course transitions. Gupta (1999) and Baxter, Hewitt and Haynes (2008) find that when cohabitants marry this does not significantly alter either men's or women's domestic labour time. Gupta (1999) argues that the only kind of relationship change that matters for the household division of labour is from singlehood to any type of co-residential union, either marriage or cohabitation. He finds that when women's relationship status changes from singlehood to any form of co-residential union their housework time also increases (Gupta, 1999).

However, even though the majority of research finds that cohabitation is more egalitarian than marriage (Batalova and Cohen, 2002; Baxter, 2005; Davis, Greenstein and Gerteisen Marks, 2007), the household dynamics within long-term cohabitation are largely unknown. One important unresolved issue is whether the household division of labour during these relationships stays the same or whether it begins to resemble marriage over time by becoming more unequal. The goal of this chapter is to examine these dynamics during long-term cohabitation.

5.1 Fixed Effects Analysis of How Long-Term Cohabitants Share Domestic Labour

The primary aim of this thesis is to examine the household division of labour during cohabitation in the United Kingdom. One central goal is to explore the relationship between

(relative and total) earnings and domestic labour. The two key variables of interest in the analysis are relative and individual earnings because these two variables are central to relative resources theory and the autonomy hypothesis, respectively. Moreover, the other variables (namely, the gender ideology scale, age group, year, the presence of at least one child under the age of five, homeownership, hours usually worked per week and spouse's or partner's hours usually worked per week) are also mostly the same in the analysis in previous chapters and in the current one. Since both prior chapters examine the household division of labour during cohabitation the theoretical rationale for including the independent variables described in section 2.2, apply to all substantive chapters, including Chapter 5. However, there are some small but important differences between the independent variables in the current chapter and in the previous two.

In contrast with the previous chapters, I no longer control for the highest level of education attained in the fixed effects analysis. Most long-term cohabitants in the BHPS have completed their education before entering their relationship. As this variable does not vary across time for the period I observe it does not add to the findings.

Similarly, there is no change in the presence of the parents of cohabitants living in the same household as their adult children (who are living in long-term cohabitation). No parents moved in with their children who were living in long-term cohabitation during the observation period. Further, only four households include a long-term cohabiting couple residing with one or more of their parents. Since fixed effects analysis only models change in variables over time, where there is no change, there is no contribution to the findings.

The presence of at least one child under the age of five, however, is an important explanatory variable in the analysis of the household division of labour during long-term

cohabitation. The number of young dependent children living in households with two unwed parents increased substantially in recent years in the United Kingdom (Office for National Statistics, 2012b). According to the Office for National Statistics (2012b) 21 percent of births in England and Wales were registered to cohabiting couples in the year 1996, and this figure had increased to 31 percent in the year 2010. In comparison, the number of births registered to married parents decreased during this same period from 64 to 53 percent. Overall, nearly half of all cohabitations in the United Kingdom include at least one dependent child (Office for National Statistics, 2012b).

After the birth of a child, the household division of labour becomes less egalitarian with mothers becoming primarily responsible not only for the care of the child but also for the bulk of the housework (Berk, 1985; Hortacsu, 1999; Fox, 2001; Dribe and Stanfors, 2009; Craig and Mullan, 2010; Kühhirt, 2012; Grunow, Schulz and Blossfeld, 2012). Further, when the household division of labour is highly gendered for an extended period it often becomes internalized as natural (Berk, 1985; West and Zimmerman, 1987; Ferree, 1990; Greenstein, 2000; Bittman et al. 2003; Bianchi and Milkie, 2010; Grunow, Schulz and Blossfeld, 2012). Some longitudinal research supports the hypothesis that the household division of labour becomes less egalitarian over time when children are present – the following paragraph discusses this research.

Longitudinal research which explores changes over time in the household division of labour of parents is relatively uncommon (some exceptions: Sanchez and Thomson, 1997; Kluwer, Heesink and Van De Vliert, 2002; Baxter, Hewitt and Haynes, 2008). In a study of 293 Dutch couples during their first three years of marriage Kluwer, Heesink and Van De Vliert (2002) find that each year women increase their childcare and domestic labour time proportional

to their husbands. Sanchez and Thomson (1997) in their analysis of two waves of the (American) National Survey of Families and Households find that after the birth of a couple's first child, women's domestic labour time increases by two hours per week while they find no statistically significant change in men's domestic labour time. Similarly, Baxter, Hewitt and Haynes (2008), using two waves of the (Australian) Negotiating the Life Course survey, find that after the birth of a couple's first child women's housework increases by six hours per week while they also find no statistically significant change in men's housework time. In summary, these reviewed studies find that having children increases married women's housework time.

The analysis in this chapter includes an interaction term to test whether the allocation of domestic labour changes over time during cohabitation when young children are present. The central rationale for including the interaction term between year of the relationship and the presence of young children is that, as discussed in the two preceding paragraphs, it is well know that the birth of child leads to more domestic labour for women during marriage (Sanchez and Thomson, 1997; Kluwer, Heesink and Van De Vliert, 2002; Baxter, Hewitt and Haynes, 2008), however this has not been sufficiently studied during long-term cohabitation. Therefore, making use of the longitudinal nature of the BHPS the analysis in this chapter incorporates the interaction term between the duration of the relationship in years and the presence of one or more household children aged 0 to 4 years old.

There are two different ways to theorise this association between young children and domestic labour during long-term cohabitation. Since women perform less domestic work during cohabitation than in marriage (Batalova and Cohen, 2002; Baxter, 2005; Davis, Greenstein and Gerteisen Marks, 2007), one possibility is that they will continue to perform less domestic work during long-term cohabitation as well. Conversely, another possibility is that the

presence of young children during long-term cohabitation will lead to increased female domestic labour that is similar to marriage. The present chapter favours this possibility because recent research shows that female domestic labour increases following the birth of a child when some couples revert to a more traditional division of labour (Sanchez and Thomson, 1997; Kluwer, Heesink and Van De Vliert, 2002; Baxter, Hewitt and Haynes, 2008; Grunow, Schulz and Blossfeld, 2012).

The interpretation of the interaction effect between the duration of the relationship in years and the presence of one or more household children aged 0 to 4 years old is similar to the interpretation of the other interaction effects in the analysis in the previous chapter (i.e. Table 4-4 Model 2 includes an interaction term between labour force participation and domestic labour time) in that both include the interaction between a binary variable (in the present chapter this is the presence of one or more household children aged 0 to 4 years old, which can take the value of 1 if these young children are present or 0 if there are none) and a continuous variable (in the present chapter this is the duration of the relationship in years). For example, compared to those who do not have children aged 0 to 4, if the coefficient of this interaction effect has the value of one this means that women's domestic labour increases by one hour per week each year of long-term cohabitation when children aged 0 to 4 are living in the same household.

The present chapter continues to expand and build upon Gupta's (2007) analytic strategy (also see section 3.3). This analytical strategy nests three statistical models (next page) to compare the potential impact of earnings on domestic labour.

Model 1:

A. Women's Percentage of the Couple's Gross Pay
(called Percentage of the Relative Gross Pay in all tables)
B. Couple's Total Earnings (this is equal to the sum of the Gross Pay of the Respondent and the Gross Pay of the Respondent's Partner)
C. Other control variables (see section 2.2)

Model 2:

A. Women's Percentage of the Couple's Gross Pay
B1. Gross Pay of the Respondent
B2. Gross Pay of the Respondent's Partner
C. Other control variables

Model 3:

B1. Gross Pay of the Respondent
B2. Gross Pay of the Respondent's Partner
C. Other control variables

This chapter uses longitudinal analysis to examine these family dynamics during long-term cohabitation. Two of the most common longitudinal methods of analysis are fixed and random effects (Wooldridge, 2009). A Hausman test provides significant P-values ($P<0.001$) for the fixed effects models in the present chapter which means that random effects models are inconsistent and, consequently, fixed effects are the appropriate type of statistical analysis.

When deciding between random and fixed effects, just as, if not more, important as the Hausman test is the reason for performing the analysis. The central aim of this chapter is to examine changes in domestic labour over time during long-term cohabitation. Since fixed effects analysis is often considered the best method of studying changes over time (Wooldridge, 2009), this is another reason why this chapter uses it to examine changes over time in domestic labour during long-term cohabitation.

Table 5-1. Fixed Effects Models Of Usual Weekly Housework Hours For Long-Term Female Cohabitants

	Model 1		*Model 2*		*Model 3*	
	B	**S.E.**	***B***	**S.E.**	***B***	**S.E.**
Percentage Of Relative Gross-Pay	-0.04 *	0.02	-0.04 *	0.02		
Couple's Total Earnings (Gross-Pay Of Respondent + Gross-Pay Of Respondent's Partner) (In 1000s Of £)	-0.57	0.29				
Gross-Pay Of Respondent (In 1000s Of £)			-0.56	0.80	-1.12	0.76
Gross-Pay of Respondent's Partner (In 1000s Of £)			-0.57	0.37	-0.19	0.33
Number Of Hours Normally Worked Per Week By Respondent	-0.12 ***	0.03	-0.12 ***	0.04	-0.14 ***	0.03
Number Of Hours Normally Worked Per Week By Respondent's Partner	-0.01	0.02	-0.01	0.02	0.01	0.02
Respondent's Home Is Owned Outright Or Owned With Mortgage By One Or More Household Member's (Reference Category Is The Home Is Leased)	2.09 *	0.90	2.09 *	0.90	2.18 *	0.90
Gender Ideology Scale	-0.27	0.66	-0.27	0.66	-0.27	0.66
Age Group (Reference Category is 25 Years Or Younger):						
26 To 30 Years	-1.43	0.80	-1.43	0.81	-1.34	0.81
31 To 35 Years	-1.06	1.28	-1.06	1.29	-0.89	1.29
36 To 40 Years	-2.50	1.87	-2.51	1.88	-2.46	1.88
Over 40 Years	-2.48	3.94	-2.48	3.94	-2.59	3.95
Duration Of Relationship In Years	0.33 *	0.14	0.33 *	0.14	0.33 *	0.14
One Or More Household Children Aged 0 To 4 Years Old (Ref. Cat. Is No Household Children Aged 0 To 4 Years Old)	-0.02	1.23	-0.03	1.25	0.11	1.25
Duration of Relationship In Years X One Or More Household Children Aged 0 To 4 Years Old (Interaction Term) (Ref. Cat. Is No Household Children Aged 0 To 4 Years Old)	0.45 *	0.19	0.45 *	0.19	0.41 *	0.19
Constant	18.42 ***	2.63	18.43 ***	2.66	16.85 ***	2.57
Adjusted R^2	0.650		0.650		0.648	
Number Of Cases	1104		1104		1104	
Number Of Distinct Individuals	196		196		196	

Levels of statistical significance: * = p < .05; ** = p < .01; *** = p < .001

Table 5-2. Fixed Effects Models Of Usual Weekly Housework Hours For Long-Term Male Cohabitants

