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The Dissolution of First Unions and Women's Economic Activity in the UK

by

Deborah Wiltshire

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ABSTRACT

FACULTY OF HUMAN AND SOCIAL SCIENCES

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This study investigates whether there is an association between economic activity in women and union dissolution in the UK. This study looks at both individual-level and aggregate-level trends by posing a number of research questions. Using a series of Cox Proportional Hazard and Piecewise Constant models to analyse individual-level data from the British Household Panel Survey and Understanding Society surveys, this study has found only weak and inconsistent evidence of an association between women's economic activity and union dissolution. Examining these data for separate union cohorts, this study has found some initial evidence that the relationship between economic activity and union dissolution may be changing over time. The final stage of the analysis in this study looked at aggregate trends in economic activity and divorce and found some evidence of an association at the aggregate level, although due to data restrictions this was not conclusive. Following a discussion of the changing status of women and the changing legal, social and cultural context within which unions are formed and dissolved, this study concluded more evidence is found for an association at the aggregate level, leading to the hypothesis that economic activity is contributing to wider social changes and that these social changes are influencing the risk of union dissolution.

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DECLARATION OF AUTHORSHIP

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Union Dissolution and Women's Economic Activity in the UK

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Chapter 1 Introduction

1.1 Background to the study

The family is an important area of study, and is considered to play a vital part in maintaining stable social structures (Schoen & Baj, 1984). Divorce rates in England and Wales have been rising since the turn of the twentieth century, with particularly sharp rises (as we shall see) from the 1960's and later. Policy and scientific discussion of this rise has occurred alongside rhetoric about the decline of the family and the impact of divorce and single-parent families on the wellbeing of children and of society as a whole (Coltrane & Adams, 2003). Understanding why such rises have occurred and what factors may have influenced rising divorce rates is important both in order to strengthen the social scientific understanding of union dissolution, and to inform social policy.

Divorce and family life as a whole has attracted a great deal of interest from researchers from a variety of academic disciplines. The transitions people make into and out of unions have been changing over time and indeed the types of unions that they form have also been changing. At the same time the social, cultural and legal contexts within which people make these transitions have seen a variety of changes. There is much research which has focused on identifying factors which may be associated with the likelihood of a marriage ending in divorce. Research has also been extended to examine different types of union and the factors that may influence their survival or dissolution. Studies have shown that across the 20th century, trends in the level of economic activity among married women have also been upwards and a number of studies have emerged that hypothesise a relationship between the two trends, with many suggesting that female employment is a factor in the rise in divorce rates. There are several possible mechanisms through which economic activity might be associated with the risk of divorce and union dissolution. These hypothesised mechanisms include the independence effect, the specialisation of roles and the income effect, all of which will be explored in Chapter two.

Many studies examine data collected across short time spans, which is a potential problem in view of the changing social, cultural and legal landscape in which people form and dissolve their partnerships. So the use of short time spans may not fully capture how trends or factors have changed over time. This matters largely because

associated factors may change. For example economic activity might be associated with union dissolution in earlier time periods and then later it might be neutral or associated with union stability. This results in assumptions that may not hold when a historic view is taken. For example, theories that discuss the disruptive effect of women's employment on specialised roles or tasks imply an assumption that distinct gender roles within marriage (i.e. the breadwinner/housewife model) are both traditional and natural, although some theorists suggest that such roles are actually a short-term phenomenon peculiar to a period during the Industrial Revolution. Likewise, theories that discuss the increase of married women in the labour force since the 1930's imply that this is a new phenomenon whilst economic historians suggest that economic activity among married women had been high historically. Also, studies tend to focus primarily on either individual-level analyses or on aggregate level data.

1.2 The focus of the research

This study is concerned with providing evidence of the extent to which economic activity among women is associated with both the aggregate level of dissolution and the propensity for individual couples to dissolve their first unions. The study is also concerned with the extent to which some of these associations have changed over time. This thesis focuses on divorce initially, before adopting a broader approach to look at the dissolution of all first unions rather than just first marriages, and by doing so aims to take into account fully the changing trends in union formation. Because many of the relevant studies relate to other countries, this study will approach the following aims using data from England and Wales and from the UK.

The main aims of the study are:

I. To examine how far the economic activity of women and the dissolution of both first marriages and cohabiting unions are associated
II. To examine the subject both in relation to aggregate change and at the individual level
III. To examine whether the association between economic activity and the propensity for individual unions to be dissolved have been changing over time

There is not always sufficient clarity as to whether the suggested causal factors or individual differences (i.e. the factors associated with whether one individual or couple will be more likely to divorce than another) are thought to influence changing levels of divorce over time. The factors that are thought to be driving (or associated with) temporal trends are not always distinguished from those that account for differences between countries or areas from micro level differences between couples. In the light of this, this study aims to re-examine the hypothesised relationship between union dissolution and economic activity by using an integrated approach which considers both time trends at the aggregate level and individual-level analysis of factors associated with dissolution risk, focusing on data from England and Wales or the UK.

1.2.1 Research questions

This study considers a number of research questions. Because of data availability, different geographical areas will be examined throughout the study. The first two research questions focus on individual-level associations in the UK whilst the third research question focuses on aggregate-level associations in England and Wales.

Question 1: What is the relationship between the dissolution of first unions and women's economic activity in the UK at the individual level?

Question 2: Does any individual-level association between the dissolution of first unions and women's economic activity in the UK remain constant over time?

Question 3: Is there an association between aggregate time trends in marital dissolution and in married women's economic activity in England and Wales? Does the rise in the divorce rate coincide with, precede or follow on from the rise in aggregate measures of married women's economic activity?

1.3 The structure of the study

This study begins with an individual level approach. In Chapter Two the existing research literature that relates to the association of economic activity among women and the propensity for individual first unions to dissolve is discussed. This review will also identify other factors which researchers suggest may influence the risk of individual unions ending in dissolution. In Chapter Three, the individual level data and methodology are discussed and Chapters Four and Five address the first research question, by testing whether an association between women's economic activity is associated with the dissolution of first unions using data from the UK and through descriptive statistics and piecewise constant modelling. Following on from these analyses and using the same UK data, Chapter Six will focus on the second research question which aims to examine whether any such association remains consistent across time. Moving on from individual level analyses, Chapter Seven will test the third research question through the compilation and examination of aggregate level data from England and Wales. This stage will also include a look at the social and legislative history of both divorce and economic activity among married women. This stage focuses on divorce rather than the dissolution of all unions due to the relative rarity of records for other forms of dissolution historically. The study will conclude in Chapter Eight with a discussion of the main findings and limitations of the study and of recommendations for further study.

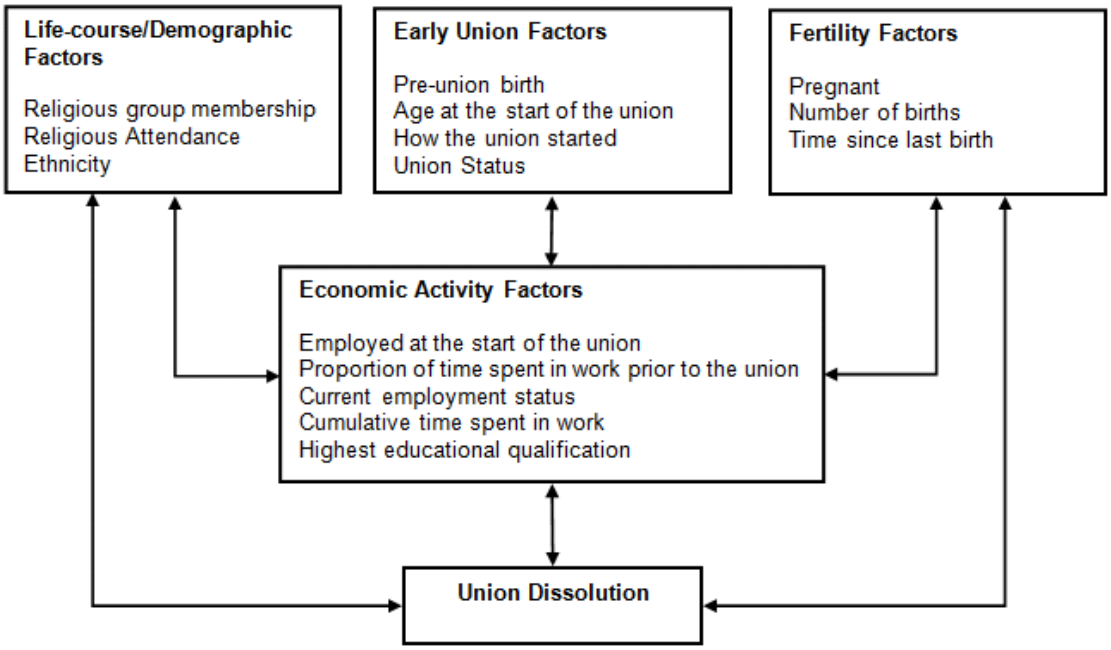
Chapter 2 Literature Review

2.1 Introduction

This chapter presents a critical review of some of the studies that have been conducted on the subject of divorce and union dissolution, with a focus on the association with economic activity among women which is the primary interest of this study. Divorce and more recently union dissolution have been widely researched and different aspects of dissolution have been examined, while different factors have been suggested in order to explain the rise in union dissolution seen in many countries. In order to provide a relevant and structured review of existing literature, a theoretical framework has been proposed based on the life-course framework in Berrington and Diamond (1999) and a modified form is shown in Figure 2-1. The primary area of interest concerns characteristics around women's economic activity and how these might influence the likelihood of dissolution and these take a prominent position in Figure 2-1. Although this study is focused on examining whether economic activity may be influencing the risk of dissolution, it is also possible that the relationship works the other way, that union dissolution may influence a woman's economic decisions something which is discussed later in section 7.2 and the two-way arrow in Figure 2-1 reflects this possibility. This literature review aims to examine whether existing research provides any evidence that is consistent with the first research question and so will focus initially on whether the findings of existing studies are consistent with the research question that a woman's economic activity and her risk of her first union dissolving are associated at the individual level.

Other factors may also be at play, however, and may interact with both the likelihood of dissolution and a woman's economic behaviour. These are grouped into life-course factors, early union factors and fertility factors, which are positioned in the framework with the directional arrows showing how these factors may be associated with union dissolution and a woman's economic behaviours with these relationships shown by the arrows in Figure 2-1. Again, it is likely that these relationships might work in both directions as shown in Figure 2-1, for example the presence of children might influence whether a woman is in employment, but equally a woman's career plan might influence the timing of childbearing. These additional factors and their relationship with union dissolution and economic activity are discussed in sections 2.4, 2.5 and 2.6.

Figure 2-1 Theoretical framework for analysing the determinants of union dissolution



2.2 Economic and social mechanisms

This first section focuses on the first of the research questions introduced in section 1.2.1. This question asks whether evidence can be seen for a causal relationship between economic activity and union dissolution at the individual level. It is hypothesised that such a relationship might work through a number of different economic and social mechanisms. These mechanisms include the specialisation of roles, the independence effect, the income effect and sex-integration within the workplace. Each of these mechanisms is discussed in turn and existing research examined to determine whether there is evidence consistent with any of these mechanisms.

2.2.1 The specialisation of roles

Theories around the specialisation of roles within marriage have been developed by sociologists such as Parsons (1943, cited in Arber & Ginn, 1995; 1949) and Becker (1981). Both theories are based on the assumption that distinct and 'natural' gender roles exist and that when these roles are disrupted through women entering employment, divorce becomes more likely. Parsons (1943, cited in Arber & Ginn, 1995: 24) stated that the family functions as a unit, with all parties having separate and distinct roles. This division of tasks, which he termed organic solidarity, Durkheim (1960) argued, was an important factor in ensuring social stability. Parsons (1949) also supported the idea that the division of tasks into gender-specific roles was essential for maintaining a healthy society, as the segregation of roles avoided any competition within a relationship. Married women participating in the labour force, however, goes against these roles, causes disruption and introduces "conflict and disharmony" into a marriage leading to a higher risk of divorce. Parsons (1949: 268) went as far as stating that "it is scarcely conceivable that the main lines of the present situation could be altered without consequences fatal to the total of our unique society". These ideas have also found to be consistent with more recent studies. Becker (1981) states that specialisation of roles is a natural state as women are producers of children whilst men are traditionally responsible for providing food and shelter. Female employment upsets this status quo as it reduces the benefits of marriage, particularly for women, (Becker, 1981). More recently Weiss (2000) suggested that maintaining a division of labour may still offer both parties involved gains, as one party may offer support in the form of domestic labour in the anticipation of receiving reciprocal support in the form of financial security.

There are some criticisms of the specialisation of roles theory. Davis (1984) suggests that the division of roles that Becker and Parsons see as natural and traditional was actually a short-term stage in history, and was based around the expectation upon women to produce large families – which left them little time for career development. A combination of lowered fertility, earlier age at family completion and longer life expectancy means that women now have many more years of life after their last child has left home. The maintenance of the home also took far less time so women had more freedom and time to build a career (Davis, 1984). It is also theorised that a fundamental change has been occurring in the economic basis of marriage. Oppenheimer (1988) has argued that in more recent cohorts, as it is desirable to wait until a couple can afford their aspired standard of living prior to moving into marriage, then it becomes more desirable that the women remain in employment, an argument

consistent with the work of Sweeney (2002) who further argues that as the costs of achieving the desired standard of living increases, female income will remain important to couples. This may be having an impact on the benefits associated with the specialised roles.

Perhaps one of the most interesting arguments against the persistence of the specialisation of roles hypothesis is by Sayer, Allison, England & Kangas (2011: 2012-12) who suggest that “women’s employment has become so standard that it is hard to imagine that it violates norms or makes couples and their networks question whether this ‘looks like a marriage’, particularly when wives continue to uphold normative expectations for doing most household labour.” It is certainly the case that following Industrialisation, it has become increasingly difficult for men to earn sufficient income to be the sole financial provider and so the breadwinner model becomes arguably a risky venture (Cooke & Gash, 2010; Blossfeld et al., 2006). For example, Coontz (1997) suggested that unions based on a strong belief that the man should be the sole breadwinner were more at risk of divorce if the man experiences unemployment or poorly paid employment. Furthermore, White (1990) suggests that as greater independence and more equality have emerged, gender roles have become less well defined, with some suggesting that less differentiated gender roles might result in a union becoming less stable.

It is considered that if the specialisation of roles theory is in play, then employment would destabilise a union through its disruptive effect on the specialised gender roles within the union. In which case, full-time employment might be positively associated with dissolution risk but part-time employment might not be. So a higher number of hours worked per week would be associated with an increased risk of dissolution, as it takes the woman away from the home for a greater time so would be a greater disruption to roles (specialisation of roles). Thus, whether a women is employed or not and the number of hours of work she does might be the employment measures that are most important here. Hours worked can be measured in several ways, either by using the actual number of hours worked as a continuous variable or by categorising work as either full-time or part-time. The difficulty with using full or part time categories is that there is no clear consensus of how many hours constitutes full time work, so someone may work 30 hours but may be classed as part time in one study but full time in another.

Some studies have produced findings consistent with the specialisation of roles theory using these employment measures across the US and Europe. Greenstein (1990) used data from the US “National Longitudinal Survey of Labour Market Experience of Young Women” and found that a working longer hours was associated with a higher risk of dissolution. Compared with the baseline group of women who worked 21-34 hours per week, those who worked 36-40 hours had a proportional hazard coefficient of 1.67 and those who worked more than 40 hours per week had a proportional hazard coefficient of 1.54 whilst women who worked 20 hours or less had a reduced risk of divorce with a coefficient of 0.42 (Greenstein, 1990: 672). So this study is consistent with the idea that working part time may be less disruptive. Also using US longitudinal data, South and Spitze (1986) looked at how the effect of hours worked per week changed over the duration of the marriage. Their results show that compared with women who do not work, the hours worked generally had the effect of increasing the risk of divorce and that this increased risk was consistent across all durations (South & Spitze, 1986: 588).

A similar positive association between hours worked and dissolution risk has also been seen in a number of Dutch studies. Poortman (2005a) examined retrospective histories for women and their previous spouses who had married between 1943 and 1997 from the 1998 “Divorce in the Netherlands” data, with the probability of divorce within a given year as the dependent variable. Key results were that women who worked had odds of divorce that are higher than women who did not work and odds that were a third higher if they worked full-time (over 34 hours per week), although there was no clear association with whether the women worked part-time so this is not consistent with the earlier findings from Greenstein (1990) (Poortman, 2005a: 306). Poortman (2005a) also controlled for whether the divorce was expected, in order to investigate whether women were working in anticipation of this, as even when the divorce was fully unexpected the effect of working was strong. Therefore the argument of women working in anticipation of dissolution is not consistent with these results. Poortman (2005b) found, in a further study, that the longer the number of hours worked by the husband in the first five years of marriage was associated with a lower risk of divorce whilst the opposite direction association was found for hours worked by the wife.

Fokkema and Liefbroer (2004) used life history data collected from birth cohorts from 1903 to 1937 in the Netherlands to examine the effect of the timing of employment. They categorised women’s employment patterns as: those who were not working but had in the past; those who returned to work one year after marriage; those who returned several years after marriage; and those who had not stopped work upon marriage. The results from their hazard analysis show that those who returned to work

several years after marriage had the highest relative risk of divorce (5.72), whilst those who had returned one year after had a slightly lower relative risk of 5.03. Those women who had never stopped working throughout their union history had a relative risk of 3.05 whilst those who had stopped work had a relative risk of 1.79, with all these results being statistically significant (Fokkema & Liefbroer, 2004: 437). As the relative risk of divorce for women who return to work one year or several years after marriage is similar, Fokkema and Liefbroer (2004) argued that it is possible that a return to work is an adjustment that some unions are unable to make. Their results suggest that economic activity may have less impact on unions where both partners are used to the woman working.

This idea is discussed further by Cooke and Gash (2010) who suggest that it may not be a woman's economic activity that is influencing the risk of dissolution, but how women's employment fits in with the social norms and policies of the country that they live in. They examined data from the US, UK and West Germany and found some interesting differences. In the UK and West Germany the breadwinner model is largely accepted, but whilst in West Germany part-time work is associated with good salaries and working conditions, in the UK these jobs tend to attract lower pay and poorer conditions. In contrast, in the US women were found to work mainly full-time. Their findings were that the hours worked by women was not significantly associated with the risk of dissolution in either the UK or the US, but women who worked part-time were found to have the lowest dissolution risk in West Germany. Interesting, where the woman remained outside the labour market, these unions were not found to have a reduced risk of dissolution in any of the three countries.

It has been found that the association between employment and dissolution risk varies across the lifetime of the union by Jalovaara (2002). This study used life history data for Finnish first marriages of up to 40 years duration and found that compared with those who were employed, women in the 'other' category (which includes housewives) have a relative risk of 1.2 in marriages of 4 years or fewer, but at all other durations their risk of divorce is lower than that of women who are employed (Jalovaara, 2002: 552). So the evidence from this study is consistent with the specialisation of roles theory only for unions of longer duration. Her later study, also of Finnish data, concluded that the risk of divorce was lower where the husband worked and the wife remained at home, which would be expected if the specialisation argument holds.

Couples who both worked, however, were also found to have a lower risk so the results of this study are mixed (Jalovaara, 2003).

Kalmijn and Poortman (2006) also investigated the effect of economic activity on the risk of dissolution using data from the Netherlands, but focused on looking at whether the effects of economic variables varied according to who initiated the divorce. They argued that if the theory of role specialisation was correct, then marriage would provide benefits for both parties. Therefore, if these benefits were reduced by the woman working then there would be an increase in 'joint' divorce. They also suggested that if Parsons' idea of men seeing women's employment as competition was true then there would be a higher rate of divorces sought by males; however, they found little evidence for either theory in their analysis. They found that, in line with other studies, there was a positive association between the number of hours worked by women and the risk of divorce where the divorce had been initiated by the woman, but not when the divorce was initiated by men (Kalmijn & Poortman, 2006). It has been found that the couple's view of specialised roles is important (Sayer & Bianchi, 2000). For example, Kalmijn, De Graff and Poortman (2004) found that adopting specialised roles within a union is only associated with a lower risk of dissolution if the woman supported these roles.

It is possible that a greater risk of dissolution is associated with women's employment might be due to the difficulty of balancing home and work, thus acting as a cause of conflict (Bertrand, Kamenica & Pan, 2013). Using data from the American Community Survey, Bertrand, et al (2013) tested Cooke's (2006) finding that among women who earned a higher income than their partners, those who compensated by doing a greater share of domestic labour had a lower risk of dissolution. They found that differences between the time each partner spent on domestic labour was greater where the woman earned more and they argue that this maintains an element of the gendered division of labour that reduces male discomfort with their partner working (Bertrand, et al., 2013). They also found, however, that where the woman earns a greater income than their partner, these couples reported greater levels of marital problems, were more likely to have discussed separation and their risk of dissolution increased by six percentage points (Bertrand, et al., 2013: 25). This could be alleviated by greater participation in home labour by the man as considered by Sigle-Ruston (2010) in her re-evaluation of the specialisation of roles argument. One of her questions is whether the pressure of balancing work and home for women is a cause of tension. Her measures include whether the women worked full or part time, and measures of levels of home production including housework and childcare by men. The findings suggest that compared with the baseline category of women not working and men having the lowest

level of home production, women who worked full-time have 83% higher odds of divorce. If, however, the man has the highest level of home production then the odds associated with the women working full-time are reduced to being just 19% higher (Sigle-Ruston, 2010: 14). So it would appear, then, that the increased risk associated with the woman working is offset, at least in part, by the greater involvement of the man in the home-based tasks, which suggests that the specialisation of roles argument would not hold.

There are studies that suggest that the risk of dissolution may differ according to the type of employment in which a woman is engaged. One such study to consider occupation type using individual level data is by Jalovaara (2002) who used data on first marriages in Finland that were less than 40 years in duration. With a baseline category of upper white collar work, all levels of manual work were found to have a higher risk of divorce for men and women for marriages of less than 20 years' duration. Within manual work, skilled manual workers had a lower risk of divorce than unskilled workers regardless of duration and sex, while with white collar work, lower white collar workers had a higher risk than upper white collar workers, again regardless of sex and duration. So this study found that lower-status occupations were associated with a higher risk of dissolution, which is contrary to what would be expected if competition between partners were a factor.

2.2.2 The Independence effect

An alternative mechanism through which economic activity among women might be positively associated with dissolution is the independence effect. This mechanism works through economic activity reducing a woman's financial dependence on her partner, thus enabling her to consider being financially independent and supporting herself outside of a union. This mechanism was discussed in Rowntree and Carrier's (1958) historical study of divorce in England, who suggested that as education became more widely available to girls and they gained greater career prospects, they could more readily support themselves, and thus more were able to consider divorce. Rowntree and Carrier state that "Where the Victorian middle-class wife could see only the prospect of relative or complete destitution as an alternative to her unhappy marriage, her twentieth century counterpart, armed with more vocational skill and

initiative, could…contemplate the financial implications of separation and divorce with relative equanimity" (Rowntree & Carrier, 1958: 197). More recently, Kesselring and Bremmer (2006) have suggested that as women gained greater success in their careers, they would have a greater ability to leave their unions and to live independently. Whether the independence effect is in play is tested here by whether she works and by her level of income.

The study discussed earlier by Kalmijn and Poortman (2006) found a positive association between the number of hours worked by women and the risk of divorce where the divorce had been initiated by the woman, which lends support to the independence theory, that is, that working women are able to consider leaving. Studies using European data have looked at the effect of both the absolute and relative income of women on the risk of dissolution. Boheim and Ermisch (2001) analysed the British Household Panel Survey and found that a higher income for women was associated with an increased risk of dissolution, whilst a higher income for men was associated with a decreased risk. Similar results were found in Finnish marriages of all durations (Jalovaara, 2002). In a paper published the following year Jalovaara (2003) used census-linked data to examine the comparative income levels for men and women, based on a scale of 1 to 4, with 1 being the lowest income level. The study found that where the woman's income is higher than her husband's, this is consistently associated with a higher risk of divorce. For example, the relative risk where the woman's income is level 2 but the man's is level 1 is 1.27; where the man's income is at level 2 and the woman's income is level 3 the relative risk is 1.10 and if her income is level 4 the relative risk is 1.41 (Jalovaara, 2003: 75). When examined in reverse, where the man's income is of a higher level than the woman's, this is associated with a lower relative risk (Jalovaara, 2003: 75). So these studies agree that women's income is positively associated with dissolution whilst there is a negative association between male income and dissolution. This provides some evidence that is consistent with the independence mechanism. It may be, however, as Kesselring and Bremmer (2006) suggest, that a higher income ratio for women introduces an element of conflict; this could also be considered to be consistent with the ideas of Parsons and Becker (discussed in section 2.2.1).

The hypothesis is that income allows women to be independent but Kalmijn, Loeve and Manting (2007) note that in the Netherlands all people are entitled to a minimum level of welfare so the ease of leaving a union may vary according to the income of the man. If a woman's partner has a low income then the minimum level of welfare may be sufficient for a woman to consider leaving, however if the man has a higher income, the

minimum level of welfare would represent a far larger drop in income. In line with previous research, Kalmijn, et al's (2007) examination of administrative data found that as a woman's income increases the risk of dissolution increases, although there were differences in the association between marriage and cohabitation and according to duration of union. With unions of fewer than five years when the woman's income is below or equal to the man's, the risk of dissolution is reduced for marriages but increased for cohabitations, however when the woman's income is above equal to the man's income then the risk of dissolution is increased for both cohabitation and marriage (Kalmijn, et al, 2007). For unions that are five or more years in duration, all union types show similar trends of a reduced risk of dissolution when the woman's income is below equal, and an increased risk when the woman's income is above or equal to that of her partner (Kalmijn, et al, 2007). They suggest that this is due to the difference in power relations in cohabitation and marriage: cohabitation is a more equal balance between male and female with any deviation away from this balance increasing the risk of dissolution, while marriage is more associated with male dominance and so any deviation from male dominance in income is associated with an increase in risk (Kalmijn, et al, 2007). Whilst these ideas are interesting, this study offers mixed results. During the first five years the results of this study would appear consistent with the specialisation of roles argument, however after the first five years the findings are more consistent with the independence effect.

Studies do not universally find that the independence effect whereby income enables women to leave their unions. Lye (1989) found that the ratio of male to female incomes was not significantly associated with divorce rates in her comparative studies. Likewise, Greenstein's (1990) study found contradictory evidence for an association between income and dissolution risk. The study found that where more than three quarters of the household income came from the woman's work the hazard ratio for dissolution was 1.43, compared with the baseline of 50-75% of the household income, although the hazard ratio for women who contributed less than a quarter of the household income was 1.18, so the association is less clear (Greenstein, 1990: 672). When, however, Greenstein (1990) included an interaction between the level of income and the number of hours worked, the study found that women who earned over $4000 per annum and worked over 40 hours per week had a relative risk of 1.36, whilst women who earned less than $2000 per annum and worked 36-40 hours per week had the highest relative risk of 2.89. So it is perhaps it is the hours worked that has the greater

impact on dissolution risk rather than income. However, an occupation that pays $4000 for full time work would be a higher status occupation to that pays $2000 and it may be this that is the influencing factor rather than income alone. Alternatively long hours worked for low pay may be a source of stress that in turn might be a source of conflict within a union. Overall Greenstein (1990: 674) suggests that there is "no consistent positive effect of wives' earnings on marital disruption" and more recently Schoen et al (2002) concluded that there was no evidence that a higher ratio of female income resulted in an increased risk of dissolution. Finally, Jalovaara (2013: 184-5) found that within marriages where women earned above 22,000 Euros they had an increased hazard risk of dissolution, which increased in magnitude as income increased, but no significant association was found for cohabitations.

Schoen, et al (2002) used US data from the late 1980's and early 1990's to examine the impact of economic activity on unions with different levels of reported happiness. Among all unions, it was found that women who had worked full-time within the previous year had a 24% higher risk of dissolution, which would provide for the specialisation of roles theory (Schoen, et al. 2002: 654). They also, however, included a measure of happiness which produced some interesting results. Where both partners were happy with the union, the woman working full-time was not found to be associated with higher dissolution risk; however where the woman was unhappy but the man was happy, a woman who worked full-time had an odds ratio of 2.42 compared with 1.84 for women who did not work full-time (Schoen, et al. 2002: 654). So these findings would suggest that employment may have a destabilising effect on unions only where one or both partners are unhappy with the union. So this suggests that rather than being a cause of dissolution, a woman's employment is enabling some to terminate marriages within which they are unhappy (Sayer, et al, 2011).

2.2.3 The income mechanism

Another potential mechanism via which economic activity among women may influence dissolution risk is the income effect. This hypothesises that women's economic activity, in contrast to the previous two mechanisms, is associated with a lower risk of dissolution (Cooke, 2006; Oppenheimer, 1988; Sayer & Bianci, 2000). So in effect, her employment might in some way be helping to stabilise her union. It may be that where there are dual incomes, couples may accumulate more joint assets and so have more to lose through separation (Jalovaara, 2003; Greenstein, 1990) or they may more

easily achieve their economic and social aspirations (Easterlin, 1966; Easterlin 1976; Oppenheimer, 1976).

Kalmijn and Poortman (2006) suggest that another mechanism through which the income effect operates is that women may act in disapproval if they feel their spouse is not providing adequately for their family, so would expect a higher risk of female divorces. It has been found that financial difficulties tended to increase the overall risk of divorce, but that the odds were higher for female divorces, which provides, in their view, evidence of women's disapproval of a "failing" spouse (Cherlin, 1979; Nock, 2001; Kalmijn & Poortman, 2006), and also suggests that women may be more likely to feel the pressure of financial hardship (Kalmijn & Poortman, 2006). Kalmijn and Poortman (2006: 212) state that "most determinants work more strongly through 'her' divorce than through 'his' divorce".

Whether the income effect is in play is tested here by the women's absolute or relative income and the man's income wherever possible, and, as with the other mechanisms, evidence has been mixed. In the US, Greenstein (1990) approached income both as absolute income levels and as a proportion of the household income. The findings of this study are that income level of above and below the baseline category of $4,000–$7000 for male income was associated with a slight increase in dissolution risk, although there is no difference between the size of the effect for low and high levels of income. Similarly for women who have a higher or lower income than the baseline category of $2000–4000 are also associated with a higher risk of dissolution although the size of the effect is much more distinctive. For example the proportional hazard coefficient for women with an income of less than $2000 is 1.73, which shows a significantly higher risk of dissolution, compared with a coefficient of 0.88 for those who earn over $4000 (Greenstein, 1990: 672). A later study of US unions between 1968 and1985 by Ono (1998) used a couple approach and found that the woman's income provided a stabilising effect, perhaps because it was counteracting a lower male income. It was concluded that a dual income would increase the likelihood of union survival compared with unions that are structured around distinct gender roles (Ono, 1998), therefore providing evidence for the income effect.

It may also be that a woman's economic activity helps to alleviate financial difficulties (Rayman, 1993) which, in a study of US data, Halliday, Hardie and Lucas (2010) found

to be a source of conflict within a union. Halliday, et al (2010: 1141) investigated the impact of economic strain on the quality of a union with the hypothesis that "economic circumstances have a greater association with relationship quality for cohabiters than for married individuals". Using measures of level of affection and conflict within the union, and measures of financial hardship, they carried out logistic regression models for cohabiting and married unions. Halliday, et al (2010) found that cohabiters reported poorer relationship quality according to their measures of affection and conflict, and also lower levels of economic security. Overall the results found that economic hardship increases levels of reported conflict regardless of the type of union (Halliday, et al, 2010: 1150). One difference found, however, is that familial financial support has a stabilising effect for married couples but has no significant effect for cohabiting unions, perhaps because of the greater likelihood that they see their finances as joint assets (Halliday, et al, 2010). The difficulty with this study is that any measure of conflict or affection is highly subjective and relationship quality is a changeable and difficult concept to capture accurately. Further evidence for this comes from Finland. Jalovaara (2002) found that compared with those who were employed, men and women who were unemployed had a greater risk of divorce, whilst her later study, also of Finnish data, concluded that the risk of divorce was lower where both parties were employed, retired or studying (Jalovaara, 2003). Mixed results were found for different union types, for example women being unemployed was associated with a higher risk of dissolution, but only for cohabitations (Jalovaara, 2013).

These studies provide evidence for a negative association of income on union dissolution and therefore the income effect as the mechanism via which this association works. Evidence has also been found, however, for the independence effect and the specialisation of roles theory and studies that provide evidence for these mechanisms would therefore contradict the income effect.

2.2.4 Sex integration in the work place

One further mechanism through which economic activity among women could be influencing dissolution risk is via the integration of men and women in the workplace. This would suggest that participation in work outside the family home gives women greater access to alternative partners. This access to a wider field of alternative partners might be evidenced through employment in an occupation where there is a greater ratio of male employees.

Murphy (1985) discusses the ideas put forward by Noble that some occupations are more prone to divorce than others in the UK. Divorce prone occupations are those that are less stable such as acting, music and the leisure industry, while occupations such as the clergy or the fire service are less divorce prone (Murphy, 1985). This is argued to be due to the level of sex segregation in these occupations, where, for example, the overall ratio of females to males is 48/100. High risk occupations may have a ratio of 228 women to 100 males and low risk occupations will have a low ratio of women to men (Murphy, 1985: 89). These findings were consistent with a Danish study where it was found that where women worked in an occupation with a high ratio of men, the risk of divorce was higher (Svarer, 2007). Jalovaara (2002: 551) found that farmers had a far lower risk of divorce for both men and women again across all durations; as this is a fairly insular job there may be little access to alternative partners.

The impact of sex integration in the workplace has also been discussed by McKinnish (2007) who used census data from the US to examine the impact on their probability of divorce of women working in occupations categorised into percentiles according to the proportion of female workers in that industry. The results from her fixed effects regression models suggest that if a woman moves from an industry in the 25th percentile to one in the 75th percentile (i.e. moving to a more female-dominated industry), this reduces her probability of divorce by 1.4 percentage points, while for a man making the directional move his probability of divorce increases by 1.1 percentage points (McKinnish, 2007: 340). This is consistent with the earlier findings of Rayman (1993) that integration has a greater impact on women. The introduction of an instrumental variable which measures the occupational composition of employment in the local labour market, and repeating the same process of moving cases from the 25th to the 75th percentile of industries, results in an increase in divorce probability of 15.7 percentage points for women, and a decrease of 8.4 percentage points for men (McKinnish, 2007: 341). McKinnish (2007: 345) also repeated the modelling process with National Longitudinal Survey of Youth 1979 and using a hazard model, the results here were that women had an increased probability of 6.2 percentage points whilst men had a decrease of 4.8 percentage points.

These theories link into Victorian concerns about mixed sex workplaces and the impact of this on the moral wellbeing of young women, which is discussed in greater depth in Chapter Seven, section 7.8.

2.3 Discussion of economic and social mechanisms in the risk of union dissolution

This literature review has found evidence for and against each of the mechanisms discussed above and has also found conflicting evidence for the different measures of economic activity between different studies and different countries. Some reflection is required on why such diverse findings are seen and this section aims to do just that. This is a complex research area, due in part to the many different ways of measuring economic activity, the variety of ways which these measures are operationalised within the constraints of the data available and the different countries and data studied. This array of differences between the studies in this field needs some reflecting upon as they make it difficult to compare findings directly in order to draw conclusions and this discussion will consider these differences.

Many of the studies discussed in this chapter use data mainly from the US and Europe, few use UK or British data. The use of studies from outside the UK in this thesis has its limitations and it could be argued that these studies are not relevant to the UK context. Within the Western world we often assume countries share similar social and cultural contexts, especially between the UK and the US but is this a reasonable assumption? Even within the Western world, countries have different divorce legislation, levels of cohabitation, different welfare systems as well as different attitudes towards divorce, cohabitation, women's employment and gender roles. So studies from different countries are not directly comparable. It is assumed that the US and the UK will have relatively similar contexts, however across Europe it may be very different. A useful paper to draw on here is Cooke and Gash (2010). In their study they ran models for three countries, the US, the UK and West Germany which included all the same control variables. Although there were no measures for aspects such as legislation and attitudes, these models do offer the most direct comparison possible from the studies examined here. They found similar results in terms of their economic activity measures in the US and the UK. Thus their findings are consistent with the assumption that the two countries are relatively similar. However, whatever the limitations and issues surrounding using studies from multiple countries, the larger proportion of studies into the relationship between women's economic activity and union dissolution have been conducted outside the UK, in fact this is one of the rationales for this study. And so in

order to attempt a comprehensive overview of divorce and dissolution it is deemed necessary to include these non-UK studies.

Another area where there is an issue of direct comparability is in the many different ways of economic activity is measured and the variety of ways which these measures are operationalised within the constraints of the data available. Measures include the hours worked, whether a woman works or not and income, both absolute and relative measures. Studies may use the same measure but they may still not be directly comparable. For example Greenstein (1990) and South and Spitze (1986) both used the number of hours worked by the woman, but the baseline categories are not the same. Greenstein (1990) used 21-34 hours whilst South and Spitze (1986) used not working, i.e. zero hours. So the two studies are not comparing like with like.

Another potential issue is whether the measures used mean the same across different studies. An example of this is the use of categorical measures of economic activity status. Poortman (2005a) and South and Spitze (19860 are two studies which use the category ‘Not working’. But what does not working mean and does it mean the same in all studies? Not working could mean that a woman is economically inactive which may include being engaged in family care and so not available to the labour market. It might also be that she wants to work but may be unemployed. Both mean the same in the sense that the woman is not actively working, but they have different meanings in the sense that the woman who is unemployed may have a stronger attachment to the idea of working. There is also maternity leave to consider here. A woman on maternity leave has a job but is not currently working, so how do studies classify these women? These studies do not explain how they define measures such as ‘Not working’ and so it cannot be assumed that they mean the same things.

Even when a measure is clear and self-explanatory such as level of income, there may still be a lack of comparability across studies. For example is the 22,000 Euro threshold used by Jalovaara in 2013 equivalent in real terms to the $2000 and $4000 thresholds used by Greenstein in 1990? There is often very little discussion about what the level of income used means. For example are these thresholds set taking into account the cost of living in that country at that particular time period? This is an important consideration as it is necessary to understand whether these levels of income are sufficient to allow a woman to be financially independent. If it is not, then income becomes arguably an

inadequate measure to use on its own here. The role of welfare provisions in contributing to the income level of women was discussed by Kalmijn, Loeve and Manting (2007), and is a valid point which requires recognition. Arguably financial independence may be obtained by a number of sources, including state welfare payments, child maintenance and alimony payments and so a woman may not need to work full-time or at all to consider the possibility of being economic independent outside her union. If she has an expectation of receiving financial support from the state or from a partner, then she could consider leaving a union even if she has not worked previously. With the exception of Kalmijn, Loeve and Manting (2007), the nature of the welfare system and financial support outside of employment is not widely acknowledged in the studies discussed here.

There are a number of person and union characteristics that are widely accepted as having an influence on a woman's risk of dissolution and these will be discussed in more depth in sections 2.4, 2.5 and 2.6. Many of the studies included in this literature review have controlled for some or all of these characteristics. It is important that such factors be controlled for, and this study will also control for these. However, there are differences between studies in which factors are controlled for and how they are measured and as in the case of economic measures, this will have an impact on the findings. Factors such as the woman's age at the start of the union and the presence of children are controlled for by many of the studies discussed here, however no two studies include identical models. For example Sayer and Bianchi (2000), Kalmijn et al. (2007) and Poortman (2005a) all control for union duration and children common to both partners, however Sayer and Bianchi (2000) control for factors such as substance abuse, domestic violence and partnership quality which the other studies do not. Likewise, Kalmijn et al. (2007) control for age differences between the couple, a factor which is absent from the other studies. As well as measures of economic activity, previous studies have also included a number of control variables. And here too the issues around the direct comparability of such studies arise. The decision of which factors to control for is made partly on a theoretical basis and in no small part on what information is available in the data. So even when the economic measures across two studies are comparable, the range of control variables used may not be. As such differences such as the ones discussed here cannot be easily avoided but must be acknowledged.

Because of the issues discussed in this section, no consistent evidence has been found of an association between economic activity and first union dissolution at the individual level. Also different measures are assumed to matter for each mechanism.

Therefore the evidence for an individual level association between economic activity and union dissolution is thus far inconclusive. It is also not possible to draw any conclusions about which of the mechanisms discussed economic activity might be influencing dissolution through. This may be because the association between economic activity and dissolution is changing over time, an idea which is examined in more depth in Chapter 6.

It is possible also that there are other factors which influence the risk of a union ending in dissolution and a number of such factors have been identified in previous studies. Although the primary focus of this study is economic activity, it is considered important to control for any additional factors which may potentially influence the risk of dissolution. Therefore these factors are discussed in the next sections, and are grouped into early life-course, early union and fertility characteristics as shown in the framework in Figure 2-1.

2.4 Early life-course and demographic characteristics

This section discusses fixed characteristics such as those relating to a woman's early life-course and demographic characteristics and examines these at the individual level. These are assumed to be fixed at the time the woman enters her first co-residential union.

2.4.1 Ethnic group membership

It has been found that ethnic groups have differing levels of dissolution risk. The classifications used to define a person's ethnicity vary in part due to what sample sizes are available in the particular dataset used. Therefore, some studies may use a binary variable of white and non-white whilst others will include a more detailed list of categories.

White's (1990) found that black Americans have a greater risk of divorce than white Americans across all the US studies reviewed. In a later study of US mid-life women by Hiedemann, Suhomlinova and O'Rand (1998: 229), black women were found to be

49% more likely to divorce than white women, a finding that is consistent with White's (1990) study. South and Spitze (1986) found that this greater risk of divorce among black individuals remained present regardless of marital duration. These findings were also seen across all union types and in the UK by Goodman and Greaves (2010) who found that black mothers have the same higher risk of separation regardless of whether the union was a marriage or cohabitation. However, in contrast, Cooke and Gash (2010) did not find a significant association between ethnicity and dissolution in either the US, Britain or West Germany.

The majority of these studies agree that non-white or black groups are at greater risk of dissolution, and that these differences appear consistent over time. There are, however, some problems with these studies. Firstly most of the studies discussed here focus on defining ethnic groups as either black versus white or white versus non-white. However, these binary classifications are an overly simplified view of the range of ethnic groups that exist within the US and UK. Although such simple classifications are often all that is possible, due to constraints such as small sample sizes for minority ethnic groups, they might be hiding interesting differences between minority ethnic groups. For example, Goodman and Greaves (2010) found that although black mothers had a greater risk of dissolution than white mothers, they also found that Indian mothers had a lower risk than white mothers. This would suggest that it is important to use as detailed a classification of ethnicity that the data will allow.

The association between ethnicity and dissolution risk may work via different mechanisms. For example, is it differences in cultural attitudes towards marriage or cohabitation that come into play, or even differences in trends of economic activity? It might be that certain groups are less likely to cohabit and so would avoid the relative instability of these union types. Stevenson and Wolfer's (2007) US study found that black groups were less likely to and were slower to convert their unions into marriage than other groups, whilst a UK study of mothers by Goodman and Greaves (2010) found that mothers who were Indian, Pakistani or Bangladeshi were more likely to marry than cohabit than the baseline category of white mothers (Goodman & Greaves, 2010). It may also be due to differential socio-economic statuses between ethnic groups. Certain groups might have lower economic opportunities which might mean that economic mechanisms discussed in Section 2.2 might explain the differential risk of dissolution between different ethnic groups. For example, Lichter, Qian and Melliot

(2006) found that in their sample, nearly a third of black women were poor compared with less than a fifth of white women.

2.4.2 Religion

Across the literature reviewed for this study, findings suggest that religious belief or membership is associated with the risk of dissolution, with those holding religious beliefs or being members of a particular religion experiencing a lower probability of dissolution than those who hold no such beliefs or memberships. There are two ways of examining religion; firstly there is religious group membership as defined by the respondent, and secondly there is religiosity as measured by the frequency of attendance at religious services or evidence of religious practice.

Studies have found unanimously that those who identify with a particular religion have a lower propensity to dissolve their unions that those who state that they have no religious group membership. This finding seems to be consistent not just in the UK where Goodman and Greaves (2010) found that women who had children and who recorded themselves as being Christian had a lower risk of dissolution than mothers who state they have no religious membership, but also in the US where Johnson and Skinner (1986) found that those with religious beliefs have a lower risk of divorce, although differences between the risk associated with different religions have also been found. For example Lye (1989) found that the risk of divorce was particularly low among Jewish couples, possibly due to strong bonds within Jewish communities. Religious homogeneity was also found to be associated with a lower risk of dissolution (Lyngstad & Jalovaara, 2010).

Not all those who identify themselves as being religious are active members, however, and may not attend religious services regularly. So is it religious group membership per se that is influencing dissolution risk, or is it more to do with adherence to the principles of that religion? For example an individual may class themselves as Christian because they were baptised as a child or attended a faith-specific school but they may no longer regularly practise. Therefore their membership of a particular religion may have little impact on their partnership behaviour. Religiosity may therefore be a more accurate measure of the impact that religion may have on partnership behaviour, as regular practise is more likely to indicate the impact religion has on individuals' lives. One study

that included a measure of religiosity by Lyngstad and Jalovaara (2010) found that higher frequencies of attendance were associated with a lower risk of dissolution. This is consistent with the earlier study by Berrington and Diamond (1999: 31) who found that women with strong levels of religious practice had an odds ratio of divorce that was 0.72 compared with women with no religious practice.

Through what mechanism is religious group membership or religiosity associated with dissolution? Studies have found that religion or religiosity have the potential to influence union behaviour. For example, Goodman and Greaves (2010) found that in the UK, women in with children were more to convert their cohabitations into marriage if they stated having religious beliefs. This is consistent with the findings of an earlier study of the 1958 UK Cohort Study by Berrington and Diamond (1999: 22), who found that among individuals who stated that their level of religious practice was “none” 42% of men and 35.7% of women cohabited before marriage, compared with 16.8% of men and 18.3% of women who had “strong” religious practice. Cohabitation has been shown to be associated with a greater risk of dissolution as will be discussed in the next section, so it might be that religion selects individuals into marriage, which has been found to be a more stable union type.

2.4.3 Education

As with economic activity, there are many ways of measuring education and it may be that education is operating via different mechanisms. These studies suggest that there are mixed results for an association between education and dissolution. There are two mechanisms discussed here through which education could be associated with union dissolution. Firstly if higher education is negatively associated with dissolution, it may be that spending longer in full-time education may delay entry into the first co-resident union, which might contribute to a reduction in risk as older age at union is found, as will be discussed later, to be associated with a lower likelihood of dissolution. This mechanism is further discussed by a US study by Stevenson and Wolfers (2007) who found that women with a degree were less likely to marry by the age of 45 than those without. In their study of the National Child Development Study of the 1958 British birth cohort, having a degree level education attainment was found by Berrington and Diamond (1999) to be associated with a lower risk of divorce in the 1958 UK cohort possibly because studying to degree level may delay marriage (which is often linked with lower risk of divorce). Further is consistent with comes from Goodman and Greaves’s (2010) UK study on the relative stability of marriages compared with

cohabitations, which found that education influenced both the probability of being married and of dissolution for men and women with children. Where both parents had a high level of education they were more likely to marry, but where the mother had a low level of education there was a higher likelihood of dissolution (Goodman & Greaves, 2010). A similar negative association between level of education and dissolution was found in Finland by Jalovaara (2002) at short durations of marriage. Jalovaara's (2003) later study examined the role of educational heterogeneity in dissolution risk, and her findings suggest that the lowest risk of divorce is found among couples where both partners have tertiary level education, whilst the highest risk is found where one partner has basic level education and the other has secondary level education. These findings suggest that having differing levels of education may be a factor.

In contrast if higher education is positively associated with dissolution, education could be a proxy measure of economic opportunity, with higher levels of education signalling a greater opportunity for economic progression and greater earning potential (Jalovaara, 2013). Evidence that education may be associated with opportunities or economic position comes from a US study by Lichter, Qian and Melliot (2006) who examined poor versus non-poor women. They found that just over half of poor women had less than a high school diploma compared with a third of non-poor women. This in turn could increase a woman's opportunity of being financially independent. Gender differences have also been suggested, with Lye (1989) finding that a higher level of educational attainment among women increased the risk of divorce, although higher levels of education among men had little impact. One possible explanation for this is that increased levels of education means that women have increased opportunities which may in turn lead to increased levels of employment, which economic theories have linked with a greater risk of dissolution (Rosenfeld, 1996; Van der Lippe & Van Dijk, 2002).

Findings consistent with this mechanism emerged from a study using life history data collected from birth cohorts 1903–1937 in the Netherlands by Fokkema and Liefbroer (2004: 437) that found that those with a higher level of education had a relative risk of divorce of 2.14, which was significant at the 5% level, compared with those with low education levels. They suggest that educational level is an "important part in these women's decision to divorce" (Fokkema & Liefbroer, 2004: 439). A later Dutch study, however, by Fischer and Liefbroer (2006) found a non-linear association between level

of education and dissolution; their findings show that those with the lowest level of education had the highest risk of dissolution, but whilst those with the highest level of education had a lower risk level, they also had a higher risk than those with medium level education.

A number of studies have investigated whether the effect of educational level on dissolution differs according to union duration. Hiedemann, Suhomlinova and O'Rand's US study found that higher levels of education were associated with a greater risk of dissolution at longer union durations. A similar result was achieved by South and Spitze's (1986) US study, which found that the education level of the woman was negatively associated with divorce at shorter durations, but positively associated at longer durations, i.e. the association changes over the life of the marriage. It may also be that the association between education and dissolution has been changing over time. A recent study of Spanish marriages by Bernardi and Martinez-Pastor (2011) examined the differing impact of a range of possible determinants of divorce for marriages before and after the 1981 Divorce Law which removed many barriers to divorce. They found that prior to the Act those with a degree had a risk of divorce that was 3.2 times higher than those who had only completed primary education, whilst those with upper secondary level education had a risk 4 times higher, again showing a non-linear association (Bernardi & Martinez-Pastor, 2011:784). Interestingly they also found that this positive association disappears for marriages formed after 1981 suggesting that perhaps previously higher educational attainment had enabled women to overcome such barriers that existed.