	Model 1		*Model 2*		*Model 3*	
	B	**S.E.**	***B***	**S.E.**	***B***	**S.E.**
Percentage Of Relative Gross-Pay	-0.04 ***	0.01	-0.05 ***	0.01		
Couple's Total Earnings (Gross-Pay Of Respondent + Gross-Pay Of Respondent's Partner) (In 1000s Of £)	-0.01	0.19				
Gross-Pay Of Respondent (In 1000s Of £)			0.13	0.27	-0.33	0.23
Gross-Pay of Respondent's Partner (In 1000s Of £)			-0.23	0.38	0.42	0.33
Number Of Hours Normally Worked Per Week By Respondent	-0.04 *	0.02	-0.03 *	0.02	-0.07 ***	0.01
Number Of Hours Normally Worked Per Week By Respondent's Partner	-0.01	0.02	-0.01	0.02	0.01	0.01
Respondent's Home Is Owned Outright Or Owned With Mortgage By One Or More Household Member's (Reference Category Is The Home Is Leased)	-0.32	0.44	-0.31	0.44	-0.31	0.44
Gender Ideology Scale	-0.32	0.34	-0.33	0.34	-0.34	0.34
Age Group (Reference Category is 25 Years Or Younger):						
26 To 30 Years	0.28	0.46	0.30	0.46	0.20	0.46
31 To 35 Years	0.61	0.69	0.63	0.69	0.59	0.70
36 To 40 Years	1.42	1.01	1.42	1.01	1.43	1.02
Over 40 Years	2.47	1.39	2.47	1.39	2.48	1.39
Duration Of Relationship In Years	-0.10	0.08	-0.10	0.08	-0.10	0.08
One Or More Household Children Aged 0 To 4 Years Old (Ref. Cat. Is No Household Children Aged 0 To 4 Years Old)	0.81	0.64	0.89	0.65	0.60	0.65
Duration of Relationship In Years X One Or More Household Children Aged 0 To 4 Years Old (Interaction Term) (Ref. Cat. Is No Household Children Aged 0 To 4 Years Old)	-0.13	0.11	-0.15	0.11	-0.08	0.11
Constant	10.71 ***	1.43	10.98 ***	1.48	8.67 ***	1.32
Adjusted R^2	0.485		0.485		0.479	
Number Of Cases	1112		1112		1112	
Number Of Distinct Individuals	188		188		188	

Levels of statistical significance: * = p < .05; ** = p < .01; *** = p < .001

5.2 Female Domestic Labour Time Increases during Long-Term Cohabitation

Table 5-1 shows the fixed effects analysis results for the domestic labour of long-term female cohabitants. These results are consistent with the predictions of relative resources theory and past research which hypothesizes a statistically significant correlation between relative household earnings and domestic work (Miller and Carlson, 2016). In Table 5-1, the percentage of the relative gross pay coefficient has the value -0.04 and is statistically significant in both models 1 and 2. Thus, a one percent increase in women's monthly earnings (proportional to her partner's monthly earnings) during long-term cohabitation correlates with two and a half fewer minutes in women's weekly domestic labour time.

Table 5-2 also shows a relationship between relative earnings and domestic labour for male cohabitants. Table 5-2 Model 1 shows that a one percent increase in male cohabitants' monthly earnings (proportional to his partner's monthly earnings) correlates with 0.04 hours or about two and a half minutes less weekly housework. Therefore, there is a relationship between relative earnings and domestic labour for both male and female cohabitants.

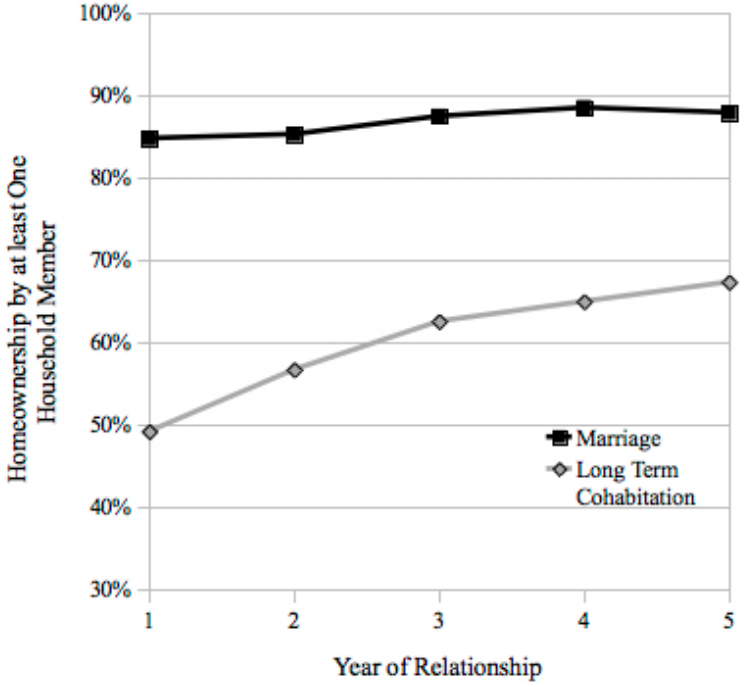
Conversely, the results presented in Tables 5-1 or 5-2 do not support Gupta's (2007) autonomy hypothesis because relative rather than absolute earnings are statistically significant in these two charts. According to the autonomy hypothesis, the women's household earnings coefficient in the analysis of domestic labour should be statistically significant. Neither women's nor men's earnings are statistically significant in Table 5-1 Models 2 and 3 which analyze earnings separately for each partner. Therefore, Table 5-1 does not support the autonomy hypothesis. Instead, the findings in this table are consistent with relative resources theory which argues that relative earning are much more important to the division of domestic labour than total women's income.

These findings are consistent with the results in the previous chapter (in Table 3-3, in particular) which also show a significant relationship between women's relative earnings but not women's total earnings and women's domestic labour time during non-marital short-term cohabitation. The results of the cross-sectional analysis in Chapter 3 of women's domestic labour during non-marital short-term cohabitation are similar to the longitudinal analysis of women's domestic labour during long-term cohabitation in that there is a statistically significant relationship between relative earnings and domestic labour in both of these analyses.

There are important differences between Tables 5-1 and 5-2 in other key explanatory variables. One such important difference is in the coefficient of duration of the relationship which is statistically significant for women but not for men. Women's domestic labour increases over time during long-term cohabitation while men's domestic labour time remains unchanged. Several life events occur frequently during long-term cohabitation that help explain this statistical increase in female domestic labour time: two such events are childbirth and the purchasing of a home both of which are staples of long-term British cohabitation.

Table 5-1 shows that women's usual weekly housework increases each year of long-term cohabitation by an additional half an hour if a young child is present – the interaction term between the duration of the relationship and the presence of one or more household children aged 0 to 4 years old has a coefficient of 0.45 (hours) in Table 5-1 Model 1. In contrast this same interaction term is not statistically significant in Table 5-2, which means the presence of young children does not alter men's domestic labour during long-term cohabitation.

Figure 5-1. Homeownership during the First Five Years of Long-Term Cohabitation and Marriage



During these long-term relationships, this change in women's domestic labour time occurs in parallel with changes in homeownership. The rate of homeownership is higher during marriage than in cohabitation because marriage is more strongly linked to financial, career and relationship stability (Clark, Deurloo and Dieleman, 1994; Clark and Huang, 2003; Grinstein-Weiss et al., 2011). Figure 5-1 shows that the rate of homeownership is very high from the onset of marriage and only increases slightly during the first five years[14] from 85% to 88%. In contrast, the rate of homeownership is much lower at the start of long-term cohabitation but it increases sharply over time from 49% in year one to 67% in year five. Prior research finds a significant

[14] Figure 5-1 shows the change in homeownership during the first five years of marriage because this chapter defines long-term cohabitation as a co-residential union that lasts at least five consecutive years. This figure also includes the change in homeownership during the first five years of marriage as a means of comparison to the first five years of long-term cohabitation.

Table 5-3. Fixed Effects Models Of Usual Weekly Housework Hours
For Married Women Who Cohabited With Their Husbands Before Marriage

	Model 1		*Model 2*		*Model 3*	
	B	**S.E.**	***B***	**S.E.**	***B***	**S.E.**
Percentage Of Relative Gross-Pay	-0.02 **	0.01	-0.02	0.01		
Couple's Total Earnings (Gross-Pay Of Respondent + Gross-Pay Of Respondent's Spouse) (In 1000s Of £)	-0.03	0.11				
Gross-Pay Of Respondent (In 1000s Of £)			-0.62 *	0.29	-0.75 **	0.28
Gross-Pay of Respondent's Spouse (In 1000s Of £)			0.08	0.12	0.17	0.11
Number Of Hours Normally Worked Per Week By Respondent	-0.16 ***	0.01	-0.15 ***	0.02	-0.16 ***	0.01
Number Of Hours Normally Worked Per Week By Respondent's Spouse	0.00	0.01	0.00	0.01	0.01	0.01
Respondent's Home Is Owned Outright Or Owned With Mortgage By One Or More Household Member's (Reference Category Is The Home Is Leased)	-1.13	0.60	-1.12	0.60	-1.12	0.60
Gender Ideology Scale	-0.74 *	0.30	-0.70 *	0.30	-0.70 *	0.30
Age Group (Reference Category is 25 Years Or Younger):						
26 To 30 Years	1.55 **	0.52	1.57 **	0.52	1.58 **	0.52
31 To 35 Years	2.73 ***	0.70	2.74 ***	0.70	2.76 ***	0.70
36 To 40 Years	2.99 ***	0.92	3.00 ***	0.92	3.01 ***	0.92
Over 40 Years	3.30 **	1.17	3.33 **	1.17	3.34 **	1.17
Duration Of Relationship In Years	-0.01	0.06	0.00	0.06	-0.01	0.06
One Or More Household Children Aged 0 To 4 Years Old (Ref. Cat. Is No Household Children Aged 0 To 4 Years Old)	1.56 **	0.52	1.63 **	0.52	1.62 **	0.52
Duration of Relationship In Years X One Or More Household Children Aged 0 To 4 Years Old (Interaction Term) (Ref. Cat. Is No Household Children Aged 0 To 4 Years Old)	0.08	0.08	0.07	0.08	0.07	0.08
Constant	20.31 ***	1.34	19.83 ***	1.35	19.39 ***	1.32
Adjusted R^2	0.574		0.574		0.574	
Number Of Cases	4817		4817		4817	
Number Of Distinct Individuals	616		616		616	

Levels of statistical significance: * = p < .05; ** = p < .01; *** = p < .001

relationship between homeownership and domestic labour (South and Spitze, 1994; Craig and Baxter, 2016). When one or more partners own the home where they both reside the results in Table 5-1 show that female long-term cohabitant's housework increases by more than two hours per week, while male long-term cohabitant's housework time remains statistically unchanged (Table 5-2). Therefore, there is a relationship between homeownership and greater women's domestic labour during long-term cohabitation. These results are consistent with past research which also suggest an association between homeownership and a less egalitarian allocation of domestic labour (Mattingly and Sayer, 2006).