Results appear to be mixed, perhaps because the range of different measures used makes it difficult to make direct comparisons of results. However, Lyngstad and Jalovaara's (2010) study of US and Dutch data found conflicting results within the same analyses. In the US data, they found a negative effect for women's level of education, whilst in the Dutch data a positive effect was found with dissolution risk increasing as their level of education increases (Lyngstad & Jalovaara, 2010). Härkönen and Dronkers (2006) also found that the effect of education varied across different countries, so no firm conclusions can be drawn about the effect of education on the risk of dissolution. These studies highlight one of the difficulties in comparing results for educational measures across studies, which are cross-national comparisons. The difficulty then is that each country will have its own educational systems and qualification types and it may be difficult to accurately compare these different systems.

It is unclear from these studies if it is education per se that has an effect on dissolution risk or whether it is its influence on economic opportunity, a point raised by Lyngstad and Jalovaara (2010).Evidence for the impact of education on the risk of divorce is also unclear and no consensus seems to exist for a linear relationship between education and dissolution. One of the key problems is that different studies use different measures of education, as will be seen, and may include measures such as highest educational or academic qualification achieved, or years of schooling completed. Also, measures of education and educational qualifications vary across countries. This means that direct comparison of findings is difficult.

2.4.4 Parental divorce

It has been shown that there is a positive association between whether a woman experienced the breakdown of her parents' union and dissolution (White, 1990). In the UK, Berrington and Diamond (1999) found that men whose parents had separated showed a greater risk of experiencing dissolution in their own unions, with men whose parents had separated having an odds ratio of having their first marriage end of 1.42, although no significant association was found among women (Berrington & Diamond, 1999). These findings is consistent with those of a study by Fokkema and Liefbroer (2004: 437) who found that those who had experienced their parents' divorce had a relative risk of their own marriage ending of 1.96, compared with those whose parents had not divorced. Likewise in Spain, it was found that experiencing a parental divorce was associated with a hazard ratio of 2.46 compared with those who had not experienced this (Bernardi and Martinez-Pastor, 2011: 785).

This positive association may be operating via a diffusion of acceptance towards dissolution between generations. Bernardi and Martinez-Pastor (2011) had expected to find that as parental divorce became more common over time, any association between parental divorce and higher risk of dissolution would lessen, however whilst they did find the positive association between parental divorce and risk of dissolution reduced in size over time, this reduction was not statistically significant. A significant reduction in the association, however, was found by Muszynska (2008). Her findings were that, compared with the baseline category of women who had not experienced the divorce of their parents, those who had experienced parental divorce and who had

unions formed between 1967–1991 had a 33% increase in the risk of experiencing dissolution whilst those with unions formed between 1992–2004 had a 25% increase in risk (Muszynska, 2008: 197).

It may also be the case that experiencing the dissolution of their parents' union may lead to that individual choosing to cohabit rather than marry, thus entering a less stable type of union. Evidence for this is provided by Berrington & Diamond (1999: 22, 29) who found that in the UK just under a half of men whose parents had separated were cohabiting, compared with a third of men whose parents had remained together. This trend was also seen across the European countries included in Kiernan's (1999) comparative study that found that individuals who experienced the separation of their parents as children were more likely to cohabit than those who had not experienced a parental split.

2.5 Early union characteristics

Based on the theoretical framework at the start of the chapter (Figure 2-1), there are a number of factors or characteristics relating to the union that previous studies have found have an impact on the risk of that union ending in dissolution, and which are discussed in this section.

2.5.1 Pre-union child bearing

Having a child before the start of a union has been found to be positively associated with union dissolution in the US (Greenstein, 1990), although White (1990) suggests that whilst pre-marital childbearing increases the risk of divorce, pre-marital conception does not. Perhaps this is because conception does not always lead to a live birth, or perhaps it is because a pre-union conception may still result in the birth occurring within the union. In contrast, in the Netherlands Fokkema and Liefbroer (2004: 437) found that having a pre-marital birth was not significantly associated with a higher risk of experiencing a divorce, whilst Berrington and Diamond (1999: 31) found that in the UK, compared with women who have no children, women with a premarital birth had an odds ratio of their marriage dissolving of 0.73 and for men the odds ratio was 0.66.

It might be expected that as social norms and attitudes become more accepting, the association between pre-union childbearing and dissolution might be altering. Bernardi and Martinez-Pastor (2011) expected to find in Spain that the effect of pre-marital pregnancy on increasing the risk of divorce would decrease over time as such pregnancies became more common in Spanish society. However, the opposite was found with the effect increasing for marriages after 1981.

The differences between these findings may reflect differences in whether the child was the natural child of both partners or belonged to a previous partner. Not all studies that include this measure make this distinction when discussing their findings so it is not possible to say conclusively whether this is at the heart of the different findings, however it does make sense that children from a previous partnership may have a different effect than children who were conceived with a woman's current partner. If the birth occurred with the current partner, the couple may have decided to move into a co-resident partnership because of the birth, when perhaps without such an event the partnership may never have progressed to marriage or cohabitation. It may also mean that they have spent less time searching for a suitable match. On the other hand, if the birth occurred with a previous, non-resident partner the presence of the child may act as a source of disagreement and so destabilise the union.

2.5.2 Age at start of the union

The woman's age at the start of the union is found to be one of the key determinants in the risk of dissolution within individual level studies, with younger age at union being positively associated with dissolution (White, 1990; Wilson & Smallwood, 2008; Greenstein, 1990). Within studies, age can be treated as a continuous variable or else age categories might be used.

A US longitudinal study of mid-life women by Hiedemann, Suhomlinova and O'Rand (1998: 228) treated age as a continuous variable and found that the risk of divorce reduces with each year of age by 10-12%, with this association being stronger at shorter marriage durations. These results are consistent with those from Cooke and Gash's study (2010) who also used a continuous measure of age in data from the UK, US and West Germany.

Treating age as a categorical measure might lead to different findings, however similar results using age categories were found in the US by Greenstein (1990) who found that those who marry at 20 years or younger were at greater risk of divorce whilst those aged 22 years and over were at a lower risk. Schoen et al (2002: 654) found that women who entered their union under the age of twenty had an odds ratio of experiencing dissolution of 1.85 and those entering their union aged 25 and above had an odds ratio of 0.61, compared to the baseline category of women aged 20-24 years. Similar results have been found in UK studies such as that by Wilson & Smallwood (2008).

This positive association between younger age at the start of the union and eventual dissolution was also found across Europe, although evidence is mixed for a negative association with older age. In the Netherlands, Fokkema and Liefbroer (2004) showed that those who married before the age of 20 had a relative risk of 1.88 of experiencing a divorce, a finding consistent with Kalmijn and Poortman's study (2006), although they found that marrying after the age of 30 years was not significant. In contrast, Fischer and Liefbroer (2006) did find that entering a union at a later age in the Netherlands was associated with a lower risk of dissolution. Some evidence of a change in this positive association with younger age over time was found by Bernardi and Martinez-Pastor (2011) in Spain. They found that whilst delaying marriage to older ages reduced the risk for those married before the Act, this association was not found among those who married after 1981.

The effect of age at the start of the union seems to hold outside of Europe as well. A study by Muszynska (2008: 197) of unions formed within the Socialist and transition periods in Russia found that compared with the baseline category of women under 20 years at the start of the union, women who were aged 20-25 years at the start of the union had a relative risk of dissolution of 0.70 for unions formed between 1967-1991 and 0.67 for those formed between 1992-2004. Women who were aged 30 at the start of union had a relative risk of dissolution of 0.85 (not significant) and 0.77 for the two time periods respectively (Muszynska, 2008: 197), consistent with the findings of Fischer and Liefbroer (2006).

Slightly different age categories are used in these studies, for example the category 25 years and above is used by Schoen et al (2002) compared with 30 years and above in Muszynska (2008) but the categories used are sufficiently similar and do not appear to have led to differentiated results. Indeed despite the variations in how the woman's age is measured and categorised, the results across these studies are consistently showing

that the risk of experiencing union decreases as the woman's age at the start of her first union increases.

It would be interesting to investigate how such a mechanism might work, and whether marrying at a young age increases the risk of divorce, possibly because entering a union at an earlier age may mean that less time is spent finding the optimal match (Lyngstad & Jalovaara, 2010; Kalmijn & Poortman, 2006), or whether couples with a higher propensity to divorce also have a tendency to marry at younger ages.

2.5.3 Union type

There are three types of union: direct marriage, marriage preceded by cohabitation, and cohabitation. Much research has emerged about the relative stability of cohabiting unions compared with marriages and of marriages preceded by cohabitation compared with direct marriages. It has been found that each type may be subject to differing dissolution risks, with cohabitation or pre-marital cohabitation being more prone to dissolution. These hypothesised differences in risk may be because it may be easier to enter into and to leave cohabitations than marriages, due in part perhaps to the legal procedures surrounding both marriage and divorce, but that currently do not apply to cohabitation. A married couple may also have more invested in union-specific capital such as children or property so may have more to lose by dissolving the union. It may also be that couples who cohabit are less committed to the union and so choose not to marry.

Much debate has arisen about whether cohabitation is emerging as a replacement for marriage. In the UK, cohabitations appear to be lasting longer than previously. Murphy (2000) found that between 1987 and 1995 the mean duration of cohabitations in the UK had increased by around 12 months and he suggested that as the mean duration of cohabitations increases, so couples may see them as a viable alternative to entering into marriage. However, others argue against this. Stevenson and Wolfers (2007) found that among those who cohabit in the US, most have the expectation of marriage. An idea consistent with the findings of Lichter, Qian and Melliot (2006: 224, 236) who found that among their sample of women from the US National Longitudinal Study of Youth (1979-2000) 90% of women expected to marry the partner they were currently cohabiting with but that 90% of cohabitations end within five years, more commonly by

dissolution than by marriage. From these results Lichter, Qian and Melliot (2006: 236) suggest that cohabitation may not be the “stepping stone” into marriage that many expect, and that a norm of what they term “serial cohabitation” may be emerging.

Is there a difference between cohabitations and cohabitations that convert into marriage? Studies suggest that this may be the case. When comparing cohabitations which did not lead to marriage with those that did Haskey (1999: 21) found that among women who started their cohabiting union aged 20–24 years and during the 1980’s, there was a relative risk of dissolution of 4.3 compared with those whose cohabitation had been followed by marriage. So it appears that the greatest risk of dissolution is associated with cohabitations and that converting a cohabitation into marriage reduces the overall risk. In Great Britain, cohabitation has been found to be less stable than marriage. Among couples with children, Goodman and Greaves (2010) found that among those who were not living together when the child was 3 years of age, 20% had cohabited at the child’s birth whilst 5% were married, a relative risk ratio of 4.1. When looking at those who were not living together when the child reached 5 years, 27% had cohabited at the child’s birth compared with 9% who had been married (Goodman and Greaves, 2010: 4). Their analysis also suggests, however, that there are differences in the characteristics of parents who marry and parents who cohabit. It may be these differences that appear to make marriage more stable than cohabitation, and thus Goodman and Greaves conclude that they “find no strong evidence that there is a substantial causal link between parents being married when their child is born and a lower probability of separation” (Goodman & Greaves, 2010: 12). Similar findings have been found across the European countries studied by Kiernan (1999). Controlling for age at the start of the first union, Kiernan (1999: 30) shows that for women aged 20–39 years the relative risk of dissolution compared with the baseline group of direct marriages shows that cohabitations have the greatest risk of dissolution in each of the countries studied, although the size of the effect varies, with relative risks ranging from 1.55 in East Germany to 16.8 in Italy and 16.5 in Spain, with all these results being statistically significant.

Other studies have compared pre-marital cohabitation to direct marriage. An association between pre-marital cohabitation and greater dissolution risk was found in the US by White (1990), who suggested that perhaps this is due to a lower level of commitment to social norms about relationships. Using Dutch data, Jalovaara (2013: 188) found that marriages preceded by cohabitation were associated with a higher risk of dissolution, with hazard ratios ranging from 1.23 for marriages preceded by 24–35 months of cohabitation, to 1.79 where the cohabitation lasted between 48 and 59

months. In the UK, however, using the Omnibus Survey from the Office for National Statistics, Haskey (1999) found mixed results. His study showed that when the age, year of marriage, sex, birth cohort and marriage cohort are controlled for, marriages with cohabitation had relative risks that were just above 1. For example women whose first union was a marriage that started in the 1980's and who were 20–24 years at the start of the marriage had a relative risk of dissolution of 1.3 if they began with a period of cohabitation compared with entering marriage directly (Haskey, 1999: 20). When, however, the year the cohabitation started was used rather than year of marriage, the same women had a relative risk of 0.8 compared with those who had a direct marriage (Haskey, 1999: 20). Across Europe, Kiernan (1999) also found mixed results. She found that in countries such as Sweden, Norway, Austria and Finland the relative risk ratios show that marriages preceded by cohabitation had a lower risk of dissolution compared with direct marriages, whilst countries such as Spain, Italy, Great Britain and Switzerland have a greater relative risk for marriages preceded with cohabitation compared with direct marriages, although in Switzerland and Great Britain the relative risk is only just above 1 (1.03 and 1.07 respectively). Many of these results are not significant (Kiernan, 1999: 30). These results suggest that the cultural context within which people live has some influence on the risk they face of dissolution.

The effect of cohabitation may also be changing as it becomes more common and more accepted. Bernardi and Martinez-Pastor (2011) found that cohabiting prior to marriage was associated with an increased risk of dissolution for those married after 1981, although the different size of effect to marriages pre-1981 was not significant. In Russia, meanwhile, Muszynska (2008) found that cohabitation and marriages preceded by cohabitation were associated with a higher risk of dissolution than direct marriages. Compared with direct marriages, Muszynska (2008: 197) found that cohabiting unions had a relative risk of dissolution of 1.17 during the Socialist period and 1.41 during the transition period, whilst marriages that were preceded by cohabitation had a relative risk of 2.08 for 1967–1991 and 2.44 for 1992–2007. In contrast, in Australia it was found that whilst in the earlier cohorts premarital cohabitation was associated with a higher risk of dissolution, in more recent marriage cohorts it was found to be associated with a reduced risk (Hewitt & De Vaus, 2009).

Lyngstad and Jalovaara (2010) suggest that pre-marital cohabitation should, according to search theory, provide more stability as people will have spent more time searching

or testing the union before it is converted into marriage, although the findings of the studies discussed were not consistent with this argument. Their explanation for this is that those who enter into a direct marriage often have greater attachment to "conservative family values" and often have stronger identification with religion so this is essentially a selection effect (Lyngstad & Jalovaara, 2010: 261). So cohabitations being associated with a higher risk of dissolution may also be a selection effect as less stable unions will be less likely to convert to marriage.

2.5.4 Union order/previous unions

Union order has also been discussed as a possible determinant for dissolution, with second or higher order unions more at risk. For example Stevenson and Wolfers (2007) found that in the US second marriages tended to be both shorter in duration and were more likely to end than first marriage, perhaps because those who marry more than once have a higher propensity to relationship instability (White, 1990). A later paper by Lichter and Qian (2008) examined the idea of serial cohabitation using the US National Longitudinal Survey of Youth 1979-2000, to test the hypothesis that serial cohabitation might be a barrier to forming stable marriages. They quote statistics from a study by DeMaris and Macdonald (1993: cited in Lichter & Qian, 2008: 864) that suggest that the odds of dissolution are around twice as high for serial cohabiters than for those who enter marriage directly. Using information on family background, timing of union and childbearing as well as economic and income variables, Lichter and Qian (2008: 870) found that having several cohabitations lowers the likelihood of marriage – with odds of marriage that were a quarter lower for serial cohabiters – and also that serial cohabitation was associated with a higher risk of dissolution. Their results show that among the 49.2% of first cohabitations that ended, around a quarter of these had ended in dissolution, whilst among those with three or more cohabitations, two thirds of cohabitations had ended, half of these in dissolution (Lichter & Qian, 2008: 870). In terms of subsequent marriages, Lichter and Qian (2008: 872) found that higher risks of divorce were found among women who had entered a marriage but who had cohabited with another partner previously to this, and that women with two or more cohabitations had odds of divorce that were 141% higher than women who had just experienced a direct marriage. Whilst their study highlights a potentially interesting new trend in union behaviour, Lichter and Qian (2008) admit that their study does not fully explain the higher risk of dissolution associated with serial cohabiters, as many of the factors that might explain dissolution risk do not seem to explain much of the increased risk in this example. However, this idea of serial cohabitation in men was examined using data

from the 1958 and 1970 British Birth Cohorts by Bukodi (2012) who found similar evidence of an increased risk of dissolution among male serial cohabitors. So this is an idea that certainly warrants further examination.

In terms of union order, Muszynska (2008) found that having a higher order union had an effect on the risk of dissolution, but found a difference between the two time periods studied. The results from the hazard models show that higher order unions that formed during the period of 1967–1991 had a relative risk of dissolution of 0.93 compared with those with a first order union, whilst those higher order unions formed between 1992–2004 had a relative risk of 1.1 (Muszynska, 2008: 197). So in effect this suggests that over time the direction of the effect of having a higher order union has changed from a reduced risk to become an increased risk. Because this use of different and distinct time periods has not been used in the other studies discussed here, it is not possible to say whether this trend is particular to the rapid changes in social and economic context seen in Russia or whether a similar trend would be found in other countries.

It may be that those who have more than one union have a higher propensity to have unstable unions, or it may be that experiencing the breakdown of their first union has an impact on subsequent union behaviour. In the UK, Berrington and Diamond (1999) found that both men and women were more likely to cohabit if they had had a previous partner (for example just under two thirds of men who had a previous partner cohabited compared with a third of men who had not had a previous partner). They also found that if their partner had previously been married, they were also more likely to cohabit and had a greater risk of dissolution (Berrington & Diamond, 1999). So in effect, subsequent unions were more likely to be cohabitations, which have been shown to be less stable (Goodman and Greaves, 2010; Kiernan, 1999)

2.5.5 Duration of the union

Duration of marriage has also been found to impact on the risk of divorce, with shorter durations generally associated with a greater risk of dissolution in the US (Johnson and Skinner, 1986; White, 1990; Cooke & Gash, 2010), in West Germany (Cooke & Gash, 2010) and in Russia (Muszynska, 2008). Hiedemann, Suhomlinova and O'Rand's (1998: 228) study of US women found a negative association, with the risk of divorce decreasing by 10% as the marriage duration increasing by a year, Similar results have

been in UK studies by Wilson and Smallwood (2008a: 28) who also found for 2005 data around half of divorces in England and Wales happen within the first ten years. In contrast, Cooke and Gash (2010) did not find a greater risk of dissolution in the early years of British marriages. Bernardi and Martinez-Pastor's (2011) found that in Spanish marriages the impact of marital duration had changed over time. They found that for marriages formed prior to 1981 the risk of divorce decreased as the marital duration increased, while the opposite effect was found among marriages formed after 1981, although this result was not statistically significant.

However, what is unclear in these studies is whether the marriages were direct marriages or were preceded by a period of cohabitation. It is also not clear whether the duration is measured from the date of marriage or from the date the couple started cohabiting prior to that marriage. This is important to consider as if a couple cohabited for a year prior to marrying, and duration is measured from the date of marriage, then the measure of duration is potentially misleading as a couple may have a recorded duration of two years (based on being married for two years) but they might have been living together for three years. An additional problem with the lack of clear detail on how duration is measured is that it cannot be assumed that the studies compared here will have measured duration in the same way, or that the marriages all began in the same way. As discussed in previous sections, this means that findings may not themselves be directly comparable. However, these studies generally consistently find that as the duration of the marriage increases, the risk of dissolution decreases.

What is it about longer union durations that seem to lower the risk of dissolution? Is it a selection effect whereby couples are more likely to stay together once the union has remained intact for a number of years? There are possibly other factors at play. The amount of joint assets or investments into a union seems a plausible factor. Hiedemann, Suhomlinova and O'Rand (1998) suggested that during the first five years of a marriage, people have invested very little, but later on when the marriage has already survived some of the earlier risks they will invest more in terms of property and children. Becker (1981) suggests that marriage duration also impacts on the dominant reasons given for divorce, with those divorcing early in their marriage citing incompatibility and those divorcing at longer durations citing infidelity or financial difficulties.

2.5.6 Housing tenure

Housing tenure is a proxy measure of socio-economic status and of union-specific capital. The difficulty with using housing tenure or area of residence when studying dissolution is that surveys often collect information at one time point only, and this may just be at the point of interview and not at any time point in the life-course of the union. Rented accommodation might represent less commitment, or a less stable financial position as the couple may be unable to afford to purchase their own home. It is also far easier to move from rented accommodation and find new accommodation upon dissolution.

Owning one's own home was found in the US to be associated with lower risk of dissolution by Hiedemann, Suhomlinova and O'Rand (1998) and by Greenstein (1990: 672) who found that those who owned their own home had a hazard of dissolution that was 0.27 compared with those who were in rented accommodation. Jalovaara (2002) found similar results in Finland and suggested that this is due to the higher socio-economic status among homeowners. South and Spitze (1986) found differences in the association between housing tenure and dissolution according to union duration. They found that home ownership was associated with a higher risk of dissolution for marriages of 0–2 years duration but for longer marriages homeownership was associated with a reduced risk of dissolution.

2.6 Fertility characteristics

Based on the theoretical framework in Figure 2-1 a woman's fertility characteristics may have an influence on her risk of dissolution, but may also have some association with her economic behaviour. This section looks at fertility within the union. Fertility and the presence of children can arguably influence dissolution risk directly or indirectly via its influence on the economic behaviour of the women.

2.6.1 Presence of children

The natural children of both partners represent shared capital (Weiss, 2000) and have been found to be negatively associated with dissolution (Lyngstad & Jalovaara, 2010) with this association consistent across a number of different countries. In the UK, Berrington and Diamond (1999) found that compared with women who have no children, women with a marital birth have an odds ratio of 0.33 (Berrington & Diamond, 1999: 31), although Goodman and Greaves (2010) found that women who had an unplanned pregnancy or were younger than 20 years at childbirth had a greater risk of dissolution perhaps because of the greater risk associated with entering a first union at a young age as discussed in section 2.5.2. This negative association was also found in West Germany (Cooke & Gash, 2010) and in the Netherlands by Fischer and Liefbroer (2006) and Kalmijn and Poortman (2006) although they argue that the effect was stronger for men. Whilst the lower risk of women initiating divorce was attributed to women anticipating it being difficult to be able to provide for their children independently, Kalmijn and Poortman (2006) argue that the stronger effect for men is due to the social mechanism argument, as children often remain with their mother and thus men would fear losing their children. However in contrast to these findings, Cooke and Gash (2010) found no evidence of a reduced risk of dissolution associated with having children in British marriages.

Similar findings have emerged from the US with research carried out by Lichter, Qian and Melliot (2006), who found that whilst children had little significant effect on a couple's decision to move from cohabitation into marriage, they did have an effect on whether the union ended. Where all children are the natural children of both partners, the odds ratio of experiencing union dissolution was 0.26 for poor women and 0.17 for non-poor women, whilst if the partner was the father of at least one son the odds ratio of dissolution were 0.113 for poor women and 0.108 for non-poor women (Lichter, Qian & Melliot, 2006: 236). These findings are consistent with those of Cooke and Gash (2010) who also found a negative association between the presence of children and dissolution risk in the US. Other studies in the US, however, show a slightly mixed picture for the effect of children on dissolution risk. Greenstein (1990: 672) found that women with no children had a hazard ratio of 6.33 of dissolution and those with one child under the age of eighteen had a hazard ratio of 2.85 compared with the baseline group of women with two children, whilst those with three or more children had a hazard ratio of 0.5. White (1990) found that although a first child is negatively associated with dissolution, subsequent children born have no effect on the risk of

divorce. White (1990) also suggests, similar to the findings of Lichter, Qian and Melliot (2006), that people with sons have a lower risk of divorce than those with daughters.

Bernardi and Martinez-Pastor (2011) anticipated that in Spain the protective effect of children would decrease over time as it became more feasible that a woman could support herself and her children independently both economically and socially. When they examined the effect of children for marriages formed before 1981 and those formed after 1981, however they found that having two or more children decreased the risk of divorce for marriages formed after 1981, the opposite to their expected findings. Similarly in Britain, Steele et al (2006) found that children were found to have a negative association with union dissolution among members of the 1970 British Birth Cohort, but no such association was found in the earlier 1958 British Birth Cohort. In contrast, in Russia Muszynska (2008: 197) found that compared with women with no children those with one child born within the union had no significantly different risk of dissolution, but women with 2 or more children had a relative risk of dissolution of 0.26 for unions formed between 1967 and 1991, and 0.45 for unions formed between 1992 and 2004.

As with the type of union, the mechanism through which children would stabilise a union could be via a selection effect, whereby couples who are less sure of the long-term survival of their partnership may be less likely to have children (Lyngstad & Jalovaara, 2010). It may also be that children increase the emotional or financial costs of dissolving a union. As custody of children is often given to the mothers, a father may not wish to dissolve the union as he would be separated from his children, which Kalmijn and Poortman (2006) refer to as the emotional cost of separation. It may also be the case that the presence of children means it is harder for the mother to be financially independent outside the union if she has children to support (Kalmijn and Poortman, 2006) although the welfare system and maintenance arrangements may work to mediate this effect somewhat.