The findings presented in these preceding paragraphs together show that important life events, such as the birth of a child and homeownership, change the domestic labour of female long-term cohabitants significantly over time but they do not seem to impact the domestic labour of their (male) partners. These findings are important because they show that cohabitation is not a static relationship but rather that life events can have an important bearing on how domestic labour is allocated during these unions.

There are several other important findings that contrast the allocation of domestic labour during marriage (Table 5-3) and long-term cohabitation (Table 5-1). Table 5-1 shows that changes in female domestic labour during long-term cohabitation occur over time and often occur in parallel with certain important life events such as the birth of a child or the purchase of a home. In contrast, female domestic labour changes less over time during marriage. Unlike in long-term cohabitation (Table 5-1) where both the coefficients for the duration of the relationship in years and the interaction term with the presence of young children aged 0 to 4 are statistically associated with more female domestic labour, these coefficients are not significant during marriage (Table 5-3). This means that female domestic labour changes less

Table 5-4. Fixed Effects Models Of Usual Weekly Housework Hours
For Married Men Who Cohabited With Their Wives Before Marriage

	Model 1		*Model 2*		*Model 3*	
	B	**S.E.**	***B***	**S.E.**	***B***	**S.E.**
Percentage Of Relative Gross-Pay	-0.02 ***	0.01	-0.03 ***	0.01		
Couple's Total Earnings (Gross-Pay Of Respondent + Gross-Pay Of Respondent's Spouse) (In 1000s Of £)	-0.04	0.06				
Gross-Pay Of Respondent (In 1000s Of £)			0.04	0.07	-0.07	0.06
Gross-Pay of Respondent's Spouse (In 1000s Of £)			-0.36 *	0.15	-0.03	0.14
Number Of Hours Normally Worked Per Week By Respondent	-0.05 ***	0.01	-0.05 ***	0.01	-0.07 ***	0.01
Number Of Hours Normally Worked Per Week By Respondent's Spouse	0.01	0.01	0.02 *	0.01	0.03 ***	0.01
Respondent's Home Is Owned Outright Or Owned With Mortgage By One Or More Household Member's (Reference Category Is The Home Is Leased)	-0.30	0.32	-0.29	0.32	-0.29	0.32
Gender Ideology Scale	-0.04	0.17	-0.03	0.17	0.00	0.17
Age Group (Reference Category is 25 Years Or Younger):						
26 To 30 Years	-0.14	0.36	-0.12	0.36	-0.17	0.36
31 To 35 Years	-0.13	0.44	-0.11	0.44	-0.21	0.44
36 To 40 Years	-0.04	0.53	-0.03	0.53	-0.13	0.54
Over 40 Years	0.13	0.66	0.13	0.66	0.00	0.67
Duration Of Relationship In Years	0.03	0.03	0.04	0.03	0.04	0.03
One Or More Household Children Aged 0 To 4 Years Old (Ref. Cat. Is No Household Children Aged 0 To 4 Years Old)	0.09	0.29	0.13	0.29	0.10	0.29
Duration of Relationship In Years X One Or More Household Children Aged 0 To 4 Years Old (Interaction Term) (Ref. Cat. Is No Household Children Aged 0 To 4 Years Old)	0.10 *	0.04	0.09 *	0.04	0.09 *	0.04
Constant	8.61 ***	0.84	8.99 ***	0.86	7.29 ***	0.79
Adjusted R^2	0.523		0.524		0.521	
Number Of Cases	4290		4290		4290	
Number Of Distinct Individuals	561		561		561	

Levels of statistical significance: * = p < .05; ** = p < .01; *** = p < .001

over time during marriage than it does during long-term cohabitation. There are several reasons for this difference, which are outlined in the following paragraph.

The previous section argues that life events such as childbirth and homeownership impact women's domestic labour during long-term cohabitation. However, these life events and especially a home purchase, often occur before many British couples marry so they have already potentially impacted the allocation of domestic labour before marriage begins. For example, during year one of marriage 85% of couples own their own home compared to 49% of long-term cohabitants. Therefore, for many couples a home purchase cannot impact domestic labour during the first five years of marriage (shown in Table 5-3) because many couples purchase a home before they marry. In fact, the previous chapter shows that homeownership significantly increases the likelihood of cohabitation transitioning marriage in all statistical models in that chapter (i.e. Tables 4-1 to 4-4).

Other more traditional explanations of the division of domestic labour better apply to married women. One such variable is gender ideology which is statistically significant in the analysis of female domestic labour during marriage (Table 5-3) but not in the analysis of long-term cohabitation (Table 5-1). Table 5-3 shows that married women with more egalitarian gender ideologies perform less domestic labour. In contrast gender ideology is not associated with women's domestic labour during long-term cohabitation, in part because the majority of these women already hold very egalitarian gender ideologies.

In conclusion, several life events that are common to long-term cohabitation can help explain some of the changes that occur in female domestic labour over this time: two such events are homeownership and childbirth and the resulting childcare both of which are staples of long-

term British cohabitation. However, these important life events have a limited impact on the domestic labour of men in long-term cohabitation. Moreover, homeownership often occurs before marriage and so it is often unable to explain changes in domestic labour over the first five years of marriage for neither men nor women. For example, the coefficient for homeownership is not statistically significant in either Table 5-3 nor Table 5-4, which means that purchasing a home during marriage does not alter the household division of labour either for women or men, respectively, as it does during long-term cohabitation.

5.3 Gradual Changes during Long-Term Cohabitation Become Important Over Time

This chapter finds that long-term cohabitation is distinct from marriage as well as the other forms of cohabitation that are the subject of the previous chapters: non-marital short-term and pre-marital cohabitation. The longitudinal analysis of the household division of labour of marriage in this chapter is consistent with the autonomy hypothesis: there is a statistically significant association between total women's earnings and less domestic labour. However, relative resources theory better describes the long-term cohabitation results: there is a correlation between relative earnings and domestic labour during long-term cohabitation. These results are similar to those in Chapter 3 which show that the autonomy hypothesis better describes household dynamics during marriage while relative resources theory betters explains the household division of labour during non-marital short-term cohabitation. Female cohabitants earn more than married women relative to their partners (see Table 2-2) and these higher earnings translate into them having more bargaining power in their relationships than married women. This is in agreement with past research which shows that housework is more equally divided during cohabitation than in marriage (Batalova and Cohen, 2002; Baxter, 2005; Davis,

Greenstein and Gerteisen Marks, 2007). Previous research also suggests that female cohabitants are aware of these bargaining processes and that they use them to their benefit to try to achieve a more egalitarian division of housework (Miller and Carlson, 2016).

Another central finding in this chapter is the potential impact of major life events on women's domestic labour during long-term cohabitation. There is little longitudinal research on the domestic labour during long-term cohabitation. Cross sectional research is not able to tease out any potential changes in domestic labour over time. This chapter is an important addition to the study of women's domestic labour during long-term cohabitation because it shows that life events such as childbirth and homeownership that are a very common part of British cohabitation significantly impact the trajectory of women's domestic labour during these relationships, while they do not statistically alter their male partner's domestic labour. Therefore, since women's domestic labour increases during long-term cohabitation while men's domestic labour does not statistically change this means that over time the division of domestic labour becomes less egalitarian during these relationships.

Chapter 6: Conclusions

This final chapter reviews the key findings and discusses their policy implications. Cohabitation in the United Kingdom has grown and evolved a great deal in recent decades. When the General Household Survey (GHS) began to inquire about cohabitation three decades ago, only a small minority of couples lived in these relationships and most of them married in a few years (Office for National Statistics, 2001). Since that time, participation in cohabitation has grown substantially. Even though for most couples in the United Kingdom cohabitation remains largely a pathway to marriage (Ermisch, 2000, Ermisch, 2005; Nazio and Saraceno, 2013; Berrington and Stone, 2015) there are signs of change that cohabitation is now also a separate long-term relationship for many couples. Since cohabitation has grown rapidly in recent decades, most predictions assume that this rate of increase will continue (Haskey, 2001; Cherlin, 2004; Beaujouan and Bhrolcháin, 2011).

My research shows that the evolution of cohabitation is not linear but is multifaceted. Previous research in this area either examines cohabitation and marriage separately or even treats them as one group. Only very rarely does previous research distinguish between different types of cohabitation and not to the extent that I have done in this dissertation.

6.1 Theoretical Implications for Researching Couples

The theoretical focus of this dissertation is to compare Gupta's autonomy hypothesis with relative resources theory in relation to different groups of cohabitants. Table 6-1 provides a summary of which of these theoretical approaches best explain the household division of labour during different cohabitation types and marriage. This dissertation shows that the association between earnings and domestic labour differs during various types of co-residential unions. My findings support the autonomy hypothesis during marriage, which is consistent with past

Table 6-1. Summary of Key Findings

Relationship Type	Findings Support: Autonomy Hypothesis	Findings Support: Relative Resources Theory	Does Not Support Either Theory
Pre-marital Cohabitation (Chapter 3)			✓ (Tables 3-4, 3-5, & 3-6)
Non-Marital Short-Term Cohabitation (Chapter 3)		✓ (Table 3-3)	
Long-Term Cohabitation (Chapter 5)		✓ (Table 5-1)	
Marriage (Chapters 3 & 5)	✓ (Tables 3-1, 3-2 & 5-3)		

research. However, the findings in this dissertation also show that relative resources theory better explains non-marital short-term cohabitation and long-term cohabitation.

These findings can be considered counter-intuitive because in recent decades women have achieved greater personal financial power and independence due to their better position in the labour force, which suggests a shift from traditional marital bargaining (over domestic labour) to household dynamics better described as "woman's autonomy". My research shows that this does not necessarily apply to different types of cohabitation, which may be counter-intuitive.

Previous research that finds a shift from domestic labour being explained by absolute rather than relative women's earnings generally does not breakdown cohabitation into different subtypes. In contrast my dissertation subdivides cohabitation into distinct group which allows for a fuller, more nuanced, understanding of the relationship between domestic labour and earnings. The duration and purpose of a co-residential relationship, such as cohabitation or marriage, can help explain the diverse and, possibly, counterintuitive findings in Table 6-1 regarding the relationship between earnings and domestic labour.

First, Table 6-1 summarizes the findings in Chapter 3 which do not show a statistically significant relationship between women's earnings (relative nor absolute) and their domestic labour during pre-marital cohabitation. Since the median length of pre-marital cohabitation is only one year (Kasearu and Kutsara, 2011) the bargaining dynamics that are part of the other two types of cohabitation may not have had the time to form during pre-marital cohabitation. Further, when, in one or two years, these cohabitants marry their domestic labour is best described with women's total earnings and the Autonomy Hypothesis.

Second, Table 6-1 also describes other findings in Chapter 3 which provide support for marital bargaining during non-marital short-term cohabitation. There are two areas of past research which support the existence of marital bargaining during short-term cohabitation: cohabitation is more egalitarian than marriage (Batalova and Cohen, 2002; Baxter, 2005; Davis, Greenstein and Gerteisen Marks, 2007) and female cohabitants are aware of the bargaining power of earnings and they use this power to minimise their domestic labour (Miller and Carlson, 2016). These two past findings combined with the fact that by definition short-term cohabitation is brief means that these cohabitants often do not have the time to form a long-term relationship which includes mutual investment, as described by the autonomy hypothesis, but

rather they engage in a reciprocative marital bargaining.