2.6.2 Time since last birth/age of the youngest child

Another way of conceptualising the effect of the natural children of both partners on the risk of a woman's first union ending in dissolution is by time since last birth, or the age of the youngest child. Although this measure will, at least in part, also be measuring the

presence of children as discussed in the previous section, it is important to consider this separately. It may be that if a couple have young children they may be more likely to stay together even if they are unhappy, preferring to wait until the children are older before separating. Thus the presence of children in the household may be telling the whole story and so it is worthwhile to consider time since a woman's last birth.

A number of studies have included this in their modelling processes and are discussed here. Once again, as in the case of the presence of natural children, results for timing since the last birth or the age of the youngest children are mixed. Boheim and Ermisch (2001) found that in British data, pre-school children were associated with an increased risk of dissolution compared with Steele et al. (2005) who found that pre-school children were found to be negatively associated with dissolution effect, although the effect was weaker for older children. This was also found in the Netherlands by Jalovaara (2013: 187) who found that whilst compared with having no children, having one child under one year of age was associated with a reduced risk (hazard ratio of 0.42 for cohabitations and 0.75 for marriages), having one older child had no significant association with dissolution risk for cohabitations and an increased hazard in marriages. Likewise, having two or more children with the youngest under 12 months has a hazard ratio of 0.49 whilst having two or more older children had a hazard ratio of 0.85 for cohabitations, with similar hazards seen in marriages (Jalovaara, 2013: 187). South and Spitze (1986) found that in the US, the effect of having pre-school aged children on divorce risk varied across the duration of the union. They found that in the first two years of the union, having pre-school aged children was associated with an increased risk of dissolution, whilst between three and five years they are associated with a reduced risk. Beyond five years having pre-school children was found to have no significant association with dissolution.

An interesting idea put forward by Hiedemann, Suhomlinova and O'Rand (1998) in the US is the "empty nest" hypothesis: that the risk of dissolution increases when their children have left home. They suggest that the risk of dissolution may increase upon "entry into the empty nest phase of the family life course, particularly for couples who reach this phase relatively early in their marriages", i.e. that people stay together within an unhappy marriage for the sake of their children as mentioned earlier (Hiedemann, Suhomlinova & O'Rand, 1998: 223). The findings from this study show that whilst the results are significant, the direction of the effect depends on the duration of the marriage. For example, for marriages of 20 years duration, the last child leaving the home triples the risk of divorce whilst the youngest child reaching 18 years increased the risk of dissolution by a half (Hiedemann, Suhomlinova & O'Rand, 1998: 228). For

longer marriages of 35 years duration the last child leaving home decreased the risk of dissolution by around 40% whilst the youngest child reaching 18 years decreased the risk of dissolution by more than a third (Hiedemann, Suhomlinova & O'Rand, 1998: 229).

2.6.3 Step-children

Steele et al (2005) hypothesised that the presence of children from prior unions may impact on union dissolution risk either negatively or positively. They suggested that the presence of step-children may be a source of conflict, a hypothesis echoed by White (1990), or that those with children from previous partnerships may be more selective when choosing a new partner so may make better quality matches, thus reducing the risk of further unions ending (Steele, et al., 2005). Bernardi and Martinez-Pastor (2011: 785) found in Spanish data that having children with someone other than their current partner was associated with a risk of dissolution that was 1.99 times higher. Lichter, Qian and Melliot (2006) found that in the US, in contrast to the presence of common children, children from previous partners had the effect of reducing the likelihood of a union moving into marriage: the pool of men available to a woman with children is reduced as men are reluctant to take on the financial and emotional burden of someone else's child. Also, when the man has a child from a previous union, women may be reluctant to have competition for their partner's time and love.

2.6.4 Fertility and economic activity

It may be that, rather than a direct relationship between a woman's economic activity and the risk of her first union ending in dissolution as suggested in the first research question introduced in section 1.2.1, there is an additional factor at play. For example if financial need pushes women into work and if financial need creates stress which leads to dissolution, the economic activity could be associated with dissolution, but the rise in economic activity would not necessarily cause the rise in divorce. With this in mind, it is possible that the presence of children might be such a factor associated with both a woman's economic activity and her dissolution risk. It is argued that at the micro-level, the presence of children is one of the greatest factors in a woman's decision to work (Van der Lippe & van Dijk, 2002). So if it is assumed that a woman's participation in

work is positively associated with the likelihood of her union being dissolved, then the arrival of children which, at least in the short term, leads to her withdrawal from the labour market, thus reduces the risk of union dissolution.

A cross-national study by Bardasi and Gornick (2003) found that this is true across many countries including the UK, US, Canada, Germany and Italy. They concluded that children reduced the likelihood of a married woman working full-time but increased the likelihood of them working part-time, and they also state that the same effect is seen among married women who are responsible for the care of dependent adults (Bardasi & Gornick, 2003). Johnson and Zaidi (2007) also found in the UK that the presence of children reduced the probability of women working but state that no such effect is found on the probability of men working. It may also be that the economic position of a couple may influence their decision around when to start their families. Easterlin (1966) suggested that where a couple see that they are financially able to achieve their economic aspirations, they are more likely to consider starting a family, especially if they consider that the man is able to achieve these aspirations on his own. So it appears that the presence of children may have an effect both on the probability that a woman works and on her risk of union dissolution, either directly or as a mediating factor between employment and dissolution risk. Either way, it would suggest that it is important to consider a woman's fertility history when attempting to address the question of whether a woman's economic activity is associated with the risk of her first union ending in dissolution.

Chapter 3 Data and Method

3.1 Introduction

The first chapter of this study introduced three research questions that form the basis of this thesis. The first two research questions focus on whether there is a relationship at the individual level between a woman's economic activity and the risk of her first union ending in dissolution and whether this relationship has remained constant over time or has changed. The third question examines whether there is a relationship between economic activity and union dissolution at the aggregate level.

The data and methodology that will be used to address the third research question will be introduced and described in chapter seven, so this chapter will focus on the data and methods used to conduct the individual level address. In order to address these questions, two complementary data sources: the British Household Panel Survey (BHPS) and Understanding Society have been used. These datasets and the process of data cleaning are described in the following sections, before the methods utilised are introduced and discussed in the second part of this chapter.

3.2 Survey Designs

The BHPS and Understanding Society are both longitudinal panel surveys. In both surveys, all members of the sampled households aged 16 years and over form a panel and are interviewed annually about a wide range of topics. Both surveys have a complex sample design. In each survey, a sample of postcode sectors was selected to form the primary sampling units, then a random sample of addresses are then selected from each primary sampling unit. The sample is then stratified based on a number of geographical and population characteristics. The BHPS collected data from approximately 8,000 households over 18 panels, between 1991 and 2009. Understanding Society collects data from approximately 40,000 households and has been designed to extend and complement the BHPS. The first wave of data was

collected between 2009 and 2011. Both surveys also contain retrospective histories for unions, fertility and employment status for each respondent's adult life until the point of interview. Questions relating to each economic activity spell, each union spell and on the births of children are asked of each individual household member that is a respondent in the survey, which means that within households each person reports his or her births and unions separately.

3.3 Data Sets Used

These datasets enable a number of different options: namely, either the panel data or the retrospective histories data could be used. Each approach has its merits, although for this study the retrospective histories data has been utilised as these have a number of advantages for the specific research interests of this study. The data contain full union, employment and fertility histories and so will allow for multiple spells of economic activity to be included in the later analyses as well as time-varying variables to be derived. Thus, the retrospective histories data will provide the most detailed histories.

An advantage of the retrospective data is that information on all unions is known, even those that started prior to the woman entering the survey. Therefore it is possible to include each woman's first union in the analyses, which is preferred, as the inclusion of unions of a higher order could potentially skew the analyses. Studies such as Stevenson and Wolfers (2007) suggest that these higher order unions may be less stable. The retrospective data also allows short unions of less than a year to be included, which may have been missed in the panel data if they start and end between interview points. Another advantage of using the retrospective data is that if the first union ended prior to the woman's entry into the panel, it is still possible to observe the entire duration of that union.

Having decided to utilise the retrospective history data in both the BHPS and Understanding Society, the structure of the data were examined. In both surveys the structure is such that the retrospective data are split into a number of separate files

based around themes such as fertility, which require a process of merging and combining to form one single dataset containing all the relevant histories. Two retrospective histories datasets were constructed using the retrospective data on partnership, fertility and employment histories, collected in 1992 for the BHPS and in 2009–2010 for Understanding Society. Fixed person-specific characteristics contained in the individual respondent files collected in these years were merged into the retrospective files. The primary respondents of interest for this study are women aged 16 years and over, and the resulting datasets contain records on 4301 women in the BHPS retrospective file and 27784 women in the Understanding Society retrospective file.

3.4 Data Quality

Each set of retrospective histories for both datasets have been subjected to a rigorous set of data checks to identify both missing values and potential errors. These checks focused on the aim of identifying how much information is missing, whether there are any particular trends in the missing data and to make some decision on whether imputations can be carried out. Checks have also been made for any responses that seem to be inaccurate or unreasonable.

3.4.1 Union histories

Partnership histories have been compiled which includes both marriages and cohabitations that have not been converted into marriage. Information relating to unions has been taken from the BMARRIAG and BCOHAB files in the BHPS and from the a_cohab_protect and a_marriage_protect files in Understanding Society. In the BHPS, information on all marriages is contained within the BMARRIAG file. However, in Understanding Society previous marriages that have ended are contained in the a_marriage_protect file, whilst marriages that are still intact are included in the a_indresp_protect file. The cohabitation files for both datasets contains data on cohabitations that are either still intact or that have ended without ever been converted into marriage.

For each union additional variables were derived for the start and end dates, and also for various characteristics of the union; for example, whether the union started with direct marriage or with cohabitation. For marriages, the start of the union can be either the marriage date for direct marriages, or the start of pre-marital cohabitation. The date of marriage has been retained as a characteristic of the union. For cohabitation, the start of the union is the start of the cohabitation. End dates for each union have been created using the end date for cohabitations, if a cohabitation, while for marriages that have ended through the death of the husband or through separation, the relevant dates have been imputed as the end of the union. Where a marriage has ended in divorce, if the date of separation is known, this is imputed as the end of the union. The date of separation is preferred, as this is the point at which a union is considered to have ended, but where the date of separation is not known the date of divorce has been used. Where a union is still intact at interview, the union is coded as not ended and the date of interview used as the censored end date.

Missing month and year data

Table 3-1 shows the number of dates where amendments have been made or have not been possible. Where the month a union started or ended is missing, the value 6 has been imputed. Where the year is missing, no amendment is possible.

Table 3-1 Union histories data checks

	BHPS		Understanding Society	
Dates missing/ incomplete	**Amendment Made**	**No Amendment Possible**	**Amendment Made**	**No Amendment Possible**
Date married	84	13	1038	336
Date of cohabitation	117	21	1314	419
Date marriage ended	294	50	1199	364
Date cohabitation ended	141	18	1039	347

Chronological order of union dates

A check was carried out to ensure that where a respondent has two or more cohabitations, the dates are in correct chronological order and that dates for sequential cohabitations do not overlap. There were six cases in the BHPS and six cases in Understanding Society where the imputation of 6 for missing months led to inconsistencies in date order, and these have therefore been corrected. 254 additional cases in Understanding Society were found to have inconsistencies. Many of these inconsistencies appear to be because of duplication in unions – i.e. a marriage occurring at the start time as a cohabiting union. There is no obvious reason for such an inconsistency. Checks were carried out on the original a_cohab_protect and a_marriage_protect files to ensure that such inconsistencies are not a result of the merging process, and it was found that that in the cases checked, both of the overlapping marriages and cohabitations were recorded in the original files. An examination of the questionnaire section that relates to union histories also does not suggest any reason. Therefore no explanation can be put forward for these inconsistencies at this time.

Age at start of union

A final check was made to ensure that the respondents' age at the start of the union was reasonable. The age at the start of each union was derived using the respondents' date of birth and the start date of each union. 20 women had an approximate age at the start of the union of under 16 years in the BHPS and 237 women in Understanding Society so it is reasonable to assume that an error has been made either in the year of birth or the date the union started.

3.4.2 Fertility histories

For this study fertility histories have been compiled and include biological children only. For the purpose of compiling fertility histories, the two main files that have been used from Understanding Society are a_natchild_protect and a_child_protect which contain,

among other things, dates of birth for biological children. After these files were merged, it was found that a significant number of dates of births were missing for resident children. As these children were resident within the household, the dates of birth of many of these missing cases were merged in from the a_indresp_protect file that contains the majority of information collected about each individual. Following this additional merging process, there were still around 3000 dates of birth missing and so a further merge was carried out with the a_indall_protect file. Following the completion of the merging, a number of data checks were carried out on the newly created files from both datasets to identify any potential problems with the quality of the data, and to assess the level of missing data.

Missing month and year data

As with unions, Table 3-2 shows the number of records where amendments have been made or have not been possible. Where the month a child was born is missing, the value 6 has been imputed. Where the year is missing, no amendment is possible. Where a season has been recorded rather than a specific month, the median month for that season has been imputed according to the following criteria:

Spring: March, **April**, May
Summer: June, **July**, August
Autumn: September, **October**, November
Winter: December, **January**, February

Table 3-2 Fertility histories data checks

	BHPS		Understanding Society	
Dates missing/ incomplete	**Amendment Made**	**No Amendment Possible**	**Amendment Made**	**No Amendment Possible**
Date of child's birth	140	80	1283	1058

In Understanding Society, dates of birth for resident and non-resident children have been recorded separately in the original data files. New variables for month and year of birth have been created to combine resident and non-resident children. There were an

additional 23 women in Understanding Society who were recorded as being parents but for whom no dates of birth for children were collected.

Data on stillbirths

There are 103 identified stillbirths in the BHPS data and 203 in Understanding Society, however as information is only required on live births and on children that are or have been present in the respondents household, these births have been excluded from the histories, and the number of children that the respondent is natural parent to has been adjusted to reflect just the number of live births per respondent.

Age at first birth

The age of the mother at the time their first child was born was checked to ensure it is reasonable. As the age at birth of the mother is not recorded, it has been calculated by using the dates of birth for the parent and the child. The age of the mother at birth is considered to be unreasonable if it falls outside the range of 10-49 years. This age range has been selected as it is expected that some early teenage births will occur and this range is considered to cover a reasonable child-bearing period. Those at an age below the expected age of puberty or that occur at a negative age, however, are obvious errors and may be due to incorrect recording of either the parent's or child's year of birth. Among all births recorded, there were four births in the BHPS and 36 births in Understanding Society that occurred outside the range of 10-49 years.

Chronological order of birth dates and birth intervals

Where an individual has two or more natural children, a check was carried out to ensure that the recorded date of birth for each child follows a chronological order, for example that the birth date for the child recorded as the first born precedes that of the second recorded child. A further check was carried out for female respondents to ensure that there was a minimum nine month interval between the birth dates of subsequent children. Where a birth interval of zero is found, it is assumed that these are the result of twin births. 12 women in the BHPS and 177 women in Understanding Society had recorded births that had a birth interval of less than nine months between concurrent children.

3.4.3 Employment status histories

There are a number of differences in the way the employment histories are structured in the BHPS and Understanding Society datasets. As the Understanding Society employment histories have required more imputation and cleaning, the data checks will be discussed separately, starting with the BHPS.

BHPS employment status histories

Data on all economic activity spells for each respondent from the age of 16 to the point of data collection in 1992 were extracted from the BLIFEMST file in order to construct continuous employment histories.

Missing month and year data

Variables for the start and end of each spell were created, and where the month is missing the value of 6 has been imputed. Occasionally a season has been recorded rather than a specific month; therefore the median month for that season has been imputed according to the following criteria:

Spring: March, **April**, May
Summer: June, **July**, August
Autumn: September, **October**, November
Winter: December, **January**, February

Table 3-3 shows the number of records where amendments have been made or have not been possible.

Table 3-3 Employment status histories

Dates missing/ incomplete	Amendment Made	No Amendment Possible
Date employment spell started	4274	73
Date employment spell ended	3779	51

There are 76 spells where imputing January in place of winter would cause the chronological order of subsequent employment spells to be incorrect and so December has been imputed for these cases.

Chronological order of employment spell dates

There are 14 spells where imputing 6 for the month resulted in inconsistencies in the date order between subsequent employment spells, so these have been corrected accordingly. One additional respondent had an inconsistency in the date order of her final two employment spells which have been corrected.

Type of employment spells data

There were 9 respondents for whom the type of employment status for their final spell was missing; therefore this has been imputed using the information from the BINDRESP file from the current economic activity status variable.

Understanding Society Employment status histories

Once the Understanding Society data was examined, it emerged that the data collection for employment histories had been halted part way through the fieldwork period before all the respondents had provided data. This was due to the length of time required to collect such complete histories, which extended the overall length of the interview beyond what was considered reasonable. This has resulted in a large proportion of missing data as shown in Table 3-4. This was disappointing as it was hoped that Understanding Society would provide a far greater sample size. The potential bias introduced as a result is discussed in more detail in section 3.4.4. It also emerged that due to the way the data was organised ready for data release, a far greater degree of data manipulation and imputation was required for Understanding Society than for the BHPS in order to construct continuous employment histories for each respondent from the age of 16 to the point of data collection.

Missing month and year data

Within the employment status histories file, no end date for each spell had been recorded; the start date from the subsequent spell has therefore been imputed where possible for each status spell. Where the month is missing but the year is present, the value of 6 has been imputed. One difference in Understanding Society is the addition of a second code for winter. Now where a respondent mentioned starting or ending a job

in winter, it can be coded according to whether they remember this change being at the beginning or end of the year. Where a season has been recorded, the month highlighted in bold for that season will be imputed according to the following criteria:

13 Winter: **December**
14 Winter: **January**, February
15 Spring: March, **April**, May
16 Summer: June, **July**, August
17 Autumn: September, **October**, November

Table 3-4 shows the number of records where amendments have been made or have not been possible.

Table 3-4 Employment status spells data check

	Month began missing	Year began missing	Season started recorded	Month/ year inappl.
No missing	22807	21603	2039	4435
Total	29252	29252	29252	29252
% missing	78.0	73.9	7.0	15.2

Chronological order of employment spell dates

There are 564 spells for women that have dates that were inconsistent, with an end date that was prior to its start date. Finally, where a respondent has two or more employment status spells, no inconsistencies were found in the chronological order of sequential employment status spells.

Final or current employment spell data

Also within the employment status histories, the final employment status spell for each respondent is coded as “Current status reached” and for these final spells, no start dates have been recorded. Some imputation has therefore been necessary to complete the employment histories. For the type of employment status, the current economic activity status has been imputed using the variable a_jbstat from the a_indresp_protect file. In this variable no distinction is made between full and part time employment, so in

the derived variable i_leshst these two categories of employment are merged together. The variables a_jbbgm and a_jbbgy (date the current job started) from the a_indresp_protect files have been used to impute the start date for the final status spell. This is not ideal as these variables only include a start date for the current job, so respondents whose current economic activity status is unemployed, family care, or some other non-active status will be not be included. For these cases, additional imputation has been possible if the current economic activity status is the same as the previous spell recorded, but for a number of respondents no start date for the final employment status spell can be imputed. Table 3-5 shows the breakdown of missing dates following the imputation processes discussed here.

Table 3-5 Data check for all employment status spells after imputation

	Year began missing	Year ended missing
No missing	1191	1112
Total	29252	29252
% missing	4.1	3.8

3.4.4 Analysis of incomplete history data

A number of variables were created as quality flags for fertility, partnership and employment status histories and also for the overall quality of the histories for each woman. The quality_all variable was used to identify all women for whom complete histories are available and those for whom their histories were incomplete or contained uncorrected inconsistencies. These latter women will be excluded from the final sample. It is important to consider whether the omission of these women has the effect of biasing the distribution of certain characteristics and thus might lead to biased results, and therefore comparisons are made of the distributions of key characteristics between the original sample of women and the sample once these women have been omitted.

Women with incomplete histories in the BHPS

165 women have been omitted from the BHPS data because they have incomplete histories. To determine whether omitting those women with incomplete histories is likely to bias results, a comparison of selected descriptive variables between the original sample of women and the sample with these women omitted is shown below in

Figure 3-1 and table 3.6. Figure 3-1 shows that there are only marginal differences between the original sample and the new sample which has omitted those women with incomplete histories in the earlier birth cohorts. In the new sample, there is a larger proportion of the sample in the 1941-45, 1946–50, 1951–55 and 1956–60 cohorts but the differences are not substantial.

Figure 3-1 Sample distribution by birth cohort of women in the original sample compared with the new sample containing just women with complete histories in the 1992 BHPS data

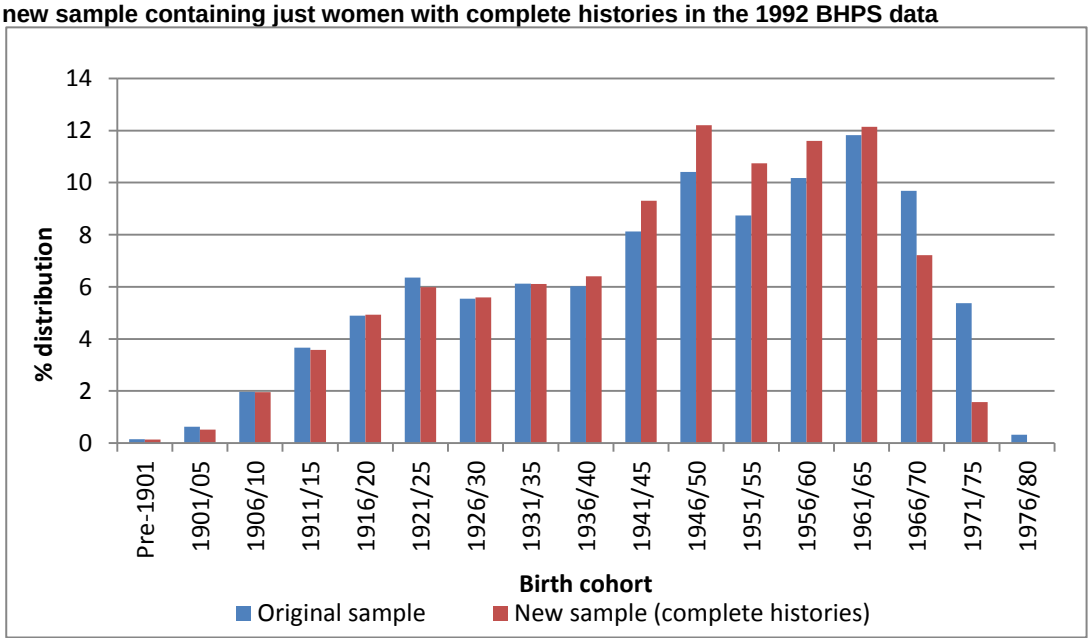


Table 3-6 Sample distribution by academic qualification and ethnicity for all women, women with incomplete histories and women with complete histories in the 1992 BHPS sample

Ethnicity & Highest Qualification	% for original sample	% for women with incomplete histories	% for new sample (complete histories)
Highest qualification			
Higher degree	1.01	0.78	1.01
1st degree	5.79	3.88	5.85
HND/HNC/teaching	4.95	3.10	5.00
A level	10.60	6.98	10.70
O level	26.65	17.05	26.92
CSE	5.51	1.55	5.62
None of these	44.94	66.67	44.35
Ethnicity			
White	96.7	87.7	96.8
Indian	0.97	2.6	0.94
Pakistani	0.33	1.9	0.30
Bangladeshi	0.02	0.0	0.02
Black-Caribbean	0.73	0.0	0.70
Black-African	0.23	1.9	0.19
Black-other	0.31	1.9	0.30
Other/Chinese	0.75	1.3	0.75

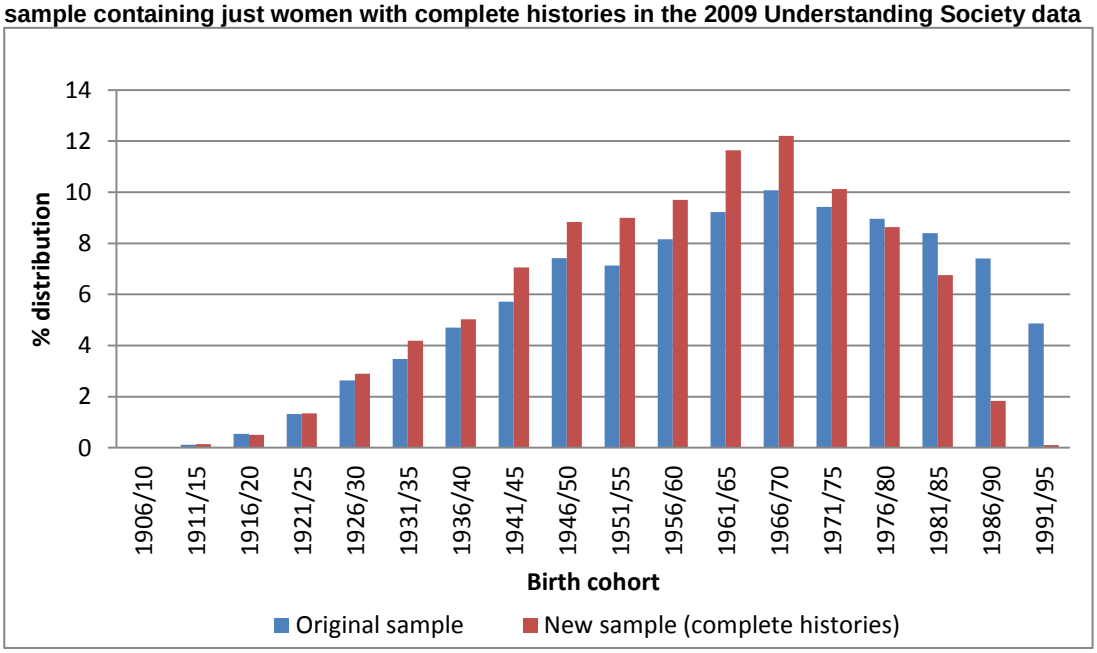
Table 3-6 shows the sample distribution for the original sample of all women, a sub-sample of just those women with incomplete histories and the new sample which contains just women with complete histories. This shows that women with incomplete histories are more likely to be in ethnic minority groups. Potentially this could lead to biased results, although the differences between the groups appear larger because of the relatively small sample size within each ethnic group. In terms of educational qualifications, there are few significant differences between many of the levels of qualification. Those women with incomplete history data are more likely to have no qualifications than the sample as a whole. The omission of these women does not, however, significantly change the distribution in terms of either ethnicity or highest qualification.