Third, Table 6-1 also summarizes findings in Chapter 5 which provide support for marital bargaining occurring during long-term cohabitation. However, Chapter 5 also emphasizes that important life events, such as childbirth and homeownership, which are very common during long-term cohabitation, significantly impact the division of domestic labour during these relationships. These life events can contribute to long-term cohabitation resembling marriage, in which the division of domestic labour is more strongly associated with absolute women's earnings and the autonomy hypothesis (as is summarized in the last row of Table 6-1). This means that the household dynamics during long-term cohabitation may begin to resemble marriage after certain number of years: this conclusion is based on the findings in Chapter 5 which show that the division of domestic labour during long-term cohabitation begins to resemble marriage after sevral years. Therefore, household dynamics during very long-term cohabitation may in fact be better described by the autonomy hypothesis once certain life events, such as a home purchase and childbirth, occur. However, this conclusion cannot be tested with the BHPS data, which contains only a very small number of very long cohabitations because these relationships are still rare in United Kingdom.

The Chapter 4 findings are not summarized in Table 6-1 because, unlike the other substantive chapters, Chapter 4 does not discuss the division of domestic labour during cohabitation, instead it examines how these household dynamics impact the likelihood of cohabitation transitioning to marriage. Chapter 3 researches domestic labour during pre-marital cohabitation. Since the desired outcome of pre-marital cohabitation – the subject of Chapter 3 - is marriage the following one - Chapter 4 - examines the potential role of domestic labour in the transition from cohabitation to marriage. Chapter 4 adds to the dissertation in numerous ways.

For instance, the Event History Analysis in Chapter 4 allows for the inclusion of both employment/income and domestic labour explanatory variables in the analysis of the transition of cohabitation to marriage, which is not possible in the other substantive chapters that only include employment/income as explanatory variables and domestic labour as the dependent variable. Since the Event History Analysis in Chapter 4 estimates the likelihood of marriage (rather than regressing on a dependent variable such as domestic labour as is the case in the other substantive chapters) this allows for both domestic labour and employment/income explanatory variables to be part of the analysis. For instance, including both domestic labour and paid employment in the analysis of the transition from cohabitation to marriage shows that there is an interaction between these two types of variables (see Table 4-4). Moreover, the analysis in Chapter 4 also shows that satisfaction with income is also important in the transition to marriage, which is also a key finding whose importance is discussed in that chapter.

These diverse findings that are summarized in Table 6-1 as well as those concerning the transition from cohabitation to marriage in Chapter 4 reinforce the need to study cohabitation as various distinct phenomena.

6.2 Policy Implications

The primary policy implications of my research impact all couples but some of the issues they consider pose unique obstacles for cohabitants. For all kinds of couples, having children has a significant impact on daily activities. While public policy can provide rights as well as give guidance to businesses, voluntary agencies, or community or religious and groups that promote protocols and infrastructure which make life easier for people in all kinds of families with children. As cohabitants, particularly those in long-term relationships, choose to live

differently from people who marry from the outset, policies that help families with children need to allow flexibility to support all kinds of couples and parents, not focusing solely on the traditional nuclear family.

Childcare significantly influences women's domestic work (Berk, 1985; Dribe and Stanfors, 2009; Bianchi and Milkie, 2010; Craig and Mullan, 2010; Kühhirt, 2012; Grunow, Schulz and Blossfeld, 2012). At present, most policies, such as childcare benefits and parental leave, affect all couples equally. These policies must be adapted to cohabitants who have unique circumstances from married couples. For example, Chapter 5 shows that female domestic work increases significantly over time during long-term cohabitation. The issues of childcare and parental leave are particularly important during cohabitation because these couples often have weaker bonds with family members than married couples (Eggebeen, 2005; Hogerbrugger and Dykstra, 2009; Artis and Martinez, 2016). Cohabitants live further away from family members (Kalmijn, 2006)[15] who they also have less contact with (Hogerbrugger and Dykstra, 2009). Moreover, the children of cohabitants also have less contact with their parents (Eggebeen, 2005). Non-marital cohabitants have especially weak bonds with their 'parents-in-law' (i.e. the parents of their cohabiting partners) (Artis and Martinez, 2016). For these reasons, local quality and affordable childcare is especially important during long-term cohabitation because married couples can potentially rely more on their parents - the children's grandparents - and other family members to provide some childcare. To promote the interests of children, governments should not treat cohabitants as meriting fewer rights and privileges than married couples.

[15] The weaker bonds between cohabitants and family members results from numerous factors. For instance, modern cohabitation began in higher education and these couples continue to be well educated (Bhrolcháin and Beaujouan, 2013). Having a high level of educational attainment means that these couples work in jobs that may require them to relocate away from their family members to seek employment (e.g. in academia or in the financial industry), thus leading to weaker family bonds.

Another important policy implication of my research involves housing and homeownership. Previous research suggests that financial success including homeownership is often a necessary prerequisite for cohabitants wanting to marry (Smock, Manning and Porter, 2005). Cherlin (2009), argues, that symbolism is paramount to cohabitants, who want to prove to themselves and to others (family, friends, co-workers, acquaintances and so on) that they have succeeded financially. The biggest, both physically, financially and metaphorically, of these symbols, is homeownership. Thus, cohabitants often wait to marry until they can demonstrate their financial stability through homeownership. For example, in all Event History Analysis models in Chapter 4 (i.e. Tables 4-1, 4-2, 4-3 and 4-4) homeownership significantly increases the likelihood of cohabitation transitioning to marriage. The research in this dissertation shows that homeownership is not only vital in the transition from cohabitation to marriage but also in long-term cohabitation, something largely unstudied until now: Chapter 5 shows that the rate of homeownership increases over time during long-term cohabitation.

Governments need to better consider the needs of cohabitants, who often have fewer property and other rights than married couples. Future policies relating to cohabitation need to address the lack of laws concerning cohabitation dissolution, which is a growing issue. For example, take the case of a former cohabiting couple, Pamela and Brian, who had lived together for 30 years in Kent (O'Callaghan, 2013). In addition to living together Pamela and Brian also jointly operated a small but profitable business (O'Callaghan, 2013). The home where they lived together and the business that they ran were both solely registered in Brian's name (O'Callaghan, 2013). So, when the relationship dissolved Pamela “was effectively left penniless” because, unless some prior contract exists, cohabitants cannot make legal claims for what they consider joint property, such as the home they previously shared or the business to which they both

contributed (O'Callaghan, 2013).

An important Law Commission report argues that family law in England and Wales is "inadequate" in its dealing with the dissolution of cohabitation (Etherton et al., 2007). This report recommends the creation of a new scheme that extends legal separation rights to cohabitants who are parents of the same children and or to those couples who have passed a "minimum duration requirement" by living together a predetermined number of years (Etherton et al., 2007). After an extended period of stagnation, the Liberal Democrats (a minority party with few Members of Parliament that was previously part of the coalition government) have recently decided to bring this issue back into the public debate by introducing a Private Members Bills that would provide significant legal protections to cohabitants in England and Wales (British Parliament Website, 2015). However, little has been done since[16].

6.3 Implications for Future Survey Research

This dissertation finds substantive differences in the household division of labour when subdividing cohabitation into several key groups: pre-marital, non-marital short-term, and long-term. However, the vast majority of surveys do not distinguish between different types of cohabitation. This is a critical shortcoming in previous research. Longitudinal data, such as the BHPS, which tracks relationship status and other variables over time allow for the creation of these, or other, cohabitation categories after the fact - if in subsequent waves cohabitation transitions to marriage then it is classified as pre-marital (in Chapter 3) or if it lasts for five

[16] During the previous two decades cohabitants have gained legal rights in numerous countries. For example, The *Modernization of Benefits and Obligations Act* (2000) and *Marital Property Act* (2001) provide extensive legal rights to cohabitants in Canada and New Zealand, respectively (Cherlin, 2004; Etherton et al., 2007). In continental Europe, Sweden provides the most extensive legal rights to cohabitants, and in recent years cohabitants have gained rights in Austria, France, Hungary, Portugal and Spain, among others (Sánchez Gassen and Perelli-Harris, 2015)

consecutive years it can be classified as long-term (in Chapter 5). However, the substantial cost and effort of running a large scale longitudinal survey often make it impractical.

Slight changes to survey questions can help better capture different cohabitation types. Chapter 3, for instance, compares defining pre-marital cohabitation using current marital intentions versus using relationship outcomes from future waves the BHPS. Cross-sectional surveys can also easily capture these difference in household dynamics during cohabitation by including a couple of additional survey questions. In cross-sectional research, non-marital short-term and long-term cohabitation can be established by gathering information about relationship histories or by simply asking how long a couple has lived together. In contrast, determining the presence of pre-marital cohabitation in cross-sectional research can only be done by asking about current relationship intentions (e.g. are you planning to marry your current partner?), instead of using information from subsequent waves which is only possible with longitudinal data.

In Chapter 3, the findings about the division of domestic labour are similar when establishing pre-marital cohabitation using relationship outcomes or with relationship intentions. Table 3-4 uses subsequent waves of the BHPS to classify pre-marital cohabitation by examining whether cohabitation transitions to marriage. Table 3-6 instead uses information from self-reported marital intentions, which establishes pre-marital cohabitation by asking whether cohabitants want to marry their current partners. Using outcomes (in Table 3-4) or intentions (in Table 3-6) to classify pre-marital cohabitation produces similar results in the analysis of the household division of labour because marital intentions are good predictors of marriage (outcomes), especially one year before marriage. Table 3-7 shows that of those cohabitants who state that they are planning or probably will marry their current partner, 94%

do so within one year, 88% do so within two years, and 76% do so within 3 or more years. Since, as previously mentioned, the median length of pre-marital cohabitation in the United Kingdom is one year (Kasearu and Kutsara, 2011) relationship intentions are good predictors of marriage during these unions. Therefore, when longitudinal data is not available, marital intentions can be a good source of information to establish pre-marital cohabitation. In conclusion, considering different types of cohabitation in the analysis of household dynamics provides a deeper understanding of these processes and modern relationships in general. Longitudinal data can often establish these cohabitation types or future cross-sectional research can include a couple of additional questions about relationships histories and marital intentions.

Chapter 5 demonstrates the importance of using longitudinal data to study long-term cohabitation because, as that chapter shows, household dynamics change gradually (not instantaneously) over time during these relationships. This dissertation shows that including several questions relating to cohabitation type, such as marital intentions and relationship histories questions, can increase the usefulness of household division of labour research by allowing for a more complete study of cohabitation. It could be useful if child development surveys, such as the Millennium Cohort Survey, included questions about the relationship status of sampled young people's parents - including relationship intentions and extensive relationship histories. No research yet explores how children experience parenting in couples which have formed under different conditions. Future research could consider whether parents in long-term cohabiting couples or pre-marital couples that transition to marriage have different expectations of the kind and amount of housework their children should perform, and whether mothers and fathers in these relationship types have more egalitarian expectations of their children. Similarly,

cohort surveys and cross-sectional surveys that include older people might explore if long-term cohabiting couples have different approaches to eldercare or childcare for their grandchildren.

A separate issue pertaining to survey methodology and future areas of research also arises from my research. Many references cite time-diary data to explore the domestic labour, however, very little of this data, including the most comprehensive source - the Multinational Time Use Study (MTUS) - separates between married couples and cohabitants or distinguishes between different types of cohabitation. Even though using the Kan-Pudney diary-based corrections to the BHPS estimates in Chapter 3 do not substantially alter the overall findings - the stylised estimates in this dissertation are limited in what they can show. Time-diary data capture more detail on how couples divide domestic labour in different types of cohabitation. For instance, when women's domestic work increases during long-term cohabitation does that change mostly occur during one day of the week or is it spread out evenly over the entire week or do cohabitants who divide housework equally have a set schedule they follow or do they rotate tasks? If future time-use research includes a few additional variables distinguishing various types of cohabitation then much more can be learned about the household dynamics of cohabitants.

6.4 Limitations and Areas of Potential Future Research

My dissertation takes advantage of the longitudinal nature of the data in varying degrees in all three substantive chapters. Chapter 5 makes the greatest use of the longitudinal nature of the BHPS because it tracks changes in domestic labour over time during long-term cohabitation. All analysis (i.e. Tables 4-1 to 4-4) in Chapter 4 incorporate Competing Risks Analysis, a type of Event History Analysis, which relies on the longitudinal nature of the BHPS to establish

whether cohabitations ended or transitioned to marriage. Chapter 3 uses the longitudinal nature of the data the least but it is also vital to that chapter because it helps to establish the existence of non-marital short-term and pre-marital cohabitation by using information from future years/waves to classify relationships as non-marital if they do not transition to marriage (Table 3-3) or pre-marital if they transition to marriage (see Tables 3-4 and 3-5). Therefore, even though the longitudinal nature of the data is used in all chapters, Chapter 3 which studies short-term and pre-marital uses it the least.

The main obstacle to using the longitudinal nature of the BHPS or any other panel survey in the study of pre-marital cohabitation in the United Kingdom is that these relationships are usually very short – the median length of pre-marital cohabitation in the United Kingdom is only one year (Kasearu and Kutsara, 2011). So, if the goal is to examine change over time in domestic labour during pre-marital cohabitation using longitudinal data, this is impractical if the median length of these relationships is only one year and data is collected annually. Since, the length of cohabitation is increasing in the United Kingdom (Beaujouan and Bhrolcháin, 2011) this means that if pre-marital cohabitation is longer in the future, this will be captured in future longitudinal data that will then be able to better examine changes over time in pre-marital cohabitation using panel-level data.

The dissertation also lacks a study of serial cohabitation. The longitudinal nature of the BHPS allows for the study of serial cohabitation, however, the relatively small number of serial cohabitants captured by the data make certain types of analysis, such as those comparing domestic labour during two episodes of serial cohabitation for the same individual, impossible. Presumably, if serial cohabitation continues to become more common future longitudinal data will be better able to capture and describe the division of labour during these relationships.

Another possible limitation of my dissertation is its lack of inclusion of household appliances in the analysis of domestic labour during cohabitation and marriage. These are not included as explanatory variables in the analysis of changes in domestic labour during cohabitation because during the observation period of the BHPS (1991 to 2009) there was minimal change in the adoption of these appliances. For example, unlike Gershuny's (2000) and Sullivan and Gershuny's (2001) examination of changes in domestic labour during the 1960s to the 1990s, the observation window of the BHPS shows minimal changes in the adoption of many household appliance. For example, through the observation of the period of the BHPS about 9 in 10 households have washing machines and this does not change substantially during this period and is similar for all types of cohabitations and marriage.

However, even though there are similarities in household appliance ownership rates between the different types of cohabitation and marriage, there are also slight differences which can be investigated in future research. For example, the descriptive statistics in Chapter 2 (Table 2-3) show that ownership of domestic appliances is slightly higher in married households than during short-term cohabitation perhaps because married couples may be more committed and willing to financially invest in their relationship than non-marital short-term cohabitants who are only together for a few years. Moreover, household appliance ownership is also higher among pre-marital cohabitants than among non-marital short-term cohabitants perhaps because the former are also preparing to be together the rest of their lives while the latter are not. These topics are not explored in this dissertation as they are not central to the comparison between relative resources theory and the autonomy hypothesis, however they are certainly important topics in their own right that could be discussed in future research.

6.5 Concluding Observations

The rising prevalence of the forms of cohabitation discussed in this thesis has gained expanded prominence at a time when the meaning of the family has been undergoing revision. As same-sex couples have gained legal recognition, transgender people have won legal rights to change their birth certificates and form couples and become parents in the sex with which they identify, pre-marital and long-term cohabiting opposite-sex couples represent another group in the widening range of the way people experience life in couples.

Cohabitation has been part of British life for several centuries. Earliest manifestations (discussed in Appendix 1) reflected in some cases the decision of some intellectuals to defy conventional social norms, and in other situations people's desires to be together as a couple despite legal impediments (such as parents refusing to consent to their child marrying, or one party to the couple being unable to obtain a divorce) (Frost, 2008). Cohabitation is now very common and continues to grow in prevalence (Beaujouan and Bhrolcháin, 2011)

My dissertation contributes to the understanding of the household division of labour of these couples in novel ways. I find that by considering the differences between various types of cohabitation, this provides a fuller understanding of how couples divide work, something which research has yet to explore until now.

Appendices

Appendix 1: The Beginnings of Cohabitation in the United Kingdom

This appendix supplements the introduction by describing the emergence of cohabitation in the United Kingdom starting in the mid-18th century. While this dissertation examines cohabitation during the time of the British Household Panel Survey (1991 to 2009), widespread cohabitation predates the later decades of the last century. This discussion of the birth of cohabitation in the United Kingdom provides more explanation of the circumstances which lead to the rise of modern cohabitation.

Cohabitation in the United Kingdom is a long established rather than a recent phenomenon (Gillis, 1985; Frost, 2008). There are few reliable statistics on the prevalence of cohabitation before it became part of the (British) General Household Survey (GHS) in 1979[17], but the data that does exist shows that cohabitation was part of British life for several centuries (Gillis, 1985; Frost, 2008).

Before 1753, English law had no precise definition of what constituted entry into marriage. A man and woman could have both said "I marry you" in front of two witnesses, and the couple was legally married (Frost, 2008). Alternatively, they could have said "I will marry you", followed by a period of living together, and this was also a legally valid entry into marriage (Frost, 2008). In essence, before the year 1753, England and Wales essentially had a common-law system of marriage because the entry into marriage was very liberal and largely dependent on whether a couple was living together. These, so-called "clandestine", marriages created many

[17] The 1979 GHS often is credited as the first major survey in the United Kingdom to include questions about cohabitation – but this is not entirely accurate. The 1976 Family Formation Survey (FFS) includes questions about retrospective partnerships, including episodes of living together out of wedlock (cohabitation), for women aged 16 to 49. So, the 1976 Family Formation Survey includes retrospective cohabitation information as far back as the 1950s.

disputes about whether a couple was legally married (Frost, 2008). Further, this extremely liberal process of entry into marriage makes it impossible to distinguish between marriage and cohabitation before 1753, the year Hardwick Marriage Act became law.

Marriage first became clearly defined in English law in the year 1753 with the passage of the Hardwick Marriage Act. This law standardised marriage by requiring wedding ceremonies to occur during specific times, days and only at a small number of registered Anglican churches (Quakers, Jews, and members of the royal family were exempt from this law) (Frost, 2008). This law also made it illegal to marry anyone below the age of 21 without the permission of the younger person's parents. Therefore, the year 1753 signalled the end of common law marriage in England and Wales. Some historians argue that this legalisation of marriage coincided with the start of the growth of cohabitation in the United Kingdom (Frost, 2008).

Due to a lack of suitable data, in the United Kingdom, it is impossible to estimate precise cohabitation rates before the introduction of questions about these types of relationships in the 1979 GHS. However, there are good reasons to believe that cohabitation was a relatively common practice for some groups of people during the 18th and 19th centuries (Gillis, 1985; Frost, 2008). There were two broad groups of cohabitants in the 18th and 19th centuries: those who lived together outside of wedlock because (1) they did not want to marry and (2) those who could not marry for various legal reasons (Frost, 2008).

In the 18th and 19th centuries, there were two important groups of cohabitants that did not want to marry: (1) middle and upper-middle-class "radicals" and (2) the "unrespectable" poor (Frost, 2008). One such well known radical was the very influential writer, philosopher and feminist Mary Wollstonecraft (1759-1757) who lived with several men outside of wedlock, most notably Henry Fuseli (1741-1825) (Swiss Painter) and Gilbert Imlay (1754-1825), (American

diplomat, author, and businessperson), until she married William Godwin (1756-1836) (English journalist, novelist and one of the forefathers of anarchism) out of legal necessity (Gordon, 2005). Wollstonecraft's (2002 [1792]) work embodies the beliefs of many of her contemporary radicals toward marriage, for instance, in *A Vindication of the Rights of Woman* she writes that marriage is essentially "common and legal prostitution" (p. 128). However, even though permissive attitudes toward living together outside of wedlock existed among some people in the middle and upper-middle-classes, these were by no means the norm (Frost, 2008). Social and legal obstacles made cohabitation rare among middle and upper-middle-class scoiety in the 18th and 19th centuries (Frost, 2008).

On the other end of the class spectrum, social sanctions also played a major role in the cohabitation of poor cohabitants. In the 18th and 19th centuries, there was a substantial divide between the urban and rural poor regarding cohabitation (Frost, 2008). The rural poor, by definition, lived in much smaller communities where social sanctions against unwed couples living together "in sin" could be much more easily enforced by friends, neighbours and family members. However, the industrial revolution brought the poor into the cities where social ties were much weaker and social norms, such as living together outside of marriage, were much harder to enforce. In addition to couples that preferred cohabitation over marriage, such as middle-class radicals and some of the urban poor, perhaps a much larger proportion of cohabitants were those who lived together not out of choice but because they could not get legally married.

One potentially common group of cohabitants were those who wanted to marry but could not because one or both individuals was under the age of 21 and parental consent could not be obtained (Frost, 2008). The provisions of the Hardwick Marriage Act in 1753 legally established

two new limits to adult children obtaining their parent's (or guardians) consent to marry (Frost, 2008). One reason for adult children not being able to obtain their parent's consent to marry stemmed from the social stigma against illegitimacy (Frost, 2008). Any child born outside of wedlock, even if the parents later married each other, was considered illegitimate under the law and could not legally obtain their parent's consent to marry (Frost, 2008). The second main reason why minors (under the age of 21) could not obtain parental consent for marriage was class-based prejudice (Frost, 2008). This prejudice meant that parents did not want their children to marry someone beneath their family's status (though in some cases parents had other reasons for not approving of a union) (Frost, 2008). These two legal barriers created a pool of couples who were living together in cohabitation until they both turned 21 when they could legally wed without the need of parental consent (Frost, 2008).