Women with incomplete histories in the Understanding Society data

Due to the early halting of the collection of employment histories discussed earlier, 21337 women had to be omitted from the dataset, and a number were omitted because they have some history data missing or have inconsistencies in their histories.

Therefore a total of 24237 women had to be omitted. The large proportion of the sample that had to be omitted may be more likely to introduce bias so it is important to check for this. For this purpose, similar comparisons were carried out as for the BHPS.

Figure 3-2 Distribution by birth cohort of women in the original sample compared with the new sample containing just women with complete histories in the 2009 Understanding Society data



As with the BHPS, Figure 3-2 shows that there are only marginal differences between the original sample and the new sample which contains just those women with complete histories in the earlier birth cohorts. The main area of difference occurs in the two most recent cohorts. In the new sample, there is now just a small proportion of the sample in these cohorts.

In terms of ethnicity, there are a larger proportion of women with incomplete histories in the Caribbean and African groups. Although the differences between the groups appear larger because of the relatively small sample size within each group, the omission of these women does alter the distribution by ethnic group membership slightly. Thus, there is a small potential for bias although it is not expected to be great.

Table 3-7 Sample distribution by academic qualification and ethnicity for all women, women with incomplete histories and women with complete histories in the 2009 Understanding Society sample

Ethnicity	% for complete sample	% for those with incomplete histories	% for those with complete histories
Highest qualification			
missing/not known	0.17	0.14	0.03
1st/higher degree	19.91	18.71	19.12
Nursing/Teaching/DipHE	11.38	10.77	12.06
A-level/equivalent	10.85	6.35	8.83
O-level/equivalent	30.27	26.17	32.98
None	27.42	37.86	27.02
Ethnicity			
White	77.23	79.01	88.02
Indian	3.32	3.32	2.47
Pakistani	2.72	2.97	1.69
Bangladeshi	2	2.19	0.87
Chinese	0.56	0.46	0.28
Other Asian	1.13	1.01	0.84
Caribbean	2.42	3.06	1.8
African	2.91	3.49	1.29
Mixed	1.77	2.26	1.15
Other	1.91	2.14	1.57

In both surveys younger women and those in ethnic minority groups are most likely to have a larger proportion of missing or incomplete histories. Both younger respondents and those from ethnic minority groups have lower response rates in the surveys. For example, in wave one of the Understanding Society respondents aged under 20 years had a response rate of 66% compared with 90% among those of pensionable age (Lynn, et al. 2012: 17). A number of reasons have been suggested for the lower response rates among younger respondents. Younger people are more likely to move house than older people and therefore there may be greater difficulty in tracing these respondents (Uhrig, 2008). They are also more likely to live in shared accommodation, properties that are often harder to contact, and are more likely to be away from the home when the interviewers visit the property (Uhrig, 2008). In terms of ethnicity, in wave one of the Understanding Society the response rate for White British respondents was 82.8% compared to 75.7% for other respondents (Lynn, et al. 2012: 17). One possible explanation for this is that language barriers prevent these respondents from taking part, and it may also be that they are more likely to live in multi-dwelling properties which are harder to contact.

3.4.5 Final sample sizes

After confining the sample to women with complete histories and to first unions only, the resulting samples includes data on 4124 women who were born between 1895–1975 and who had unions starting between 1914–1992 from the BHPS and 3547 women who were born between 1913–1991 and who had unions starting between 1938–2009 from the Understanding Society data.

3.5 Methodology

A multi-stage methodology is applied throughout chapters four, five and six in order to address the first and second research questions of this study. A summary of the methodology is shown in table 3.8 below. Each method will now be discussed in greater detail in the remainder of the chapter.

Table 3-8 Type of measures used in individual level data analyses

Method	Type of Measures	Research Question addressed
Descriptive statistics	Cross-sectional measures	Question 1
Cox Proportional Hazard Models	Time independent measures	Question 1
Piecewise Constant Models	Time independent & Time varying measures	Question 1 & 2
Predicted Survival Probabilities	Time independent & Time varying measures	Question 1 & 2

3.5.1 Initial Analysis

The initial stage of the modelling process was to carry out some descriptive analyses, including cross-tabulations and Kaplan-Meier graphs, which provide a clear graphical view of the time to 'failure' among the respondents based on certain categorisations such as union cohort or age at start of the union. This allows an exploration of the characteristics of the two samples and an initial analysis of which of the factors that were identified in the literature review and available in the data may be associated with the risk of a woman's first union ending in dissolution, the focus of the first research question.

3.5.2 Cox Proportional Hazard Models

The data lends itself to survival or event history analysis as for each individual or observation there is an initial event and a 'failure' event. In these data there is the start of the union which is the t=0 or initial event, whilst the recorded end of the union through dissolution is the failure event. Not all observations will experience this failure event; therefore these observations become right censored at the point of data collection. Therefore the next stage will be to run a series of Cox Proportional Hazard models initially restricted to time independent variables, that is, variables that do not change over time such as whether the woman was employed at the start of the union. These models will begin to address the first research question.

Cox models are considered robust models which will provide estimates of the effect or hazard of a woman from a risk pool of all women in their first union, experiencing the failure event – union dissolution. One of the advantages of Cox models is that they are semi-parametric models, that is they do not make any assumption of the shape of the baseline hazard. The advantage of this is that guards against making incorrect assumptions about the shape of the baseline hazard and against mis-specifying the hazard function (Ruspini, 2002). However they do assume that the shape of the hazard will be the same of all women, so that the hazard for one woman will be "a multiplicative replica of anothers" (Cleves, Gould and Gutierrez, 2002: 113). So the hazard function for two women with different characteristics (such as economically active versus economically inactive) may be different, but the difference will be proportional and constant over the duration of their unions. Formal tests are possible and often carried out to test that this proportional hazard assumption, however because of the complex sample design of these surveys and the need to account for this in the modelling process, such tests are not possible due to the limitations of the computer software used to conduct such models.

As mentioned, not all unions end in dissolution so are censored at the point of data collection. One of the advantages of Cox Proportional Hazard models is that they are able to handle such censored data, whereas multiple linear regression models are not (Ruspini, 2002). These censored unions may end in dissolution at a later date, but no information is available so these women do not add any information about dissolution risk, however they do enable us to calculate the size of the risk pool (Box-Steffensmeier and Jones, 2004).

One final factor to consider with Cox Proportional Hazard models, is that they use the order on which women experience dissolution to produce hazard rates. As the surveys only collect the month and year of the dissolution, where two women experience

dissolution within the same month, it is not possible to establish accurately which woman experienced dissolution first. These are classed as tied failures and are a potential problem as the models use the size of the risk pool to calculate the estimates of hazard (Cleves, et al., 2002). Stata, the software package used in this study, as a default, utilises the Breslow Approximation as a way of accounting for tied failures (Cleves, et al., 2002). This is an adequate strategy in this study as the number of dissolutions is small compared to the number of women at risk in these data.

It is important to account for the complex sample design in any analyses of these data, therefore in all of the analyses in the following chapters four to six, the Svyset command in Stata has been used prior to any analysis using the PSU and STRATA variables. In order to deal with the potential for error or bias to be introduced as a result of the survey design and non-response, weights have been applied to the analysis of both datasets. In the BHPS models the Individual Respondent Weight (BXRWGHT) has been applied and in the Understanding Society models the Interviewed individual cross-sectional weight (a_indinus_xw) has been applied. Further details of these weighting variables can be found in the respective user manuals for each dataset (Taylor, et al., 2010; McFall, 2012).

3.5.3 Justification for the inclusion of time independent variables

The modelling processes in chapters four to six have been based around the theoretical framework introduced in chapter two (Figure 3-3). For each set of characteristics in this framework, a number of variables were selected for inclusion in each set of models.

Figure 3-3 Theoretical framework for analysing the determinants of union dissolution

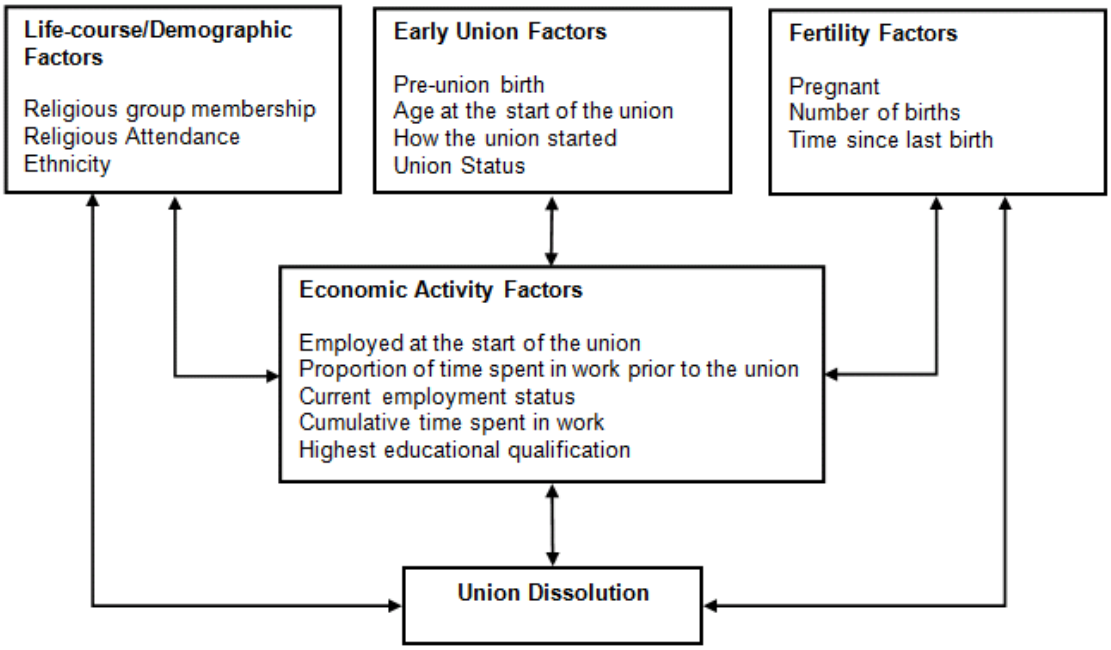


Table 3-9 provides details of the variables that have been used in these models. A detailed description of the mechanisms through which these variables may be associated with union dissolution follows in the respective analysis chapters.

Table 3-9 Variables for Cox proportional hazard models

Category of variable	Variables for Cox PH models	Variable Coding
Life course/ demographic characteristics	Ethnic group membership	0 White 1 Non-White
	Religious group membership	0 Church of England/Anglican 1 None 2 Roman Catholic 3 Other Christian 4 Other religion
	Attendance at religious services	0 At least once a month 1 Less often than once a month
	Living with biological parents at age 16 (Understanding Society only)	0 Yes 1 No
Union characteristics	How the union started	0 Cohabitation 1 Marriage
	Year the union started (Cohort)	Continuous
	Age of woman at start of union (categorical)	0 20-24 years 1 Under 20 years 2 25-29 years 3 30 years and over
	Whether had a birth prior to the 1st union	0 No 1 Yes
Employment characteristics	Employed in work at start of 1st union	0 No 1 Yes
	Prop of time between when turned 16 & start of 1st union	Continuous between 0-1
	Highest qualification	0 1st/higher degree 1 Nursing/Teaching/other higher 2 A-levels 3 O-level/equivalent 4 Commercial/Apprenticeship (BHPS only) 5 None

There are four fixed early life course or demographic variables that are included in the initial Cox Proportional Hazard modelling, all of which, in the review of existing literature discussed in Chapter Two, have been found to be associated with union dissolution. As discussed previously in Chapter Two, ethnic group memberships may influence dissolution risk through a group's norms and beliefs around union formation and dissolution, and so people may be reluctant to step outside the norms of their peers by separating. Ethnicity may also influence dissolution risk because of differential economic activity behaviours. For example certain ethnic groups may be less likely to work and therefore less able to afford to dissolve their unions if the independence argument were to hold. Despite the desire to include all ethnicities, there are insufficient numbers within the minority groups to make the results robust. Therefore a binary variable coded White (0) and Non-White (1) has been derived for this study.

Both religious group membership and religiosity might influence dissolution risk. The BHPS and Understanding Society data both allow for these to be measured and so both are included in the models. As mentioned previously, a woman may identify herself as a Roman Catholic because she was brought up within the faith or perhaps she attended a faith-specific school, but attends services rarely or never, so cannot be said to be a practising Roman Catholic. So both variables are included as it may help to highlight whether it is identifying as belonging to a certain religion that influences dissolution risk or whether someone needs to be practising their faith in order for an association to be seen. The following note of caution is made here regarding the variables that measure religiosity and religious group membership. These are measured at the time of interview and not during the lifespan of the union. It is possible that someone changed their religious group membership or their level of attendance at religious ceremonies during the union.

An additional variable is available in the Understanding Society data that measures whether the respondent was living with both biological parents at the age of sixteen, and is applied here as a proxy for natural parental separation. This was discussed in Chapter Two and parental separation can influence dissolution risk through a diffusion of liberal views from parent to child. This is a fixed characteristic so no issue of time order, as in the case of religion, applies. This is not, however, a perfect measure for parental divorce as the variable includes parental death as well as divorce. There is an additional variable that might have facilitated some imputation and therefore enable a more accurate or direct measure of parental divorce. This was found, however, to result in a large proportion of missing values so the variable remains in its original formation and measures instead a general indication of disruption within the family structure.

In terms of early union characteristics, three variables are included in the first stage of the statistical analysis. How the union started is a fixed measure of whether the union started with cohabitation or marriage. Cohabitation has been found to be less stable than marriage, and some studies have found that even if a cohabitation converts into marriage, it remains associated with a higher risk of dissolution. The age the woman entered her first union is included as a categorical variable. From the literature review in Chapter Two it is assumed that a younger age at the start of the union is associated with an increased risk of dissolution perhaps because less time is taken finding a suitable match.

An additional variable measures whether the women had experienced a live birth prior to the start of her first union. There is no information in the retrospective histories data about whether the child was conceived with the current partner or whether with a previous non-resident partner. The literature reviewed in Chapter Two suggests that these births are associated with a greater risk of dissolution. Owing to the lack of information about the father of the child, it will not be clear which of the mechanisms discussed in Chapter Two will be at play in these data.

Finally, two measures of pre-union employment, whether a woman was employed at the start of her first union and the proportion of the period between her 16th birthday and when she entered her first union that she spent in employment, have been included in all models. This is partly as an additional measure of attachment to the labour market that a woman may form prior to her first union. It could be argued that a woman who worked for a large proportion of time prior to her first union will have developed a stronger attachment to the labour market and may then be more likely to continue working during the life time of the union. It may also be the case that when a woman has spent longer in the labour market, she may have progressed further up the career ladder and so may have more to lose by giving up work when she enters a union. The highest educational qualification variable is used in this study as a proxy measure of economic opportunity, so is to be included in the modelling process as an employment characteristic. However, it is important to note that this is the highest qualification achieved as of the time of interview, and there is no additional information on when this was achieved. Since qualifications could have been achieved either before or after the union, any analyses that include this information should be mindful of that.

3.5.4 Piecewise Constant Models

The second stage of the modelling process that aims to address the first research questions will be to run a series of piecewise constant models. Cox proportional hazard models are based upon the assumption that the hazards are proportional, that is, that the ratio of the hazard of persons with different values of the covariates remains approximately constant over time. It is anticipated, however, that certainly factors will change over the lifetime of the union, for example the economic activity status of each

women is likely to change perhaps many times over the course of her union. Therefore some process of allowing certain variables or factors to change over time is needed, and thus, for the next stage of the modelling process, a number of time dependent or time varying variables have been derived. Cox models could still be used but they become very awkward and complex to specify, hence piecewise constant models are considered the most appropriate strategy adopted in the individual level analyses in Chapters Five and Six. Both involve the datasets being manipulated into person-period format whereby each individual has an observation relating to each time period starting at the beginning of their first union. These models are now based on the assumption that the effect of the time varying variable on the probability of the union staying intact at a specific time depends on the value of this variable at that time, and not on the value of this variable at any other time. The resulting hazard ratio therefore represents the overall effect of the time varying variable considering all the time periods at which this variable has been measured.

This type of modelling allows for certain statuses for the respondents to change over time. In these data the women's employment status and certain fertility indicators can be allowed to vary. This is vital as a person's status will change throughout their lifetime rather than be held static, which is a very artificial way of representing social behaviour. This type of modelling will also allow multiple clocks to be included in the data. For example variables which measure the duration since the start of the union, the duration of time spent in employment or the time taken between birth and returning to work can now be included. This will allow for a more accurate representation of a woman's employment history to be included in the data. Therefore the maximum flexibility can be introduced into the modelling process. Table 3-10 provides details of the variables that have been used in these models. A detailed description of the mechanisms through which these time-varying variables may be associated with union dissolution follows in the respective analysis chapters.

Table 3-10 Time-varying variables for Piecewise Constant Models

Category of variable	Variables for Piecewise constant models	Variable Coding
Life course/ demographic characteristics	Ethnic group membership	0 White 1 Non-White
	Religious group membership	0 Church of England/Anglican 1 None 2 Roman Catholic 3 Other Christian 4 Other religion
	Attendance at religious services	0 At least once a month 1 Less often than once a month
	Living with biological parents at age 16 (Understanding Society only)	0 Yes 1 No
Union characteristics	How the union started	0 Cohabitation 1 Marriage
	Year the union started (Cohort)	Continuous
	Age of woman at start of union (categorical)	0 20-24 years 1 Under 20 years 2 25-29 years 3 30 years and over
	Whether had a birth prior to the 1st union	0 No 1 Yes
	Union status at each period (time varying)	0 Cohabitation 1 Marriage
Fertility characteristics	Number of births (time varying)	Continuous
	Pregnant & assumed to know in this period (time varying)	0 No 1 Yes
	Time since last birth (months; time varying)	0 No birth 1 0-6 months 2 7-12 months 3 13-24 months 4 25-48 months 5 49+ months
Employment characteristics	Employed in work at start of 1st union	0 No 1 Yes
	Prop of time between when turned 16 & start of 1st union	Continuous between 0-1
	Highest qualification	0 1st/higher degree 1 Nursing/Teaching/other higher 2 A-levels 3 O-level/equivalent 4 Commercial/Apprenticeship (BHPS only) 5 None
	Current employment status at start of period (time varying)	0 Employed (US) Full-time (BHPS) 1 Part-time work (BHPS) 2 Unemployed 3 Retired 4 Maternity leave 5 Family care 6 Economically inactive
	Cumulative time spent in work - years (time varying)	Continuous

3.5.5 Justification for the inclusion of time-varying variables

The piecewise constant models used in Chapters 5 and 6 include all of the fixed or time independent variables discussed in Sections 3.5.3. and 3.5.4. but also include a number of additional time-varying variables. One such time-varying variable measures at the start of each time period whether the union is a cohabitation or a marriage and so measures whether a union that started as cohabitation converts to marriage and the time point at which this conversion takes place. From the literature review in Chapter Two, it is assumed that the hazard of experiencing dissolution will be greater if the union is a cohabitation or a marriage preceded by cohabitation, so this time-varying variable will allow the risk to vary accordingly. The mechanism by which the union type influences the risk of dissolution is discussed more in Chapter Two.

As discussed in the literature review in Chapter Two, the presence of children may influence a couple's decision to separate either directly, by stabilising the union, or indirectly, via the influence children have on a woman's economic behaviour. Therefore a number of variables measuring a woman's fertility are included, all of which are time-varying. The first variable is a count of how many births a woman has had. It is anticipated that as the number of children increases, she is less likely to experience the dissolution of her union either because of the greater union-specific capital associated with children, or because she would be less likely to be able to afford to be economically independent. The other two variables measure the effect of timing. One measures the time since the last birth in months, and the other measures the period during which the women was pregnant and could be assumed to know it, calculated as birth minus six months. Arguably a union would be unlikely to dissolve either during the pregnancy or soon after birth. It would be expected that a couple might delay dissolving their union until their children are older, and so the risk of dissolution might rise once the youngest child has reached an older age.

Finally, two additional measures of economic activity have been included. The women's economic activity status has been allowed to vary across the lifespan of the union. This is important as a woman may move in and out of the labour market many times due to events such as childbirth, and, if there is an association between economic activity and dissolution, it is important to have a full record of a woman's employment history. A clock variable measuring cumulative time spent in employment is a further measure of attachment to the labour market, as the longer time spent in employment indicates that the woman might have a stronger attachment.

3.5.6 Predicted Survival Probabilities for Hypothetical Work History Profiles

The next stage in addressing the first research question is to create a number of hypothetical women who have the same characteristics, but who follow different work history profiles across the duration of their unions. For each of these women, the hazard rates produced in the piecewise constant models will be used to calculate predicted survival probabilities for each of the six month periods across the life of the union (set for these analyses at thirty years). From these predicted probabilities the proportion of unions surviving at each time period will be plotted to allow a visual representation of the relationship between economic activity and union dissolution.

3.5.7 Period and Cohort Models

The second research question asks whether the relationship between a woman's economic activity and the risk of her first union ending in dissolution has remained constant over time or whether it might have changed. This is of interest because the upward trends in divorce rates seen in the UK and many other countries could suggest that more recent union cohorts may have a greater propensity to dissolve their unions. There are a number of possible mechanisms through which this upward trend might act. It may be that women in more recent cohorts are more likely to work, and so the economic arguments discussed in Chapter Two might be at play. Alternatively more recent cohorts may be more likely to enter into cohabitation, which has been found to be a less stable union type (White, 1990; Goodman & Greaves, 2010; Kiernan, 1999). It might also be that the more recent unions are formed in a more permissive society and so dissolution is more recently accepted and available, or that social, cultural and legal changes may affect all unions that are intact within different time periods.

This final stage of individual-level analysis examines this further by running the same series of piecewise constant models as outlined in section 3.5.4, using the same variables detailed in Table 3-10, and the same predicted probabilities for the hypothetical women as outlined in section 3.5.6. However to address the second research question in this chapter a number of period and cohort subsamples are created. This approach has been used to good effect in previous studies by Bernardi and Martinez-Pastor (2011) and Muszynska (2008) but has not yet been widely used in the UK context.

For this purpose the BHPS and Understanding Society samples were merged to form one dataset, which was then split to create sub-samples for time periods and then for union cohorts. The Understanding Society survey was designed to complement and extend the long-running BHPS survey. The questions and the structures of both surveys are therefore very similar, so merging the two together was a straightforward process. The naming conventions between the two surveys were different and the structure of the data files had some differences, although these were dealt with through the processes of data cleaning and manipulation and presented few challenges. Each survey provides a set of weights that are important for reducing the likelihood of unequal selection probabilities and disproportionate representation in data analyses. In the first stages of analyses individual weights have been used, however there is no specific weight for using the two surveys as a combined dataset. Therefore a new weight variable has been derived which allocates the original weight value to each individual woman relevant to whether they were in the BHPS or Understanding Society sample.

Chapter 4 Initial Descriptive analysis and Cox Proportional Hazard models

4.1 Initial descriptive analysis

The first research question discussed in Section 1.2.1 asks what the relationship is between the dissolution of first unions and women's economic activity in the UK at the individual level. Therefore the first task of data analysis is to examine the data to see if any evidence is found that is consistent with an association existing between union dissolution and whether a woman works. This will be done in several stages; firstly some initial descriptive analyses will be conducted, followed by regression analyses using first time-independent factors and then time-varying factors. This chapter focuses on the initial descriptive analyses and the analysis of time-independent factors through Cox Proportional Hazard models.