Another common group of cohabitants were older but also could not marry for legal reasons (Frost, 2008). Before the mid-20th century, England and Wales had extremely strict divorce laws, and bigamy was heavily prosecuted (Frost, 2008). Before the adoption of the 1857 Matrimonial Causes Act, divorce was extremely expensive and very tough to attain because each divorce required the passage of a *Private Members Bill in Parliament* (Poovey, 1988). Alternatively, the ecclesiastical Court of Arches could have also dissolved marriages if there was a "defect" from the beginning of the union – acceptable defects were marriages between close blood relatives (such as a brother or sister), insanity and physical incompetence (Poovey, 1988). The passage of the Matrimonial Causes Act of 1857 substantially changed this system in

England and Wales[18] by shifting divorce to the area of civil law with the creation of the Court of Divorce and Matrimonial Causes (Leneman, 1996). However, divorce remained difficult to obtain in England and Wales as it was both expensive and it required evidence of adultery (Frost, 2008). The inability to divorce and remarry resulted in many people leaving their unsuccessful marriages for cohabitation with someone else (Frost, 2008).

An eminent couple that participated in this kind of cohabitation during the Victorian period was George Eliot (born Marry Anne "Marian" Evans) (1819-1880) and George Henry Lewes (1817-1878). One of the most famous Victorian novelists, Mary Anne Evans, who wrote under the pen-name George Eliot, met philosopher and literature critic George Henry Lewes in 1851, and they started cohabiting in 1854 because the already married Lewes could not get divorced (Karl, 1995). Lewes was unable to obtain a divorce because he was complicit in adultery with his wife, Agnes (Karl, 1995). He wrote his name on the birth certificate of a child that his wife had birthed despite knowing the child was not his (Karl, 1995). Knowing that they could not marry Mary Anne Evans and George Henry Lewes cohabited for 25 years until the time of Lewes' passing.

Another potentially significant group of cohabitants who were older but also could not marry for legal reasons were couples consisting of a man who wanted to marry his sister-in-law (Frost, 2008). Women's mortality rate at childbirth was much higher in the 18th and 19th

[18] Divorce was much more readily available in Scotland during this time. Unlike in England, where divorce was only possible by an act of Parliament until 1857, divorces in Scotland began in civil courts nearly three hundred years earlier (Leneman, 1996). Influenced by the Protestant Reformation going on in continental Europe, local Scottish courts started allowing for divorce due to adultery beginning in 1560 and only three years later the Scottish Parliament passed a law officially making this kind of divorce legal (Leneman, 1996). Further, even though divorce was not inexpensive it was financially attainable even for working-class Scots (Leneman, 1996). Moreover, those who were very poor could apply to have all their legal expenses paid and these applications were often accepted (Leneman, 1996). Therefore, divorce in Scotland became available in civil courts much earlier than in England and Wales.

centuries than it is now. The death of a wife left the husband with no one to take care of the household and children. So, for many families, it was natural for the unmarried sister of the deceased wife (the widower's sister-in-law) to fill the void of mother and wife (Frost, 2008). The sister-in-law was well acquainted with the widower and the household, but more importantly, she often loved and cared for her deceased sister's children which made her the ideal substitute for the deceased mother – her sister (Frost, 2008).

It is hard to estimate precisely how many couples were engaging in this kind of cohabitation, but there is good reason to suspect that it was widespread based on the significant amount of documented cases of these relationships (Frost, 2008). One farmer from Devonport wanted to marry his sister-in-law after the death of his wife, but the local vicar did not want to perform the marriage (Frost, 2008). Instead of backing down the farmer decided to live with her and to "[throw] the responsibility of the refusal upon the clergymen" and by all accounts, his neighbours supported him (Frost, 2008, p. 55). This kind of cohabitation lead to inner conflict for many clergy: some adamantly believed that they should be allowed to marry these couples rather than having them continue to live "in sin" but others felt that this kind of marriage went against the teachings of the Bible and that it was immoral (Frost, 2008). Several clergy testified before Parliament in hopes of having the law changed and others even married their own sisters-in-law (Frost, 2008). The practice was so widespread that marriage law was altered in 1907 to allow brothers-in-law and sisters-in-law to get married when Parliament passed the aptly named Deceased Wife's Sister's Marriage Act.

In conclusion, early 18th and 19th century cohabitation in the United Kingdom arose in certain niche communities such as middle and upper-middle-class "radicals" (Frost, 2008). However, cohabitation became a part of life for many, perhaps most, couples because of various

legal barriers preventing them from marrying (Frost, 2008). Many couples during this period wanted to marry but could not for a variety of legal reasons including: one or both partners were under the age of 21, and the couple could not obtain parental consent for the minor(s), the couple were in-laws, or one or both partners could not legally get a divorce so they could not marry someone else. Some of these couples decided to live together regardless by which contributing to the growth of cohabitation in the 18th and 19th centuries (Frost, 2008). In contrast to the first cohabitants, the substantial expansion of modern cohabitation that began in the United Kingdom in the 1970s is the result of wanting to live in a trial marriage, to delay or entirely avoid marriage.

Appendix 2: Cohabitation in Other Western Countries

This Appendix section discusses cohabitation in Europe, both as wider European trends can influence behaviour in Britain and as such discussion may inform the possibilities for results of this thesis to apply in other countries. In recent decades, the rate of cohabitation has increased substantially in Western countries, but major differences remain between and even within countries (Heuveline and Timberlake, 2004). Beliefs regarding cohabitation have become very permissive across Europe (Liefbroer and Fokkema, 2008). In all of the 29 European countries that they examined, Liefbroer and Fokkema (2008) find that the majority of survey respondents agreed that it is acceptable for a couple to live together without intending to marry. In the United Kingdom, 67% of adult respondents in the 2000 British Social Attitudes Survey (BSA) stated that it was ‘‘all right for a couple to live together without intending to get married’’ (Barlow, 2006). However, despite the general acceptance of cohabitation across Europe, significant differences remain in participation and reasons for living together.

Despite the substantial international growth in the rate of cohabitation, a significant amount of heterogeneity remains among Western countries regarding this type of union (Heuveline and Timberlake, 2004). Heuveline and Timberlake (2004) find significant international differences in the rates and reasons for cohabitation. While 84% of French women experienced at least one episode of cohabitation by the age of 45, only 4% of Polish women had the same experience (Heuveline and Timberlake, 2004). Comparative studies of European countries find that families are more “traditional” in the Southern, Central and Eastern regions, and they are more culturally liberal in Nordic and the European countries boarding the Atlantic coast (Heuveline and Timberlake, 2004). In more traditional countries, cohabitation and divorce

are less common, marriage is considered more desirable, and the household division of labour is more traditional. In the more culturally liberal countries, cohabitation is more frequent, lasts longer, and is for many couples an alternative to marriage rather than a transition to it (Heuveline and Timberlake, 2004; Sánchez Gassen and Perelli-Harris, 2015). Less than 10% of people living in Denmark, Sweden and the Netherlands believe that cohabitation is unacceptable compared to about 30% in Bulgaria and Russia (Liefbroer and Fokkema, 2008). About half of couples living together in Norway and Sweden are cohabiting (the other half are marriage) compared to about a quarter in Spain and Germany (Sánchez Gassen and Perelli-Harris, 2015).

Moreover, differences in the prevalence and acceptances of cohabitation can occur not only between countries but also within countries (Pinelli and De Rose, 1995). In Italy, cohabitation is more prevalent in the northern and central regions, which are more socially liberal, than in the south which is more socially conservative (Pinelli and De Rose, 1995; Gabrielli and Hoem, 2010). Therefore, substantial differences remain in Europe regarding cohabitation. Taking into account the significant international differences in the rates and reasons for cohabitation it is important to consider that the findings presented in this dissertation are context dependent.

Appendix 3: The Gender Ideology Scale in Detail

This appendix provides additional details about the creation of the Gender Ideology Scale developed in this dissertation. The process to create the gender ideology scale involves several steps. The first step involves adding the individual response scores to all of the gender ideology questions in the BHPS to generate the total score. The second part of the process involves diving this total score by the total number of gender ideology questions that contain valid responses (see next paragraph), which produces the gender ideology scale. This scale has possible values ranging from one to five, where a higher score represents a more egalitarian gender ideology. For example, if an individual has the following responses:

- A pre school child is likely to suffer if his or her mother works
= 4 (hypothetical score)

- All in all, family life suffers when the woman has a full-time job
= 5 (hypothetical score)

- A woman and her family would all be happier if she goes out to work
= 3 (hypothetical score) (recoded, to make direction consistent)

- Both the husband and wife should contribute to the household income
= 4 (hypothetical score) (recoded, to make direction consistent)

- Having a fulltime job is the best way for a woman to be an independent person
= 3 (hypothetical score) (recoded, to make direction consistent)

- A husband's job is to earn money; a wife's job is to look after the home and family
= 3 (hypothetical score)

In this example to create the gender ideology scale it is necessary to divide the total score (22 = 4 + 5 + 3 + 4 + 3 + 3) by the total number of gender ideology questions that contain valid responses (in this case since all six questions have responses this value takes the value of six)

which produces the score of 3.67 (22/6). This score is on a scale from one to five, where a larger value represents a more egalitarian gender ideology.

However, these six gender ideology questions only exist in odd waves[19] in the BHPS. Specifically, these six gender ideology questions are present in waves A, C, E, G, I, K, M, O, and Q while cohabitation is available for all waves. There are two possible solutions to deal with the problem of gender ideology measures not being present in all waves of the BHPS. The easiest and most straightforward option is to include only the cohabitation waves in the analysis that also have valid cases for gender ideology (i.e. waves A, C, E, G, I, K, M, O, and Q). Another possibility is to use gender ideology information from the previous (or subsequent) wave as a substitute for the non-existent gender ideology information. This lag (or lead) approach uses the respondent's own gender ideology information from the previous (or subsequent) waves (i.e. A, C, E, G, I, K, M, O, and Q) as a substitute in even numbered waves where gender ideology questions do not occur (B, D, F, H, J, L, N, P and R) (i.e. B=A, D=C, F=E, H=G, J=I, L=K, N=M, P=O, and R=Q). This approach has the benefit of maintaining the largest possible sample and it does not bias the results.

[19] The 18 waves in the BHPS are either referred to as letters or numbers. Therefore, odd waves are: A(1), C(3), E(5), G(7), I(9), K(11), M(13), O(15), and Q(17) and even waves are: B(2), D(4), F(6), H(8), J(10), L(12), N(14), P(16) and R(18).

Table A3-1. Consistency in Responses To Gender Ideology Questions

Difference In Gender Ideology Responses	*% Of Total In* Each Category
0 (No Difference)	40
±1	39
±2	17
±3	3
±4	1

Table A3-2. Difference Within A Couple's Gender Ideology During Cohabitation

Difference Between Attitudes	Percentage of Total	
	A pre school child is likely to suffer if his or her mother works	All in all, family life suffers when the woman has a full time job
0 (Same)	32.91	30.63
±1	41.41	43.51
±2	21.27	20.99
±3	4.30	4.52
±4	0.11	0.36

Difference Between Attitudes	Percentage of Total	
	A woman and her family would all be happier if she goes out to work	Both the husband and wife should contribute to the household income
0 (Same)	41.80	36.36
±1	46.74	45.96
±2	9.68	15.40
±3	1.78	2.13
±4	- - -	0.14

Difference Between Attitudes	Percentage of Total	
	Having a fulltime job is the best way for a woman to be an independent person	A husband's jobs is to earn money; a wife's job is to look after the home and family
0 (Same)	31.83	34.90
±1	47.46	47.78
±2	18.02	14.16
±3	2.69	2.70
±4	- - -	0.46

There is lots of consistency in the responses to the six gender role ideology questions. Respondents have identical scores on 40% of their questions and an additional 39% of their scores are within one point of each other on a five-point Likert scale (see Table A3-1)[20]. So, there is high within-person consistency in gender ideology measures.

Some researchers also emphasise the importance of considering similarity in gender ideologies within a couple when studying the household division of labour (Greenstein, 1996). In the BHPS cohabiting couples share similar gender ideologies. Table A3-2 shows that the majority of cohabiting couples provide similar responses for each of the six gender ideology questions. For instance, taking an average of the six measures 72% of couples differ from each other by one point or less and 95% of couples differ by one and a half points or less. Therefore, there is not only consistency between scores for each respondent, but there is also congruence within cohabiting couples.

Another equally important consideration about the newly created gender ideology scale is whether choosing a lag (previous wave) or lead (subsequent wave) as a replacement for non-existing gender ideology information biases the data. Gender ideology responses for the waves A, C, E, G, I, K, M, O, and Q are substitutes for the non-existent gender ideology information of preceding waves (B, D, F, H, J, L, N, P and R) (i.e. B=A, D=C, F=E, H=G, J=I, L=K, N=M, P=O, and R=Q).

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[20] The following gender ideology responses are reverse coded so that they are consistent with the other three. (Consistent means a higher score is more conservative on all six measures).

- A woman and her family would all be happier if she goes out to work
- Both the husband and wife should contribute to the household income
- Having a fulltime job is the best way for a woman to be an independent person

So, lagged waves (such as wave C) are substitutes for the non-existent gender ideology information (such as wave D). Alternatively, it is also possible to use the lead wave (such as

Table A3-3. Comparison Of Gender Ideology Score Between Two Subsequent Waves

Gender Ideology Question	*Mean Score*	
	First	*Second*
A pre school child is likely to suffer if his or her mother works	2.84	2.87
All in all, family life suffers when the woman has a full time job	2.97	2.98
A woman and her family would all be happier if she goes out to work	2.88	2.87
Both the husband and wife should contribute to the household income	3.53	3.51
Having a fulltime job is the best way for a woman to be an independent person	3.24	3.22
A husband's jobs is to earn money; a wife's job is to look after the home and family	3.44	3.42

wave E) as a replacement (such as for wave D), or substitute waves could be random (waves C or E could be randomly chosen alternatives for wave D). The choice of how to replace missing information may be significant if there is something systematically different about lagged or leading waves because this may result in bias. Therefore, it is important to examine whether the choice of substitute wave makes any difference to the analysis.

Table A3-3 shows that there is very little difference between choosing a lagged or leading wave as a replacement for a missing gender ideology measure. Always choosing lagged waves creates slightly higher mean scores in four out of the six gender ideology measures and slightly

lower mean scores in two out of the six measures but these differences are small, and they are statistically insignificant. The biggest difference in choosing between a lag or lead wave is in

Table A3-4. Pairwise Correlation For The Gender Ideology Scale And Usual Weekly Housework Hours, By Gender

	Usual Weekly Hours in Housework
Male	0.064 ***
Female	-0.197 ***

Levels of statistical significance:
*= p < .05; **= p < .01; ***= p < .001

the question, "A pre-school child is likely to suffer if his or her mother works", which is only 0.03 (2.87-2.84, see Table A3-3). Most importantly, performing the analysis dissertation with either lag, lead, or random substitutes does not alter the results in any substantial way. In conclusion, there is no justification in preferring either a lag or a lead replacement, and so the analysis in this dissertation uses lag wave substitutes (i.e. B=A, D=C, F=E, H=G, J=I, L=K, N=M, P=O, and R=Q). Lastly, it is important to consider whether the newly created gender ideology scale correlates with the domestic labour measure of usual weekly housework hours. If this scale is effective, then it should show a statistically significant correlation between egalitarian gender ideology and a more equal household division of labour.

There is a statistically significant pairwise correlation between the gender ideology scale and usual weekly housework hours. Table A3-4 shows a significant association between a more egalitarian gender ideology and greater men's usually weekly housework hours and smaller women's usual weekly housework hours. However, an association does not imply causation: an

egalitarian gender ideology may lead to or "cause" a more egalitarian household division of labour or a more egalitarian household division of labour may result in or cause a more egalitarian gender ideology, or some other variable may be causing a change in both variables.

Appendix 4: Summary Table of Key Variables in Section 2.3

Table A4-1. Summary of Key Variables in My Dissertation

Key Variables List	**Reason For Including Key Variables in the Analysis of the Household Division of Labour During Cohabitation (For More Complete Reasoning See Section 2.3)**
1. Gross-Pay of (Female) Respondent (in 1000s of £) 2. Gross-Pay of Respondent's (Male) Partner Spouse (in 1000s of £) 3. Couple's Total Earnings (Gross-Pay of Respondent + Gross-Pay of Respondent's Partner) (in 1000s of £)	- the central goal is to examine the association between employment and the domestic labour. These three variables examine this using total / absolute earnings.
4. Percentage of Relative Gross-Pay	- this variable examines the association between employment and domestic labour using relative earnings derived from gross pay variables 1 and 2 (see section 2.3).
5. Number of Hours Normally Worked Per Week by (Female) Respondent 6. Number of Hours Normally Worked Per Week by Respondent's (Male) Partner	- time availability constraints theory proposes that couples divide housework according to the time availability of each partner. Therefore, it is necessary to include control variables for time spent working by each person in the couple.
7. Gender Ideology Scale	- there is a strong association between gender ideology and labour.
8. Respondent's Highest Level of Educational Attainment 9. Respondent's Spouse's Highest Level of Educational Attainment	- there is a strong association between education and the household division of labour. There is an association between earrings and: - more egalitarian gender ideology - higher earnings / greater female labour force participation
10. Age	- the household division of labour changes over the lifespan

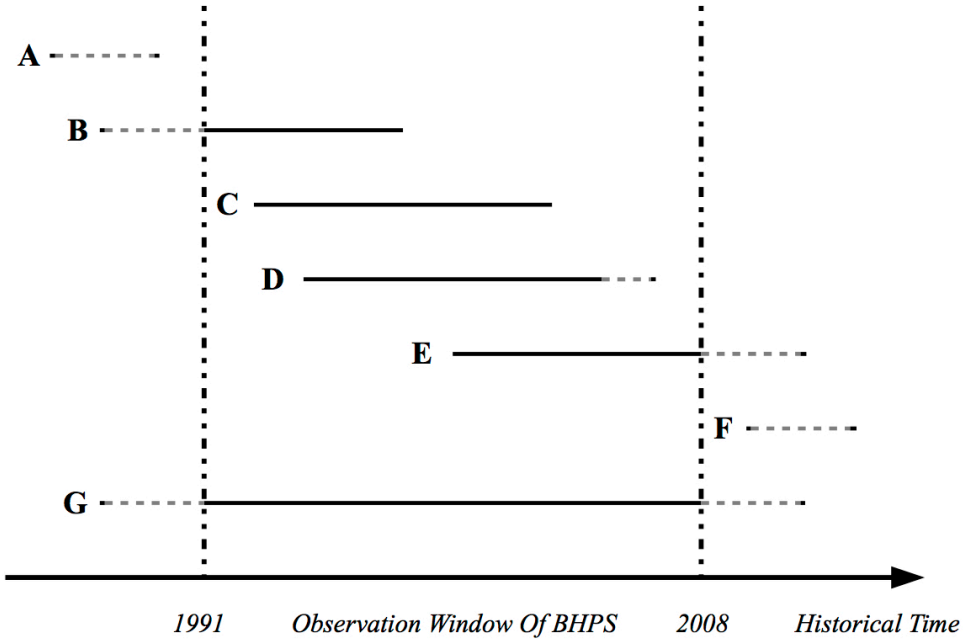
Table A4-1. Summary of Key Variables in My Dissertation

11. Year / BHPS Wave	- the household division of labour saw changes over the nearly two decades of the BHPS
12. Number of Dependent Children 13. One or More Household Children Aged 0 to 4 Years Old	- the number and age of children impacts the household division of labour in numerous ways, including by: - leading women to switch from part-time to full-time employment - reinforcing traditional (inegalitarian) allocation of housework
14. Respondent's Home is Owned Outright or Owned with Mortgage by One or More Household Member's	- homeownership often means more domestic labour
15. One or More Father(s) of either the Respondent or Her Partner 16.One or More Mother(s) of either the Respondent or Her Partner	- the presence of additional household adults, such as parents of the cohabitants, may impact the household division of labour of the cohabitants.

Appendix 5: Additional Details About Censoring in the BHPS

Appendix 5 is a supplement to the methodology section 4.1. The goal of this appendix is to provide additional details about censoring issues in the BHPS. Figure A5-1 depicts six types of possible censoring, some of which arise in the BHPS, - Letter C represents a non-censored cohabitation event. This figure shows that the observation window of the BHPS is from 1991 to 2008 (Figure A5-1 is a reproduction and adaptation of Blossfeld, Golsch and Rohwer, 2009, p. 40, Figure 2.1.1).

Figure A5-1. Types of Censoring in Longitudinal Data, Including the BHPS



Notes: This table is a recreation and slight adaption of Figure 2.1.1 (p. 40) in Blossfeld, Golsch and Rohwer, (2009)

Letter A shows an episode that is entirely left censored, such as a cohabitation event that occurs entirely before 1991, the start of the BHPS. Due to a lack of available data this type of censoring is usually very tough to deal with statistically (Blossfeld, Golsch and Rohwer, 2009). The BHPS contains marital and cohabitation histories that ask about relationships that occurred before the observation window (i.e. before 1991). However, since the BHPS does not collect retrospective information about the household division of labour and housework in particular, then these marital and cohabitation histories are by themselves insufficient to help deal with the kind of left censoring depicted by letter A in Figure A5-1.

Letter B depicts an episode that is only partially left censored (Blossfeld, Golsch and Rohwer, 2009), such as a cohabitation event that begins before the start of the BHPS in 1991 and continues into the observation window. The type of censoring in letter B leads to similar problems as those depicted in letter A. In both examples A and B the household division of labour information about the beginning of the relationship is unknown. However, unlike in letter A, in the type of censoring depicted by letter B, information is available for some part of the relationship, including until it ends.