No assumption is made here about the direction that any such association may operate in. Many of the studies discussed in chapter two find an association between a woman's economic activity and her risk of experiencing the dissolution of her first union, although they do not always find that the association operates in the same direction. Studies such as Poortman (2005a) and Fokkema and Liefbroer (2004) found a positive association between work and union dissolution whilst studies such as Kalmijn and Poortman (2006) and Kalmijn, et al. (2007) found a positive association between a woman's income and her risk of dissolution, findings that are consistent with the Specialisation of roles and independence effects hypotheses discussed in chapter two. In contrast studies such as Ono (1998), Halliday, et al. (2010) and Sayer and Bianci (2000) found a negative association between economic activity and dissolution, a finding which is consistent with the income effects hypothesis, also discussed in chapter two. Should an association be seen in these analyses, then some discussion will be possible about whether the results are consistent with any of these ideas about how economic activity may be influencing the risk of dissolution for first unions.

Although the main area of interest is economic activity, it is important to control for other factors which may also influence the risk of dissolution and also that may influence economic activity. The review of existing studies in chapter two have identified a number of such factors and where relevant information is available in the data, these are included in the models. In the Cox Proportional Hazards models in this

chapter, the time independent factors are grouped into two clusters: early life course characteristics and early union characteristics.

4.1.1 Descriptive statistics

After confining the sample to women with complete histories and to first unions only, the resulting sample includes data on 4124 women from the BHPS and 3547 women from the Understanding Society data. Table 4-1 shows the descriptive statistics for these two samples.

Table 4-1 Descriptive statistics for the 1992 BHPS and 2009 Understanding Society samples

	BHPS		**Understanding Society**	
	Freq.	%	Freq.	%
Early Life Course Characteristics				
Ethnicity				
White	3983	97.3	3122	88.0
Non-white	111	2.7	425	12.0
Total	4124	100.0	3547	100.0
Religion				
No religion/Inapplicable	1147	29.3	1647	46.6
Church of England /Anglican	1689	43.2	908	25.6
Roman Catholic	376	9.6	328	9.3
Other Christian	618	15.8	401	11.3
Other Religion	82	2.1	263	7.4
Total	4124	100.0	3547	100.0
Living with biological parents at 16				
Yes	N/A	N/A	2815	79.4
Total			3547	100.0
Union Characteristics				
Current marital status				
Married	2696	65.4	2103	59.3
Living as a couple	329	8.0	-	-
Widowed	576	14.0	574	16.2
Divorced	278	6.7	420	11.8
Separated	106	2.6	310	8.7
Never Married	139	3.4	574	16.2
TOTAL	4124	100.0	3547	100.0
How union started				
Cohabitation	947	23.0	1499	42.3
Marriage	3177	77.0	2048	57.7
Total	4124	100.0	3547	100.0
Under 20 years at start of union				
Yes	848	20.6	858	24.2
Total	4136	100.0	3547	100.0

Ended by dissolution				
Yes	1022	24.8	1282	36.1
Total	4124	100.0	3547	100.0
Fertility Characteristics				
Whether a natural parent of children				
Yes	3337	80.9	2869	80.9
TOTAL	4124	100.0	3547	100.0
Economic Activity Characteristics				
Employed in work at start of 1st union				
Yes	2993	72.6	3034	85.5
Total	4124	100.0	3547	100.0
Highest educational qualification				
First/Higher degree	257	6.3	680	19.1
Teaching/Nursing/Other higher qualification	663	16.2	428	12.1
GCE A levels	290	7.1	313	8.8
GCE O levels/equivalent	1020	24.9	1169	33.0
Apprenticeship/Commercial/Other	332	8.1	-	-
No qualifications	1539	37.5	957	27.0
Total	4124	100.0	3547	100.0
Current economic activity				
Employed	2101	51.0	2058	58.0
Unemployed	113	2.7	92	2.6
Retired	765	18.5	781	22.0
Maternity leave	21	0.5	37	1.0
Family care	996	24.2	428	12.1
Economically inactive	128	3.1	151	4.2
Total	4124	100.0	3547	100.0

4.2 Employment characteristics

This first section focuses on economic activity and dissolution. The binary variable 'Event' which records whether the union ended in dissolution (coded 1) or not (coded 0). Those unions coded as 0 includes those who have not ended at the point of interview and those that ended through the death of a partner. A series of cross tabulations are carried to get a sense of what variables might be significantly associated with the 'Event' variable.

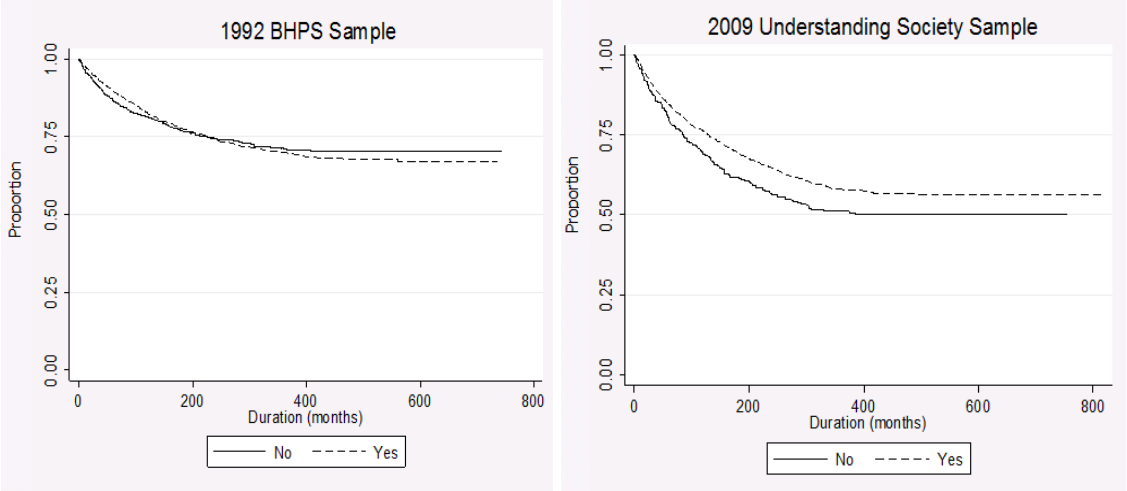
Table 4-2 shows a cross-tabulation between whether a union ended in dissolution and whether the woman was employed at the start of that union for both the BHPS and Understanding Society data. Around a quarter of women in the BHPS had their union end in dissolution regardless of whether they were working or not. In the Understanding Society data, 38.8% of women who were working at the start of their first union had experienced union dissolution compared with 36.2% of all unions in the data. This

suggests that whether a woman was employed at the start of her union does not have a strong effect on her risk of dissolution. A chi-square test concludes that being employed at the start of the union was not significantly associated with whether the woman's union dissolved.

Table 4-2 Whether the union ended in dissolution by whether the woman was employed when the union started in the 1992 BHPS and 2009 Understanding Society samples

Ended by dissolution	Whether working at start of union			
	BHPS		Understanding Society	
	Yes	No	Yes	No
Yes	26.2%	24.3%	35.7%	38.8%
N	296	726	199	1083

Figure 4-1 Kaplan Meier graphs for union survival by time since the start of the union by whether the woman is employed at the start of the union in the 1992 BHPS and 2009 Understanding Society samples



From the above Kaplan Meier graphs of union survival rates, it appears that being employed at the start of the union might have a slightly greater impact in the Understanding Society data than in the BHPS data, but these graphs also appear to confirm that it has very little impact on the risk of dissolution in either survey.

When looking at the proportion of time the woman spent in employment, no cross-tabulation or chi-square test is possible as it is a continuous variable. However, in the

1992 BHPS sample, those women whose union had dissolved spent on average 87% of their pre-union time in employment, whilst those whose unions did not end in dissolution spent an average of 90%. In the 2009 Understanding Society sample, these proportions are much smaller than in the BHPS, and those women whose union had dissolved spent on average half of their pre-union time in employment. Those women whose unions did not end in dissolution spent on average just under half of their pre-union time in employment. These smaller proportions in the more recent Understanding Society data might be due to women spending longer in education and so not entering the labour market as early. A two sample t-test for both datasets found that the difference between the mean proportions in the two samples was significant.

Additional cross-sectional information is collected at the time of interview which, although it will not be used in the modelling process, may identify indicators of potential associations. In the BHPS the percentages who are employed do not vary much across those who were married, separated or divorced at the time of the survey. However in the Understanding Society data, women who are currently separated or divorced have a larger proportion in employment than those who are married. The BHPS data also includes information on different types of annual income for the year 1.9.91 to 1.9.92 (when Wave B data was collected). This allows an examination not just of the total income different groups of women have, but also of where this income comes from. The table below shows the mean annual income from labour, non-labour and benefit sources as well as the total annual income (labour + non-labour income). Widows have the highest level of non-labour income on average; this is most likely due to most being retired and so receiving pensions and other benefits relating to their age. Excluding widows, the highest mean annual income is among divorced women, and the lowest among married women. Those women who are living as part of a couple, however, have the largest proportion of their total income coming from labour (85.1%), whilst divorced women have the smallest proportion of their income coming from labour (64.3%) suggesting that certain groups are more likely to have income from sources such as benefits and other sources, such as maintenance from previous partners. Whilst it is not possible to use these income data in the modelling process, it does suggest a possible line of future enquiry, and is consistent with the point raised by Kalmijn, Loeve and Manting (2007) about levels of welfare and whether this may be sufficient for independence. In which case, economic activity may not be the only factor in allowing a woman to be independent.

The surveys also ask a number of questions about how respondents perceived their current financial circumstances, how their circumstances have changed and what their

future expectations are. Having a positive perception of your current and future financial circumstances may be an important factor in deciding whether to leave a union and it could therefore be potentially interesting to look at the relationship between a person's marital status and their perception of their financial status. This cross-sectional view suggests that married women were less likely to report that they are finding it quite or very difficult (9.7% in the BHPS and 8.6% in Understanding Society) compared with those who are separated (35.8% in the BHPS and 24.3% in Understanding Society), divorced (29.2% in the BHPS and 18.6% in Understanding Society) or never married (28.4% in the BHPS and 20.0% in Understanding Society). So it may be that marriage in some way offers financial security for women, or that separation or divorce is negatively affecting financial security.

4.3 Life-course characteristics

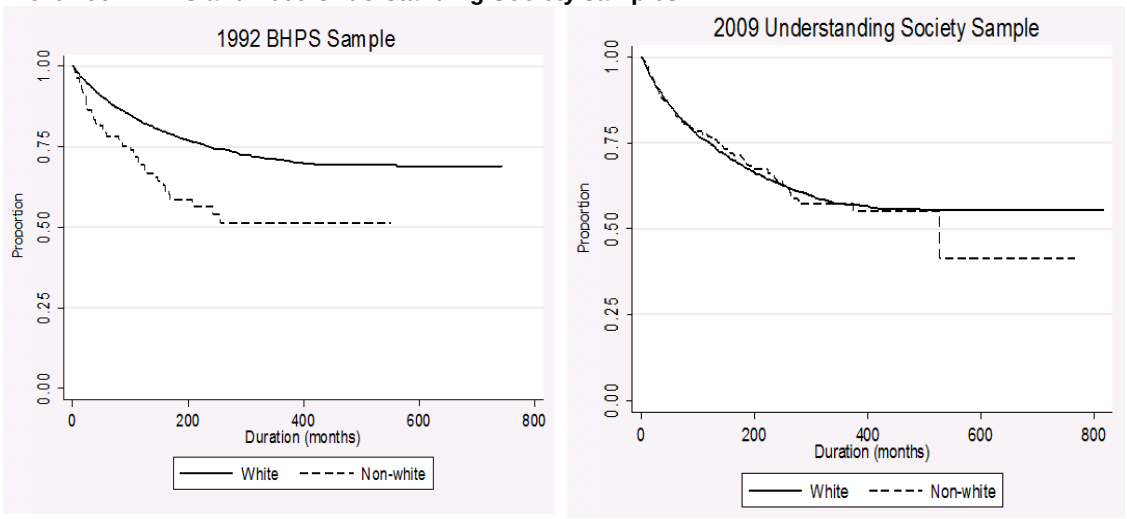
Table 4-3 Cross tabulations for life-course characteristics by whether the union ended in dissolution, 1992 BHPS and 2009 Understanding Society samples

	Ended by dissolution			
	BHPS		Understanding Society	
	Yes	N	Yes	N
Ethnicity				
White	24.4	972	37.2	1162
Non-White	38.7	43	28.2	120
Religion				
Church of England	20.0	337	30.4	276
None	32.6	374	42.6	702
Roman Catholic	23.9	90	37.5	123
Other Christian	19.4	120	32.2	129
Other Religion	19.5	16	19.8	52
Attendance at services				
Once a week	13.5	81	20.5	109
At least once a month	16.2	53	28.8	90
Less than that, but at least 1x year	24.6	355	35.3	237
Practically never	29.0	444	41.7	846
Highest qualification				
1st/higher degree	33.5	86	31.8	216
Teaching/Nursing/Other	26.7	177	37.9	162
A-levels	26.9	78	41.5	130
O-levels	27.8	283	39.9	466
Commercial/Apprentice	23.5	78	…	…
None	20.6	317	32.2	308
Living with biological parents at 16				
No	…	…	47.5	348
Yes	…	…	33.2	934

Because of the small sample size, ethnic group is classified as White and non-White. It was expected that in the Understanding Society sample there would be sufficient numbers to allow a more detailed classification; however, due to the large number of women that had to be omitted, this was not possible.

In the BHPS sample, the non-White group had a larger proportion of unions ending in dissolution than the White group, although the reverse is seen in the Understanding Society sample. This may be due to a differential distribution of the different groups in the Non-White category within the two samples, or due to the larger sample size in the Understanding Society sample. The Kaplan Meier graphs (Figure 4-2) also show that ethnicity may have a greater influence on dissolution risk in the BHPS.

Figure 4-2 Kaplan Meier graphs for union survival by time since the start of the union by ethnicity in the 1992 BHPS and 2009 Understanding Society samples



In both samples the highest percentage of unions ending in dissolution is seen in women who state that they have no religious group membership, and in those who attend services once a year or practically never.

Figure 4-3 Kaplan Meier graphs for union survival by time since the start of the union by religious group membership in the 1992 BHPS and 2009 Understanding Society samples

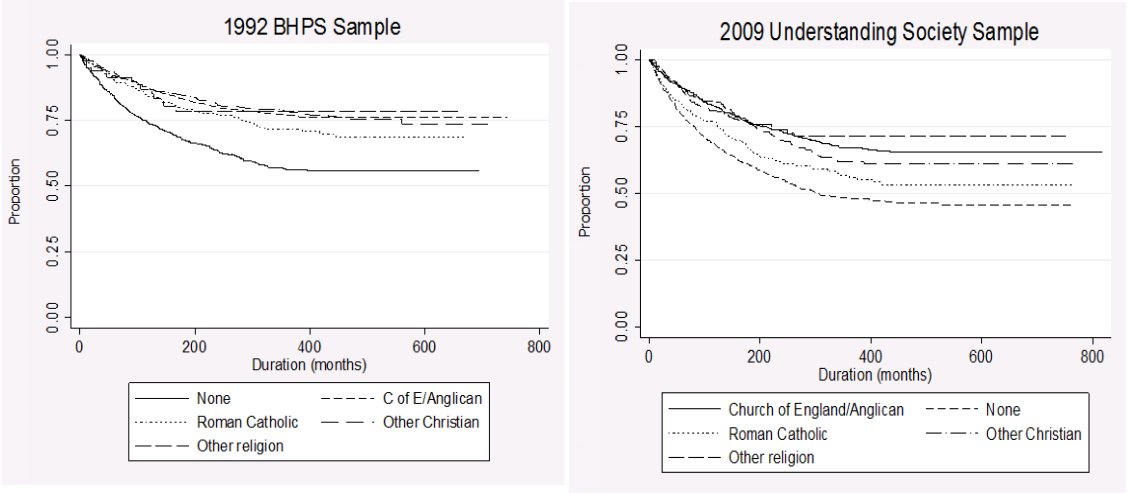
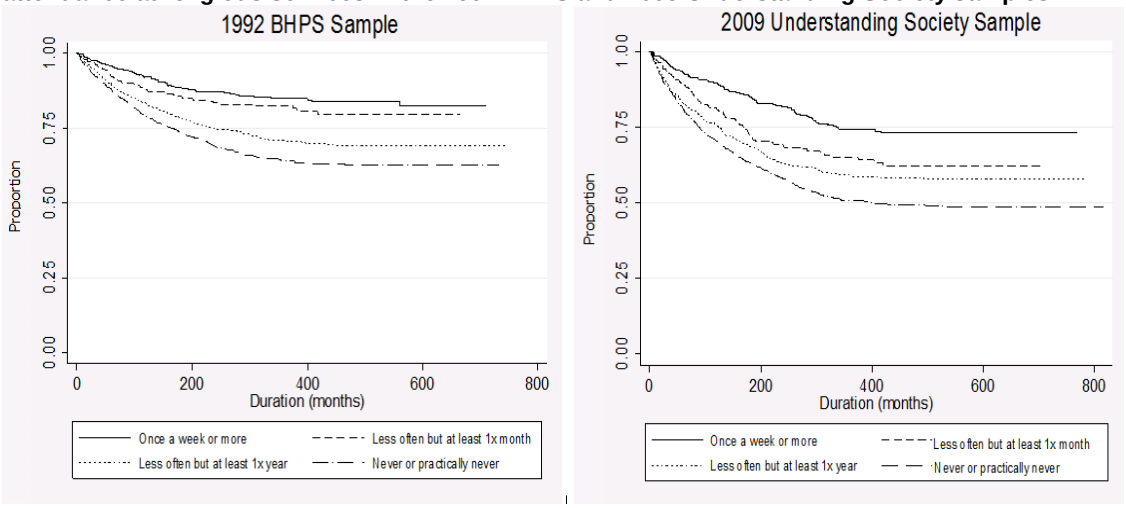


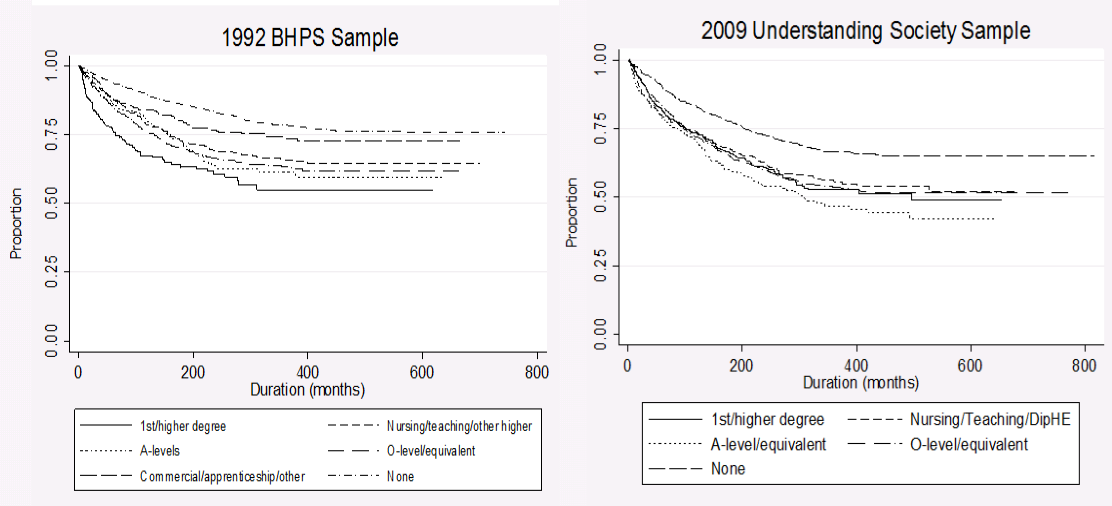
Figure 4-4 Kaplan Meier graphs for union survival by time since the start of the union by attendance at religious services in the 1992 BHPS and 2009 Understanding Society samples



There is a possibility that ethnicity and religion are measuring similar things so might be collinear. Those in different ethnic groups may be more likely to state that they identify with a particular religious group. Cross tabulations of the variables for ethnicity and religious group membership show this to be the case. For example, women in the non-White group are more likely to state they identify with other religions. 43.3% of non-White women in the BHPS and 48.0% in Understanding Society belong to other religions compared with 1.0% of White women in the BHPS and 1.9% in Understanding Society. Among White women, 44.1% in the BHPS and 28.1% in Understanding Society identify with the Church of England, compared with 9.6% of non-White women

in the BHPS and 7.3% in Understanding Society. It has also been discussed previously that different religious groups may have differing levels of active participation. This appears to be the case in these two samples. For example, in both samples just under a quarter of people who identify themselves as Church of England attend services at least once a month, whereas around half of women in the Roman Catholic, other Christian and other religions groups attend at least once a month. The Kaplan Meier graphs and chi-square tests suggest that all three variables are significantly associated with the risk of dissolution, so all three will be retained in the modelling process.

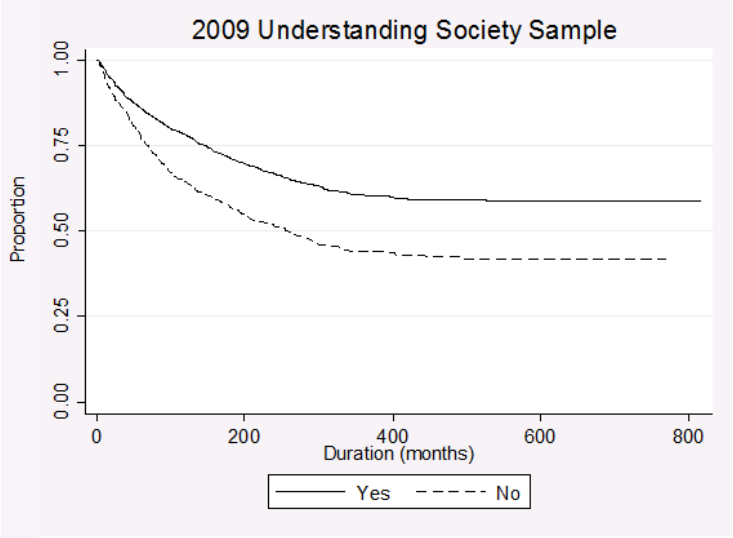
Figure 4-5 Kaplan Meier graphs for union survival by time since the start of the union by highest qualification in the 1992 BHPS and 2009 Understanding Society samples



The results in Table 4-3 and the Kaplan Meier graphs in Figure 4-5 suggest that the level of qualification achieved by a woman may have little impact on her propensity to experience union dissolution. The chi-square test, however, suggests that it may be significantly associated with dissolution risk so the variable will be retained in the modelling processes.

In the Understanding Society data there is additional information on whether the woman lived with both her biological parents at the age of 16 years as an indicator of stability of parental union. Table 4-3 shows that those women who did not live with both of their biological parents at 16 years were more likely to have experienced the dissolution of their first union: 47.5%, compared with 33.2% of women who were living with both their biological parents at age 16. The Kaplan Meier graph also is consistent with the argument that this variable will prove to be an important factor.

Figure 4-6 Kaplan Meier graphs for union survival by time since the start of the union by whether the woman lived with her biological parents at the age of 16 in the 2009 Understanding Society sample



4.4 Early union characteristics

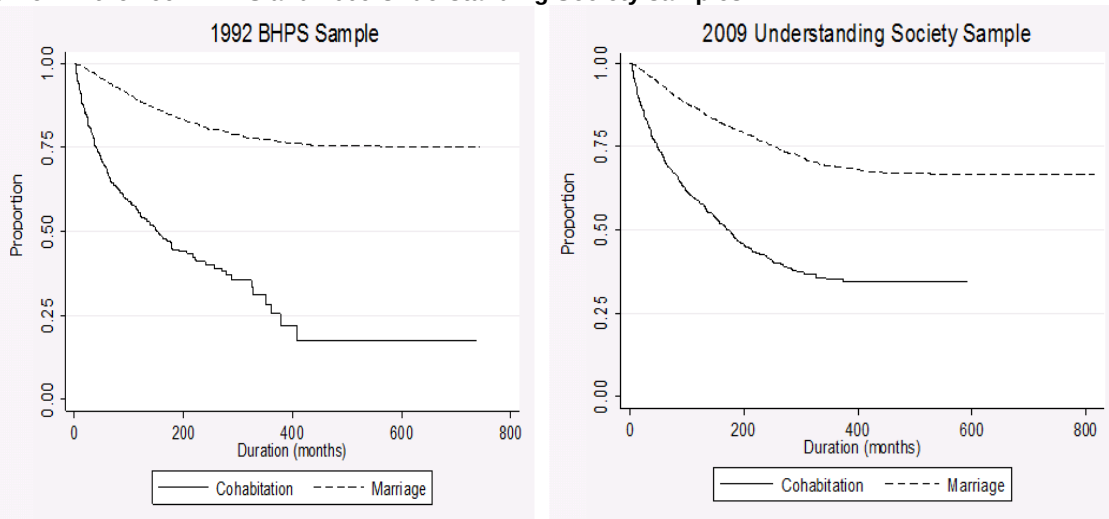
The increase in cohabitation over recent decades and the relative instability of cohabitation compared with marriage was discussed previously in Chapter Two. In the BHPS sample, around a quarter of unions started with cohabitation, whilst just under half of unions in the more recent Understanding Society sample started with cohabitation which is consistent with the idea that cohabitation has been rising.

Table 4-4 Cross tabulation for whether the union ended in dissolution by how union started in the 1992 BHPS and 2009 Understanding Society samples

Ended by dissolution	How union started			
	BHPS		Understanding Society	
	Cohabitation	Marriage	Cohabitation	Marriage
Yes	40.4	20.1	46.8	28.3
No	383	639	702	580

Table 4-4 shows that among unions beginning with cohabitation, 41.0% in the BHPS and 47.0% in Understanding Society ended in dissolution compared with 20.2% of unions that had started with marriage in the BHPS and 28.3% in Understanding Society. A chi-square test suggests that how the union started is significantly associated with the likelihood of dissolving a union and this is borne out by the Kaplan Maier graphs below (Figure 4-7).

Figure 4-7 Kaplan Meier graphs for union survival by time since the start of the union by the type of union in the 1992 BHPS and 2009 Understanding Society samples



As expected, cohabitations show the smallest probability of survival of the three union types in both samples. As studies by Kiernan (1999) and White (1990) found, marriages that were preceded by a period of cohabitation were less stable than direct marriage, which is seen in Figure 4-7 for both samples, although the survival probabilities for marriages preceded by cohabitation are larger in the Understanding Society sample.

Table 4-5 Cross tabulation of whether union ended by whether woman was under 20 years at start of union in the 1992 BHPS and 2009 Understanding Society samples

Ended by dissolution	Woman under 20 years at start of union			
	BHPS		Understanding Society	
	No	Yes	No	Yes
Yes	20.0	43.9	31.5	50.5
No	654	368	848	433

As expected from the literature review, table 4.5 shows that where the woman was under the age of 20 at the start of her first union, these unions were more likely to have ended in dissolution in both the BHPS and Understanding Society data. Likewise the Kaplan Meier graphs show that women who enter their first union aged under 20 years are at far more risk of experiencing dissolution. Among the other three categories there are less distinct differences.

Figure 4-8 Kaplan Meier graphs for union survival by time since the start of the union by woman's age at the start of the union in the 1992 BHPS and 2009 Understanding Society samples

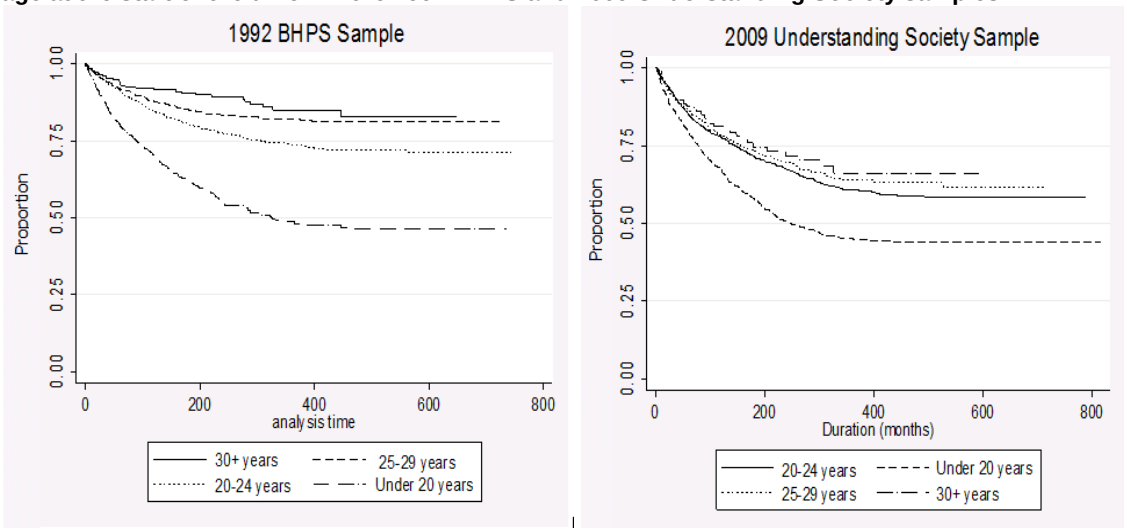
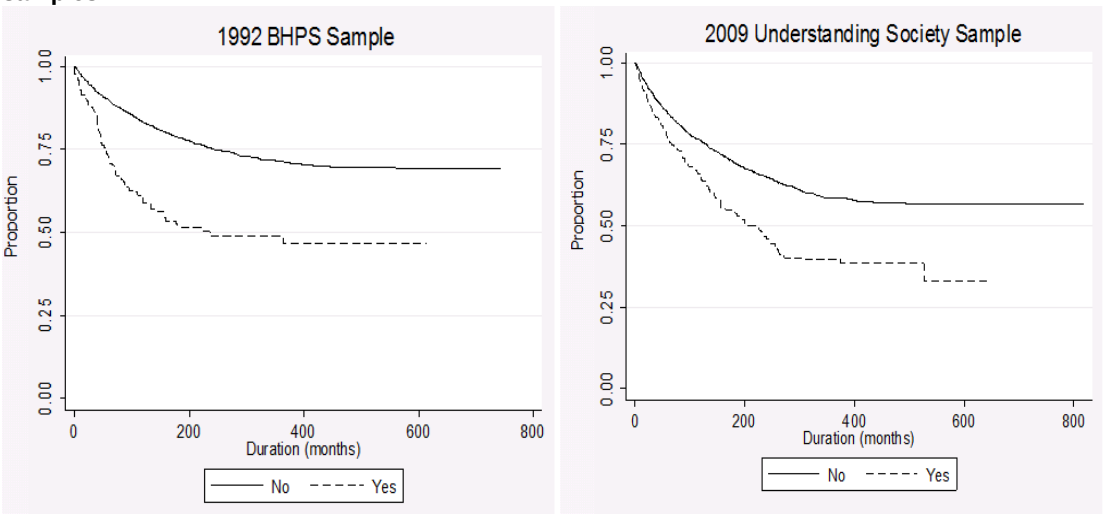


Table 4-6 Cross tabulation of whether union ended by whether woman had a pre-union birth in the 1992 BHPS and 2009 Understanding Society samples

Ended by dissolution	Had a birth prior to the start of the union			
	BHPS		Understanding Society	
	No	Yes	No	Yes
Yes	24.0	42.9	35.1	48.7
No	950	72	1148	134

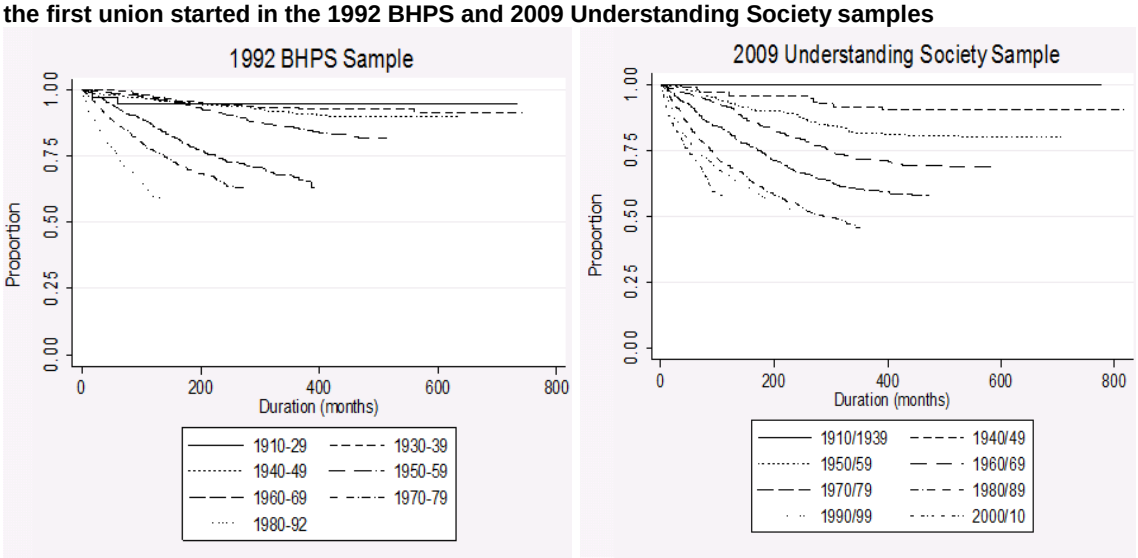
Having a birth prior to the start of her first union also seems to be associated with the instability of the union. As shown in Table 4-6, a larger proportion of women who had a birth prior to the start of their first union experienced dissolution in both samples compared with women who did not have a pre-union birth. The following Kaplan Meier graphs are also consistent with the argument that having a birth before a union is positively associated with dissolution.

Figure 4-9 Kaplan Meier graphs for union survival by time since the start of the union by whether the woman had a birth prior to the first union in the 1992 BHPS and 2009 Understanding Society samples



The Kaplan Meier graphs in Figure 4-9 show that, in both samples, more recent unions are more at risk from ending in dissolution. The trend would appear to be that there is a linear relationship between year the union started and the rate at which unions are dissolve; this is more pronounced in the Understanding Society sample.

Figure 4-10 Kaplan Meier graphs for union survival by time since the start of the union by the year the first union started in the 1992 BHPS and 2009 Understanding Society samples

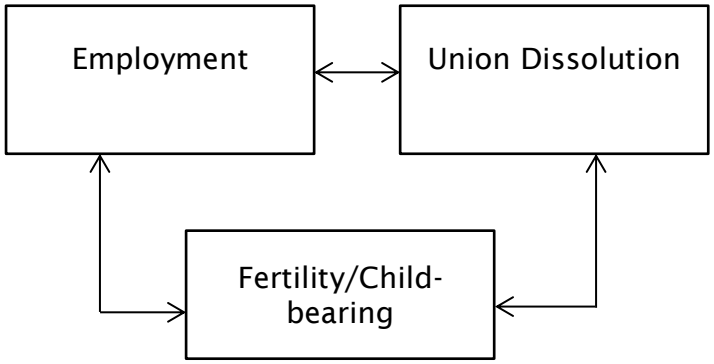


4.5 Fertility characteristics

As discussed previously in Section 2.6, the presence of children could influence the likelihood of a couple dissolving their union either directly or indirectly via an economic mechanism.

Figure 4-11 shows the potential framework of mechanisms through which the presence of children may influence dissolution risk, which has been based on some of the ideas discussed in the literature review. So it may be that, as found by Berrington and Diamond (1999), Fischer and Liefbroer (2006) and Kalmijn and Poortman (2006), the presence of children is negatively associated with dissolution, or that couples whose unions are less stable are less likely to have children (Lyngstad & Jalovaara, 2010). Alternatively, the presence of children are found to be an important factor in a woman's decision to work (Van der Lippe & Van Dijk, 2002), and so may be influencing dissolution risk via an economic mechanism as outlined in the second hypothesis discussed in Section 1.2.1.

Figure 4-11 Framework for the influence of children



On both samples, full fertility histories are available, although much of the information is more suited for time-varying variables, which allow the timing of births to be controlled for and will therefore be discussed in more detail in the next chapter. A cross-tabulation between the event variable and the variable which records whether a woman has biological children suggests that a greater percentage of women without children experience dissolution, with around a third of women with no children in the BHPS experiencing dissolution, compared with a quarter for women with children. A similar

difference is seen in the Understanding Society sample. However, this cross-tabulation does not allow for time order to be established so births may have occurred in subsequent unions.

This section will focus on the influence that children might have on economic activity. The presence of children may arguably have an impact on whether a woman works, so this is an important factor to consider. In the BHPS sample, women with children under 12 in the household are more likely to be engaged in family care, but there is not a great difference between the percentage working. Among those with children under 12 in the household, 60.4% were currently employed in 1992, compared with 60.0% of those without children under 12 in the household. Likewise in the Understanding Society sample, 55.9% of women who were mothers to children aged under 16 in the household were employed compared with 52.6% of women were not. This suggests that actually the presence of children may not have much effect on whether a woman works but it may influence how many hours she works per week. For example, in the BHPS sample, women with children under 12 in the household work on average fewer hours per week (21.8 hours) compared with an average 29.4 hours per week for women without children under 12 in the household.

4.6 Cox Proportional Hazard Models

The next stage of this exploratory analysis is to run a series of Cox Proportional Hazard Models. Once the data is converted into spell format and all the necessary checks and amendments have been completed, Cox Proportional Hazard Models are used to investigate the effect of the variables of interest. For this analysis a binary variable was created as the failure variable and is coded 0 if the union has not ended in dissolution and 1 if the union 'failed' or ended in dissolution. The time variable used is a measure of the length of the union in months. A woman's employment history can be approached in two ways: the first is to consider summaries of work experience that a woman had prior to entering her first union, and is the approach taken in this section.

Models were run that contained variables that relate to employment measures, early union characteristics, life-course characteristics and fertility characteristics. Several approaches are possible here: a backwards approach is possible where all variables are included in the initial model then the least significant variable is removed at each subsequent model. An alternative stepwise approach taken here was to start with all

the employment summary measures in the initial model, as these are the primary factors of interest here. Therefore the initial model shows the effect of these employment measures without controlling for other potential factors. In subsequent models, other factors are added in groups based on both the framework in Figure 2-1 and on a theoretical temporal order, starting with life-course characteristics, followed by early union characteristics then finally characteristics relating to fertility. The aim is to see whether any significant effect of the employment variables remains when other potential factors were controlled for. A number of interactions were tried including one between the variables 'No qualifications' and duration, and also between 'Employed at the start of the union' and duration. Neither was significant so were not included in any of the models.

4.6.1 Results

The results from these models are shown in Table 4-7 and Table 4-8.

Table 4-7 Results from the Cox proportional hazard models, 1992 BHPS sample

	Model 1	Model 2	Model 3
EMPLOYMENT CHARACTERISTICS			
Employed at start of union (Ref: No)	1.029	0.950	0.862
Proportion of time prior to union in employment	0.556**	0.550**	0.991
Highest qualification (Ref: 1st/higher degree)			
Nursing/teaching/other higher	0.673**	0.746*	0.759
A-levels	0.790	0.819	0.685*
O-level/equivalent	0.801	0.820	0.666**
Commercial/apprenticeship	0.512**	0.560**	0.627**
None	0.385**	0.411**	0.584**
LIFE-COURSE CHARACTERISTICS			
ethnicity (ref: White)		2.111**	1.656**
Religious group membership (Ref: C of E/Anglican)			
None		1.728**	1.244**
Roman Catholic		1.529**	1.202
Other Christian		1.058	1.157
Other religion		0.636	0.604
Attendance at religious ceremonies (Ref: once a month or more)			
Less than that, but at least 1x year		2.150**	1.653**
EARLY UNION CHARACTERISTICS			
Pre-union birth (Ref: No)			1.928**
How union started (ref: cohabitation)			0.491**
Year union started			1.049**
Age at start of union (Ref: 20-24 yrs)			
under 20			1.969**
25-29 years			0.792*
30+ years			0.491**
LR chi2	146.97	301.10	904.48

**** p-value <0.01 * p-value <0.05**

Table 4-8 Results from the Cox proportional hazard models, 2009 Understanding Society sample

	Model 1	Model 2	Model 3
EMPLOYMENT CHARACTERISTICS			
Employed at start of union (Ref: No)	0.704**	0.709**	0.909
Proportion of time prior to union in employment	1.229*	1.183*	1.172
Highest qualification (Ref: 1st/higher degree)			
Nursing/teaching/other higher	0.941	1.007	1.076
A-levels	1.161	1.227	1.173
O-level/equivalent	0.942	0.947	0.901
None	0.609**	0.596**	0.853
LIFE-COURSE CHARACTERISTICS			
ethnicity (ref: White)		1.285*	1.107
Religious group membership (Ref: C of E/Anglican)			
None		1.663**	1.199*
Roman Catholic		1.589**	1.333**
Other Christian		1.211	1.282*
Other religion		0.755	0.688*
Attendance at religious ceremonies (Ref: once a month or more)			
Less than that, but at least 1x year		1.923**	1.577**
Living with biological parents at 16 (Ref: yes)		1.616**	1.376**
EARLY UNION CHARACTERISTICS			
Pre-union birth (Ref: No)			1.323**
How union started (ref: cohabitation)			0.582**
Year union started			1.032**
Age at start of union (Ref: 20-24 yrs)			
under 20			1.538**
25-29 years			0.726**
30+ years			0.527**
LR chi2	82.25	317.76	734.07

**** p-value <0.01 * p-value <0.05**

4.6.2 Discussion of results

In the first models, only measures of employment prior to the start of the union are included, along with highest qualification (which was included with the economic activity measures as a proxy measure for economic opportunity and a woman's status). The tables show that the effect of being employed at the start of her first union is not significant in the 1992 BHPS sample but is negatively associated with dissolution in the 2009 Understanding Society sample, with the risk of experiencing a dissolution decreased by nearly a third. The proportion of time spent in employment prior to the union was negatively associated with dissolution in the 1992 sample and positively associated with dissolution in the 2009 sample. In terms of highest qualification, in both samples women with no qualifications had a significantly reduced risk of dissolution compared with women who had a degree or higher qualification. Women with no qualifications in the 1992 sample had a risk that was two thirds lower, but this had reduced to just over a third lower in the 2009 sample.

The introduction of life-course characteristics have very little impact on the hazard ratios seen in the first models. The further extension of the models with the introduction of early union characteristics now means that that both the measure of time spent in employment prior to the start of the union and being employed at the start are no longer significantly associated with dissolution in either sample. However, once early union characteristics are controlled for, many of the categories of highest qualification are now significantly associated with the risk of dissolution in the 1992 sample, with having A-levels, O-levels, commercial or apprenticeship and no qualifications being negatively associated with dissolution compared with having a degree or higher qualification. In the 2009 sample, however, all categories of qualification are now not significantly associated with dissolution.

In terms of life-course characteristics, non-White women have a greater hazard of experiencing dissolution than White women in the 1992 sample, which is consistent with the findings of Johnson and Skinner (1986), White (1990), Hiedemann, et al. (1998) and Goodman and Greaves (2010), although is not significant in the 2009 sample. The results for religious group membership are mixed. Compared with women who belong to the Church of England, women with no religious group membership have an increased risk in both samples. Women belonging to other religions including Hinduism and Judaism had a significantly decreased risk in the 2009 Understanding Society sample. Frequency of attendance at religious services seems to have a more consistent influence on dissolution risk with the risk of dissolution increasing as the frequency of attendance decreases in both samples. For example, in the earlier 1992

sample, attending services less often than once a month, but at least once a year is associated with an increased risk of dissolution. Once again, these findings are consistent with earlier studies (Lyngstad & Jalovaara, 2010). Women in the 2009 sample who did not live with both biological parents at the age of 16 also had a hazard that was a third higher than women who did. This finding is consistent with earlier studies by Bernardi and Martinez-Pastor (2011), Fokkema and Liefbroer (2004) and Berrington and Diamond (1999).

The measures of early union characteristics were found to behave very much as was expected from the literature review in chapter two. A young age on entering the union (under 20 years) is associated with a higher risk compared with the baseline group of 20-24 year olds, a positive association that was also found in earlier studies (White, 1990; Hiedemann, et al, 1998; Wilson & Smallwood, 2008; Kalmijn & Poortman, 2006; Muszynska, 2008). Older ages, in contrast, have a lower risk, which is consistent with the earlier study by Bernardi and Martinez-Pastor (2011). More recent unions appear to have a higher risk, with the hazards of dissolution increasing by 4.9% per union year in the 1992 sample and correspondingly 3.2% in the 2009 sample. Consistent with the earlier studies by Kiernan (1999) and Goodman and Greaves (2010), which found that entering into marriage directly was associated with a lower risk of dissolution compared with unions that start with cohabitation, how the union started was also found to be significantly associated with dissolution in either the 1992 or the 2009 sample with direct marriages having a risk that was around half that of unions that started as a cohabitation.

Finally a woman who had a birth prior to the start of her union had a significantly higher risk of dissolution, although the size of the effect was far greater in the 1992 sample than the 2009 sample. This finding was expected based on the findings of Berrington and Diamond (1999) and Bernardi and Martinez-Pastor (2011). The reduced size of the effect of having a pre-union birth seen in the later 2009 sample indicates that the effect is changing over time and is consistent with Bernardi and Martinez-Pastor's study (2011) that found that having a birth prior to the start of the union is only associated with an increased risk if the union started prior to 1981.

4.7 Conclusion

These models suggest that characteristics relating to the woman's early life-course and the early periods of the union might have a greater impact on the propensity for a woman's union to dissolve than her employment prior to the start of the union. This is, however, perhaps not that surprising, as most people in both samples worked prior to the start of their first union, so there is in fact little variation in work behaviour before entering this union. The results of these exploratory models show that a woman's employment behaviour prior to entering her first union is not significantly associated with dissolution, so no evidence is yet established for the either of the first two research questions that there is an association between economic activity and dissolution (as discussed in Section 1.2.1), or for any of the economic mechanisms discussed in Section 2.2.

In the first instance, in these exploratory analyses, fixed characteristics have been examined. In the next chapter, further analyses will examine in more depth whether there is any evidence of an association between a woman's employment and her risk of dissolution through the introduction of time-varying characteristics and employment during the union. These exploratory models have included the woman's economic activity prior to the start of her union, but her economic activity patterns during the lifetime of the union are also important, as arguably it is employment during her union that would enable a woman to be independent, or that would disrupt distinct gender roles. It is also important to control for the presence of children or timing of births within the union. Studies such as Toulemann (1995) and Hiedemann, Suhomlinova and O'Rand (1998) suggest that dissolution risk might be influenced by the arrival of children or that it may change with changing time since the last birth. Therefore the modelling process is now extended to allow for the inclusion of variables that are time-varying and that will allow greater investigation of factors within the union.

Chapter 5 Time-varying Models

5.1 Introduction

The focus of this chapter is to develop and extend the analysis in chapter four and aims to address the first of the research question discussed in section 1.2.1. In order to answer this research question, the aim of these analyses is to test for any association between a woman's economic activity and her risk of seeing her first union dissolve by extending the exploratory models in Chapter Four and by allowing measures of the woman's union, fertility and employment to vary across the lifespan of the union. This is important, as economic activity and fertility are dynamic processes that may change many times during the lifespan of the union, which means that the way this data is modelled should reflect this dynamic nature. The status of the union has also been allowed to change because, as seen in Section 2.5.3, it has been found that converting a cohabitation into marriage might reduce the risk of dissolution associated with cohabitation.

The inclusion of time-varying measures of economic activity is important in examining not just the question of whether economic activity is associated with union dissolution, but also in examining the mechanisms through which employment may be associated with union dissolution. Three main hypotheses about how economic activity might be operating to influence dissolution risk were introduced in chapter two, all are based on the assumption that economic activity is associated with dissolution, but they differ in terms of what direction the association operates in. The independence effect and the specialisation of roles mechanisms are argued to destabilise unions by allowing a woman to consider leaving a union or by disrupting 'traditional' family roles, whilst in contrast the income effect is suggested to stabilise unions by enabling couples, for example, to more easily achieve their aspirations. The analyses in this chapter will add to this debate by asking whether such an association between economic activity and union dissolution, if found, is negative or positive. What all three hypotheses have in common is that arguably they all require the woman to be involved in the labour market at some point throughout the duration of her union in order to have any influence. For example, a woman's employment cannot be considered to disrupt specialised family roles unless she has periods of employment during the lifetime of her union. So this

next stage of the data analysis enables a further examination of the first research question, but also allows some discussion of which mechanism may be operating.

Although the primary focus of this analysis is establishing whether an association between economic activity and union dissolution exists in these data, and which direction this association operates, it was seen in the literature review in chapter two that different union types are associated with differing levels of risk. For example two studies using British data by Haskey (1999) and Goodman and Greaves (2010) found that cohabitations were found to be less stable than marriages and cohabitations that transited into marriage. This study is interested in whether any differences in the effect associated with economic activity differs according the type of union. Therefore the analysis in this chapter will investigate whether any effect associated with economic activity is the same across the three union types: cohabitation, marriage preceded by cohabitation and direct marriage. It may be that, as Kalmijn, et al. (2007) suggest, cohabitations are more egalitarian and may explain the differences in the direction of the association between economic activity and dissolution they found between marriages and cohabitations in the early years of the unions.

The studies discussed in section 2.5.5. show consistently that across the UK and countries such as the US, West Germany and Russia, that union duration is negatively associated with the risk of dissolution (Hiedemann, et al., 1998; Wilson & Smallwood, 2008; Cooke and Gash, 2010; Muszynska, 2008), although Cooke and Gash found no such increased risk of dissolution at the start of marriages in the UK. So this chapter also addresses the question of whether the risk of dissolution reduces as the duration of the union increases, and whether the effect of economic activity is seen throughout the life of the union.

The first two questions relating to whether the association is seen in these data, and which direction it is operating in with be tested directly through the piecewise constant models discussed in section 5.4. As these models will not be run separately for each union type, predicted probabilities of survival will be calculated for a number of hypothetical women and these survival probabilities will be used to address the final two questions discussed here relating to whether the association between economic activity and union dissolution is consistent across union type and union duration.

5.2 Additional variables

The next stage of the modelling process has been to manipulate the data into person-period format. In this format, each woman has a row for each six month period for the duration of her first union with each row representing a person-period. The 1992 BHPS sample now includes 4124 unions which contribute 168,124 person periods, whilst the 2009 Understanding Society sample contains 3544 unions which contribute 137,450 person periods. This format allows for a number of time-varying variables and multiple clocks to be included in the models. The next set of models includes both the fixed measures of economic activity that were introduced in the earlier Cox Proportional Hazard models as well as a number of additional time-varying variables.