Letter C shows an episode that is entirely within the observation window of the BHPS (Blossfeld, Golsch and Rohwer, 2009), such as a cohabitation event that begins after 1991 and ends before 2008). Since information about the entire observation period is available, these observations are all part of the analysis.

Letter D shows a special episode of right censoring that occurs within the observation window (Blossfeld, Golsch and Rohwer, 2009). This type of right censoring occurs because of missing data or attrition (Blossfeld, Golsch and Rohwer, 2009), such as an event of cohabitation that begins after 1991 and the relationship continues but the respondents decide to leave the

BHPS, sometimes these cases are referred to as “dropouts”. Departing the sample potentially results in selectivity bias because these dropouts are often nonrandom which is problematic (Blossfeld, Golsch and Rohwer, 2009). However, the BHPS contains almost none of these cases.

Letter E shows an episode of right censoring that occurs because the observation period ends (Blossfeld, Golsch and Rohwer, 2009), such as an episode of cohabitation that begins after 1991 and continues after 2008, the last year of the BHPS. Since the end of the observation is normally determined and hence affects all episodes equally, it can be handled easily with standard event history analysis (Blossfeld, Golsch and Rohwer, 2009), such as competing risk regression, discussed in section 4.1 and in Appendix 6.

Letter F depicts an episode that is entirely right censored, such as an episode of cohabitation that occurs entirely after the end of the BHPS in 2008. This type of censoring applies to data such as retrospective histories that track various cohorts over different parts of their lives (Blossfeld, Golsch and Rohwer, 2009). Therefore this type of censoring does not apply to the BHPS.

Letter G depicts an episode that is both right and left censored (Blossfeld, Golsch and Rohwer, 2009), such as an episode of cohabitation that begins before the start of the observation period of the BHPS in 1991, spans the entire observation period and continues after 2008, the last year of the BHPS. The type of censoring depicted by letter G is also unproblematic for the analysis of the transition from cohabitation to marriage in the BHPS because the median length of all cohabitations in the United Kingdom is four years and the median length of pre-marital cohabitation is only one year (Kasearu and Kutsara, 2011). Therefore, this type of censoring is not applicable to the analysis of the household division of labour during cohabitation in the BHPS because cohabitations that last this long are not present in the data.

Appendix 6: Competing Risks Analysis of the Division of Labour

Competing risks survival models fall into one of two categories - fully parametric (such as most accelerated failure time models) and semi-parametric (such as Cox (1972) proportional hazard regression). Survival models contain two components: the hazard function (the risk of failure as modelled using some probability distribution) and an explanation of how the independent variable is said to transform the risk (or hazard). The main difference between fully parametric and semi-parametric survival models is that only the former specify a failure probability distribution for the hazard function.

The decision of whether to use fully parametric or semi-parametric models in competing risks analysis depends on how much is known about the parametric distribution. If the parametric distribution is known then fully parametric models should be used in competing risks analysis; however, this is often an unrealistic requirement in real world settings. In this chapter, the competing risks analysis of the transition from cohabitation to marriage includes not only multiple covariates but also considerable censoring. Therefore, there is no, simple, straightforward way to establish which parametric distribution (such as Weibull, lognormal, etcetera) is most appropriate for this kind of analysis. For this reason, the majority of studies, including this dissertation, that use competing risks analysis to explore the transition between cohabitation and marriage incorporate semi-parametric models.

David Cox (1972) introduced semi-parametric models to survival data analysis. Cox's Proportional Hazard Model is semi-parametric because it is both non-parametric in that it makes no assumptions about the hazard function *and* it is parametric in that it assumes an underlying parametric relationship between the predictors and the hazard function (Cox, 1972). Cox

observed that if the proportional hazard assumption is correct, then it is possible to estimate survival models without knowing anything about the hazard function's shape or nature (Cox, 1972).

Cox's (1972) Proportional Hazard regression can model competing risks but this requires numerous steps, and it has some significant limitations (Gutierrez, 2010). The central limitation of using Cox's (1972) Proportional Hazard models for competing risks analysis is that it produces cause-specific hazards while competing risks analysis requires the Cumulative Incidence Function (CIF) (Gutierrez, 2010). Cox's regression produces one cause-specific hazard, which is the instantaneous risk of failure due to a particular cause if no failure has yet occurred. However, the competing risks analysis of cohabitation requires two separate cause-specific hazards: (1) cohabitation ending in the dissolution of the relationship and (2) cohabitation ending in marriage. Cox regression can model these cause-specific hazards separately but not together in one model. For example, a cause-specific hazard can model the failure event of interest as the dissolution of cohabitation which means that if this method were used to model competing risks, then the transition from cohabitation to marriage would need to be treated as censored or vice versa but not both together. The obstacle to trying to model competing risks analysis by running the analysis separately is two-fold.

An important obstacle to modelling survival data that contains two or more distinct failure types with cause-specific hazards is the potential bias this creates. By treating one of the competing events as censored, cause-specific hazards fail to distinguish between real censoring, where the outcome is unknown and failure due to some other competing event (in this case, cohabitation either dissolving or transitioning to marriage) (Gutierrez, 2010). The second, obstacle to modelling survival data with cause-specific hazards is one of interpretation

(Gutierrez, 2010). A cause-specific hazard quantifies the likelihood of one kind of failure event happening within the observed period while ignoring the other competing event(s). For example, it means asking: what is the likelihood that cohabitation does not finish within the observation period, but when something happens it must be marriage (not a breakup)?

Arguably, the better way to perform survival analysis with data that contains two or more distinct types of failures (i.e. competing risks) is by using the cumulative incidence function (CIF) rather than focusing separately on cause-specific hazards (Gutierrez, 2010). The cumulative incidence function is the cumulative probability of failure resulting from a particular cause over time. For example, the CIF of marriage at year two of cohabitation is the likelihood that marriage occurs before the end of the second cohabitation year. Transforming the two (or more) cause-specific hazards attained through Cox regression produces the CIF (Gutierrez, 2010). However, this transformation relies on numerous steps (including predicting baseline hazards for all outcomes, transforming the baseline hazards while incorporating different covariates and so on), which may result in imprecise estimates (Gutierrez, 2010). The better approach is to use Fine and Gray's (1999) competing risks analysis (Gutierrez, 2010).

The Fine and Gray (1999) approach to competing risks analysis is in certain ways the natural extension of Cox's (1972) Proportional Hazard Models. Fine and Gray (1999) base their competing risks models on Cox's (1972) central contribution to statistics: the estimation of survival models does not require knowing anything about the hazard function's shape or nature. However, unlike Cox (1972), who discusses proportionality with cause-specific hazards, Fine and Gray (1999) apply this assumption to the CIF. Fine and Gray (1999) find the complement of the CIF and calculate its hazard, which they call a subhazard. The term subhazard is introduced to create a distinction from baseline and cause-specific hazards (Fine and Gray,

1999). Fine and Gray's (1999) competing risk analysis is favoured in this chapter because, by incorporating a direct transformation of the CIF, it allows for the unbiased survival analysis of two or more distinct failures/outcomes (Gutierrez, 2010), which is needed when modelling the two separate outcomes of cohabitation: marriage and the dissolution of the relationship.

Appendix 7: Example of an Analysis of Domestic Labour that Only Includes Women in Full-Time Employment

The following table (A7-1) is a modification of Table 3-1. Unlike Table 3-1 which is an analysis of the domestic labour of all married women (including those in full-time and part-time employment as well as those who are not working) Table A7-1 only includes married women that are working full-time, which is defined here as 30 hours or more per week. The reason for including this table in the appendix is to show that the coefficients for the key earnings variables are similar to those in Table 3-1, even when only analyzing women who are working full-time.

Table A7-1. OLS Models Of Time Spent Performing Housework (In Usual Weekly Hours)
For Full-Time Employed [1] Married Women Who Cohabited With Their Husbands Before Marriage

	Model 1		*Model 2*		*Model 3*	
	B	**S.E.**	***B***	**S.E.**	***B***	**S.E.**
Percentage of Relative Gross-Pay	-0.13 **	0.05	-0.08	0.06		
Percentage of Relative Gross-Pay Squared	0.00	0.00	0.00	0.00		
Couple's Total Earnings (Gross-Pay of Respondent + Gross-Pay of Respondent's Spouse) (in 1000s of £)	-0.39 *	0.19				
Gross-Pay of Respondent (in 1000s of £)			-0.83 *	0.35	-1.25 ***	0.32
Gross-Pay of Respondent's Spouse (in 1000s of £)			-0.08	0.34	0.28	0.17
Number of Hours Normally Worked Per Week by Respondent	-0.05	0.04	-0.05	0.04	-0.05	0.04
Number of Hours Normally Worked Per Week by Respondent's Spouse	0.00	0.01	0.00	0.01	0.01	0.01
Respondent's Home is Owned Outright or Owned with Mortgage by One or more Household Member's (Ref. Cat. is the Home is Rented)	-0.09	0.70	-0.04	0.69	0.00	0.71
Respondent's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	0.74	0.96	0.81	0.96	0.75	0.96
A Level / O Level	0.30	0.71	0.32	0.71	0.30	0.71
Respondent's Spouse's Highest Level of Educational Attainment (Ref. Cat. is None of These or CSE) :						
Higher Degree / 1st Degree / HND, HNC, Teaching	-1.20	0.67	-1.19	0.67	-1.15	0.67
A Level / O Level	-0.08	0.65	-0.09	0.65	-0.08	0.65
Gender Ideology Scale	-0.60	0.34	-0.60	0.34	-0.64	0.34
Age Group (ref. cat. is 25 years or younger) :						
26 to 30 years	0.80	0.45	0.79	0.45	0.74	0.45
31 to 35 years	1.36 *	0.54	1.38 *	0.54	1.36 *	0.54
36 to 40 years	1.42 *	0.68	1.43 *	0.68	1.39 *	0.68
over 40 years	4.10 ***	0.85	4.15 ***	0.85	4.14 ***	0.87
Number of Dependent Children	1.37 ***	0.33	1.37 ***	0.33	1.38 ***	0.34
One or More Household Children Aged 0 to 4 Years Old (Ref. Cat. is No Household children Aged 0 to 4 years Old)	1.08 *	0.46	1.11 *	0.46	1.11 *	0.46
One or More Father(s) of either the Respondent or Her Spouse (Ref. Cat. is No Father of Either the Respondent or Her Spouse)	-2.71 *	1.23	-2.76 *	1.22	-2.80 *	1.22
One or More Mother(s) of either the Respondent or Her Spouse (Ref. Cat. is No Mother of Either the Respondent or Her Spouse)	4.62 **	1.52	4.66 **	1.51	4.69 **	1.51
Year / BHPS Wave	-0.02	0.05	-0.02	0.05	-0.02	0.05
Constant	18.35 ***	2.44	16.45 ***	2.92	13.81 ***	2.48
R-Squared	0.120		0.121		0.119	
Number of Cases	2862		2862		2862	
Number of Distinct Individuals	741		741		741	

Levels of statistical significance: * = p < .05; ** = p < .01; *** = p < .001

Note: [1] Full-time employment is defined as 30 or more hours per week - if full-time employment is defined as 35 or more hours per wee the results are substantively similar.

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