Variables have been created to measure the work experience of the women throughout the lifetime of their unions, and so extend the existing measures of pre-union work experience which were included in the Cox Proportional Hazard models. The fixed measures focus on measures of pre-union economic activity as this has already happened prior to entering the union and therefore will not change. The time-varying variables are focused on the economic activity within the life of the union, allowing it to change many times in response to the fact that economic activity may change in relation to life events such as childbirth, changing family financial needs or to the economic climate. Time-varying variables have also been derived to measure changes in fertility and union characteristics across the life span of the union. Details of these can be seen in Table 5-1.

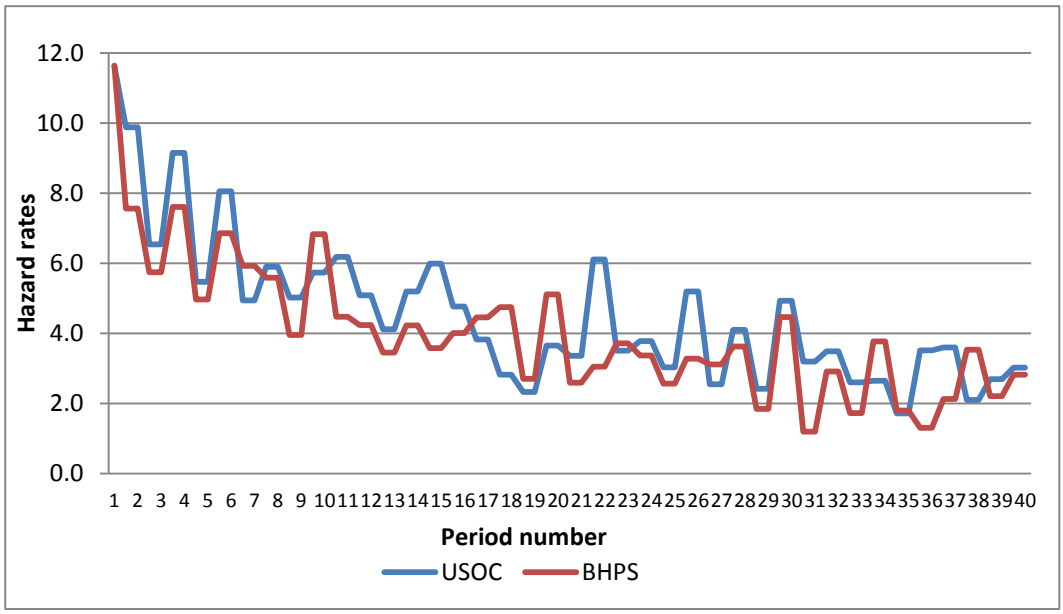
Table 5-1 Derived variables for time-varying models

Variable name	What variable is measuring	Type
Event	Indicates the point at which the dissolution occurs if it does	Time-varying
Period number	Indicates the number of the period, each 6 months in duration	Clock
Union status	Indicates the current status of the union at the start of each time period, whether it is cohabitation or marriage	Time-varying
Union duration	Cumulative union duration	Clock
Current employment	Current employment status at the start of each time period	Time-varying
Time in work	Cumulative time spent in employment from start of first union	Time-varying
Number of live births	Number of live births	Time-varying
Pregnancy	Indicator variable denoting if the woman was pregnant & could be assumed to know in this period	Time-varying
Time since last birth	Time since the last birth occurred (months), resets after each subsequent birth	Clock

5.2.1 First stage logistic model to see the shape of the baseline hazard using event (time-varying) and period number

Cox Proportional Hazard models assume that the shape of the baseline hazard is unknown. However it is possible to run a logistic model to see the shape of the baseline hazard, which can be seen in Figure 5-1. This suggests that the risk of a union ending in dissolution is high at the beginning of the union and then decreases in an approximately linear fashion as the duration of the union increases. This makes theoretical sense, as it would be expected that the hazard of dissolution would decrease as the duration of the union increases; couples who are together for long durations will be more likely to remain together. This is a 'frailty' effect. Couples with shaky unions part first, leaving those with more solid unions in the sample at longer durations.

Figure 5-1 Baseline hazard for dissolution risk in the 1992 BHPS and 2009 Understanding Society samples



A number of models can be used which assume that the shape of the baseline hazard is known. For the analyses in this chapter piecewise constant models were considered the most appropriate way of modelling the time-varying covariates discussed in Section 5.2.

The same approach has been taken as with the Cox Proportional Hazard models. As in the exploratory models in Chapter Four, all union types are examined together. The

initial models include just the variables that relate to each woman's economic activity prior to and during her union. Then the variables relating to her fertility, early union and life-course characteristics are added in stages.

5.3 Piecewise constant discrete-time models

5.3.1 Baseline hazard

Many modelling processes assume that the hazard rate of experiencing dissolution remains constant over the lifespan of the union. As the review of literature in Chapter Two, however, suggests the risk of dissolution and the effect of factors may vary over the duration of the union. For example, South and Spitze (1986) found that the relationship between a woman's education level and her risk of dissolution changed over the life of her union.

Therefore piecewise constant models will be run. These models are based on the principle that the measure of time can be split into a number of intervals or pieces. The assumption is that the hazard rate will be constant within each piece, but that it can vary between the pieces. The number of pieces to use needs to be a compromise between the number of coefficients created and achieving a better approximation of the baseline hazard. A large number of pieces will result in a large number of coefficients, which will make the models cumbersome but will allow for a far better estimate of the baseline hazard. The measure of time in this study is the duration of the union in months. As discussed in section 5.2, the data have been split into pieces, each piece (represented by a row of data) represents six months. So piece one represents months one to six, piece two represents months seven to twelve, and so forth.

Based on the shape of the baseline hazard, the data was split into ten pieces, each one equal to approximately 10% of the exposure. There are some differences between the two datasets, but these differences are small and do not appear until the 7^{th} piece. Therefore the pieces from the BHPS have been used for both datasets to ensure consistency. These pieces and the distribution of period numbers and union duration in months are shown in Table 5-2.

Table 5-2 Piecewise selection

Piece	Period no	Duration (Months)
1	1-4	1-23
2	5-9	24-53
3	10-14	54-83
4	15-20	84-119
5	21-27	120-161
6	28-34	162-203
7	35-43	204-257
8	44-54	258-323
9	55-69	324-413
10	70-124	414-744

It is important that within each piece there are some observations where the event of dissolution is experienced; this requirement is met in both datasets using this piecewise selection shown in Figure 5-2.

Figure 5-2 Piecewise hazard for baseline hazard in the 1992 BHPS and 2009 Understanding Society samples

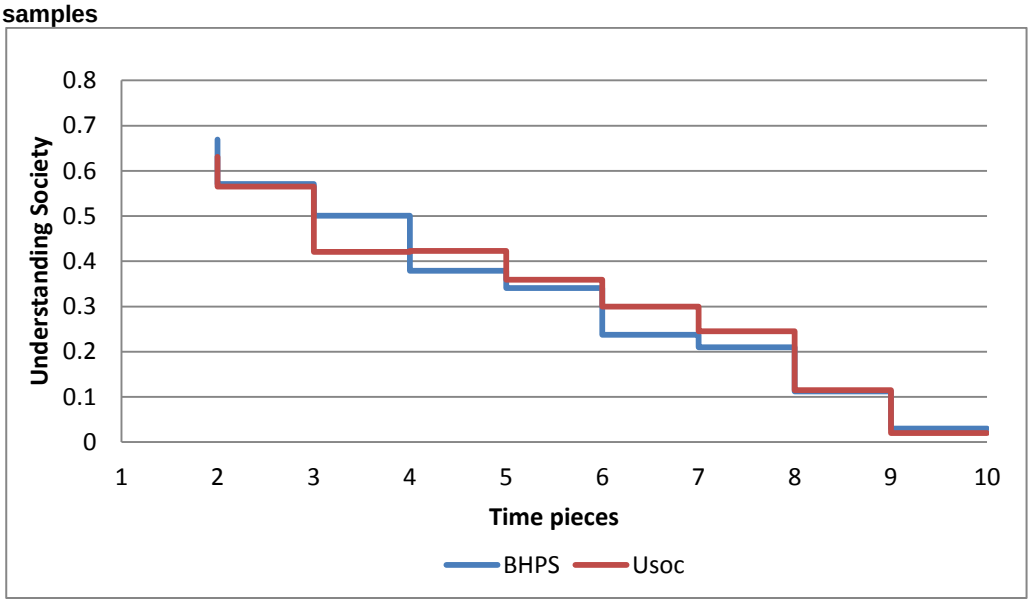
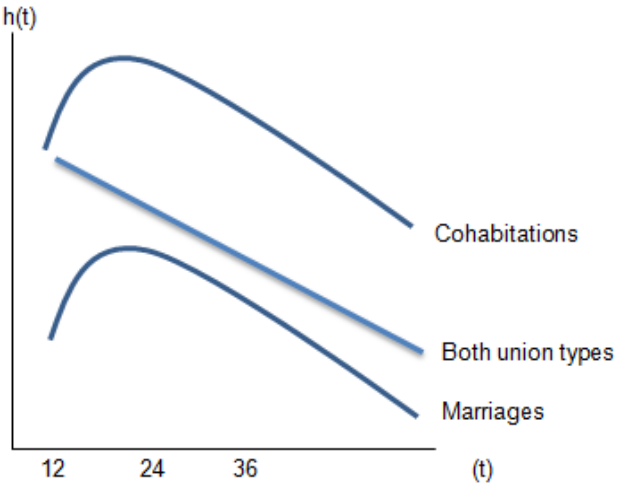


Figure 5-2 shows the results from the piecewise constant models for the BHPS and Understanding Society data and includes just the hazard rates for the pieces, with the first piece as the baseline category. This shows that the shape of the baseline hazard is monotonically decreasing as the length of the union increases. It may be, however, that the shape of the hazard for different unions is not actually monotonic, rather that the hazard is low at the start of a union, rises subsequently for a time, and then declines, as shown in Figure 5-3.

Figure 5-3 Shape of hazard for different union types



In the 1992 sample and the 2009 sample data, when models are extended to include the economic activity variables and the fertility, early union and early life characteristics, an important difference emerges. Figure 5-4 and Figure 5-5 show an interesting deviation from this monotonic hazard.

Figure 5-4 Hazard rates for piecewise models for the 1992 BHPS sample

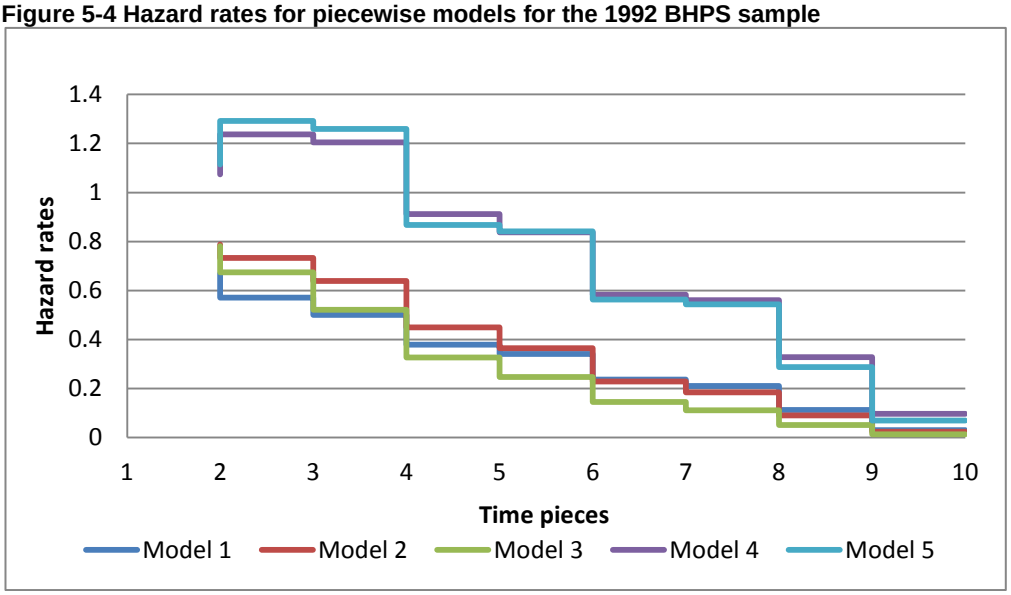


Figure 5-5 Hazard rates for piecewise models for the 2009 Understanding Society sample

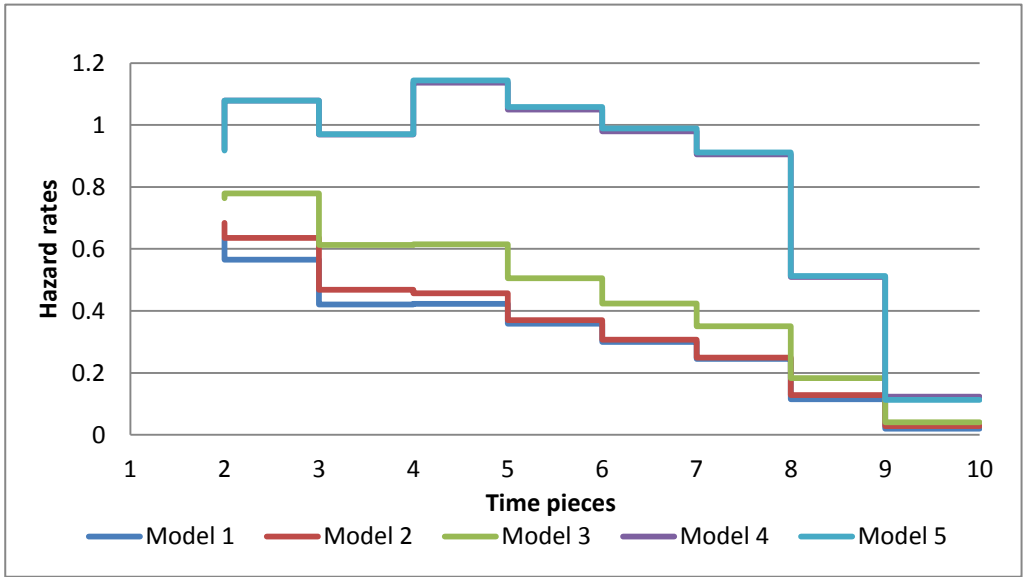


Figure 5-4 and Figure 5-5 show that Models 1 to 3 all show the same monotonic decrease in the shape of the hazard; however Models 4 and 5 have a hazard that is non-monotonic in shape, with an initial increase in risk in the earlier time pieces followed by a later decrease. These two models are the only ones that control for early union characteristics and that have cohabiting unions as the reference category. So this suggests that as the shape of the hazard for marriages will be proportional to but lower than the ones for cohabitations, the hazard is not monotonic after all, as shown in Figure 5-3.

The explanation for this apparent contradiction is that at low durations unions are more likely to be cohabitations, which are associated with a higher risk, and then as duration increases an increasing proportion of unions will be marriages, which are associated with a lower hazard. This might be due to two reasons. Firstly those cohabitations that do not convert into marriages are more unstable and therefore more likely to have dissolved before the longer durations. Secondly, the cohabitations that survive for longer durations will have largely converted into marriages by time they reach a longer duration. This finding confirms that piecewise constant models are the more appropriate method for these data, so the remainder of the modelling process has focused on piecewise constant models. These baseline hazards provide further justification for the use of time-varying variables in the modelling process.

5.3.2 Piecewise constant models

Models were run following the same process as in the Cox Proportional Hazard models in Chapter 4. So the initial models show the baseline hazard. The economic activity measures are then included, followed by the early life-course measures, the early union measures and finally the fertility measures as discussed in the theoretical framework in Chapter Two.

The initial set of models highlighted a number of issues. For instance, there are a couple of unexpected results in the models which merited closer attention. Firstly the cumulative time spent in work has little effect in any of the models. As the proportion of time spent in employment prior to the union had an effect on the hazard of dissolution, it was anticipated that this would also have an effect. This was considered as, possibly due to the time period used, accumulating time spent in work by month may not be the most appropriate way to measure work experience, as one month is unlikely to have a significant impact. Therefore the variable was re-specified as accumulative time in years. A similar argument can be applied to 'Time since last birth', although there is an additional difficulty in that it does not take into account or allow adequately for women who have not had a birth; it was thus re-specified as a categorical variable with women who had not yet had a birth as the reference category. The interaction between time since last birth and current economic activity status proved to be problematic and was excluded, as many of the categories were omitted due to collinearity. The variable 'Attendance at religious services' has been re-specified as there are similar size effects for attending services 'at least once a year' and 'practically never' so these two categories have been combined. This is now a binary variable with attending services once a month or more as the reference category. The women's year of birth has been added to the life-course characteristics models, which will allow for direct comparison for women born in the same year across the two datasets.

The hazard ratios presented in Table 5-3 and Table 5-4 for the year the union started suggested that with each year the risk of experiencing dissolution increases by 4.1% in the BHPS and 1.5% in Understanding Society. As early life course characteristics were controlled for, however, the direction of this hazard changed and year the union started was then associated with a decreased risk. This may be due to a correlation between the age at the start of the union and the year of birth. Part of the increased risk associated with the year of birth and is likely due to the young age at the start of the union for more recent birth cohorts. Women who are born in more recent years must enter their unions earlier as, for example in the BHPS, a woman born in 1970 can only

be 22 in 1992 when the retrospective data was collected. Therefore year of birth is re-specified into 20 year birth cohorts and the models re-run.

An additional variable replaces the birth variable with one that records when the woman is pregnant and would be presumed to know. This is calculated by deducting 6 months from the date of birth. This was because the effect of the birth was being measured also in the first category of the time since last birth (0–6 months). Once these amendments were made to the measures, a final set of models were run and the results are shown in Table 5-3 and Table 5-4.

5.4 Results

Table 5-3 Piecewise Constant Models for the 1992 BHPS sample

BHPS	Model 1	Model 2	Model 3	Model 4	Model 5
constant	0.014**	0.034**	0.009**	0.000**	0.000**
Duration (ref: Piece 1 1-23 months)					
Piece 2: 24-53 months	0.667**	0.786*	0.828	1.150	1.108
Piece 3: 54-83 months	0.571**	0.736*	0.810	1.433*	1.266
Piece 4: 84-119 months	0.487**	0.641**	0.719*	1.564**	1.206
Piece 5:120-161 months	0.375**	0.472**	0.521**	1.227	0.820
Piece 6: 162-203 months	0.345**	0.402**	0.471**	1.294	0.786
Piece 7: 204-257 months	0.238**	0.258**	0.299**	0.920	0.524**
Piece 8: 258-323 months	0.218**	0.223**	0.273**	0.941	0.507*
Piece 9: 324-413 months	0.111**	0.107**	0.124**	0.530*	0.269**
Piece 10: 414-744 months	0.032**	0.033**	0.040**	0.149**	0.069**
EMPLOYMENT CHARACTERISTICS					
Employed at start of union (ref: No)		0.868	0.850	0.781**	0.788**
Proportion of time prior to union in work		0.664**	0.692**	1.183	1.162
Current employment status (ref: FT employed)					
PT employed		0.742**	0.760**	0.697**	0.678**
unemployed		2.340**	2.177**	1.044	1.099
retired		0.741	0.798	1.400	1.528
maternity leave		0.717	0.582	0.548	0.647
family care		0.501**	0.539**	0.623**	0.676**
Economically inactive		2.305**	2.433**	1.834**	1.861**
Cumulative time spent in work (years)		1.022*	1.021*	1.020	1.033

Highest qualification (ref: 1st/higher degree)				
Nursing/teaching/other higher	0.730*	0.785	0.856	0.850
A-levels	0.952	0.974	0.818	0.823
O-level/equivalent	0.985	0.987	0.840	0.846
Commercial/apprenticeship/other	0.641*	0.670*	0.762	0.773
None	0.496**	0.505**	0.761	0.767
LIFE COURSE CHARACTERISTICS				
ethnicity (ref: white)		2.284**	1.727**	1.709*
Religious group membership (ref: C of E/Anglican)				
None		1.592**	1.240**	1.239**
Roman Catholic		1.420**	1.168	1.147
Other Christian		1.036	1.208	1.205
Other religion		0.697	0.687	0.696
Attendance at religious services (ref: at least 1x month)				
Less often, but at least 1x year or practically never		1.342**	1.621**	1.604**
EARLY UNION CHARACTERISTICS				
Pre-union birth (ref: No)			2.181**	1.978**
Union status in time period (ref: cohabitation)			0.268**	0.272**
Year union started			1.045**	1.045**
Age at start of union (ref: 20-24 years)				
under 20			2.022**	2.006**
25-29 years			0.802	0.807
30+ years			0.417**	0.434**
FERTILITY CHARACTERISTICS				
Cumulative number of births				1.047
Pregnant in time period (ref: no)				0.425**
Time since last birth (No births)				
0-6 months				0.866
7-12 months				0.657
13-24 months				1.043
25-48 months				0.963
49+ months				1.379*

**** p-value <0.01 * p-value <0.05**

Table 5-4 Piecewise Constant Models for the 2009 Understanding Society sample

UNDERSTANDING SOCIETY	Model 1	Model 2	Model 3	Model 4	Model 5
constant	0.023**	0.038**	0.006**	0.000**	0.000**
Duration (ref: Piece 1 1-23 months)					
Piece 2: 24-53 months	0.602**	0.669**	0.681**	0.865	0.906
Piece 3: 54-83 months	0.535**	0.625**	0.648**	0.966	1.037
Piece 4: 84-119 months	0.396**	0.465**	0.491**	0.834	0.884
Piece 5:120-161 months	0.410**	0.477**	0.518**	0.959	0.997
Piece 6: 162-203 months	0.341**	0.387**	0.428**	0.877	0.905
Piece 7: 204-257 months	0.277**	0.319**	0.361**	0.815	0.839
Piece 8: 258-323 months	0.235**	0.278**	0.321**	0.744	0.763
Piece 9: 324-413 months	0.098**	0.131**	0.156**	0.418**	0.427**
Piece 10: 414-744 months	0.016**	0.028**	0.032**	0.098**	0.101**
EMPLOYMENT CHARACTERISTICS					
Employed at start of union (ref: No)		0.679**	0.697**	0.877	0.884
Proportion of time prior to union in work		0.994	0.965	1.193	1.193
Current employment status (ref: employed)					
unemployed	.	1.916**	1.674**	1.581*	1.646**
retired		0.425*	0.502	0.573	0.575
maternity leave		0.641**	0.631**	0.755	0.871
family care		0.530**	0.559**	0.668**	0.750**
Economically inactive		1.506*	1.412	1.212	1.227
Cumulative time spent in work (years)		0.990	0.990	0.993	0.994
Highest qualification (ref: 1st/higher degree)					
Nursing/teaching/other higher		1.012	1.053	1.128	1.153
A-levels		1.359**	1.352*	1.153	1.160
O-level/equivalent		1.095	1.040	0.938	0.954
None		0.705**	0.629	0.847	0.875
LIFE COURSE CHARACTERISTICS					
ethnicity			0.962	1.072	1.094
Religious group membership (ref: C of E/Anglican)					
None			1.566**	1.155	1.155
Roman Catholic			1.630**	1.330*	1.338*
Other Christian			1.096	1.261*	1.255*
Other religion			0.978	0.758	0.764
Attendance at religious services (ref: at least 1x month)					
Less often, but at least 1x year or practically never			1.307**	1.532**	1.519**
Living with biological parents at 16 (ref: yes)			1.617**	1.357**	1.361**
EARLY UNION CHARACTERISTICS					
Pre-union birth				1.346**	1.290*

Union status in time period (ref: cohabitation)	0.394**	0.419**
Year union started	1.028**	1.028*
Age at start of union (ref: 20-24 years)		
under 20	1.450**	1.486**
25-29 years	0.720**	0.711**
30 + years	0.509**	0.489**
FERTILITY CHARACTERISTICS		
Cumulative number of births		0.952
Pregnant in time period (ref: no)		0.452**
Time since last birth (No births)		
0-6 months		0.799
7-12 months		0.743
13-24 months		0.659*
25-48 months		0.995
49+ months		0.940

**** p-value <0.01 * p-value <0.05**

The statistics presented in both tables are hazard ratios and indicates the probability that the union will dissolve at that time period given that the union has not dissolved at some previous time. The analysis has modelled how the risk of the union ending in dissolution differs according to different characteristics, such as age, ethnicity and economic activity. The hazard rates should be interpreted as in the following example. The hazard rate for the 'Pregnant' variables in the Understanding Society sample is 0.452. This means that the hazard of dissolution for a woman who was pregnant and was assumed to know was 0.452 times the hazard for a woman who was not pregnant at that time period. In other words, her hazard would be lower than for a woman who was not pregnant.

The initial models contain just the measures of economic activity and then additional factors are introduced in a stepwise process. Once all factors are controlled for in terms of current economic activity, an increased risk of dissolution is associated with being economically inactive in the 1992 sample. This is consistent with the earlier work of Jalovaara (2002) but is contrary to the findings of Poortman (2005a). Whilst in the 2009 sample, being unemployed is associated with an increased hazard of dissolution. In addition, in the BHPS it is possible to differentiate between full-time and part-time employment. Once all factors are controlled for, being in part-time employment is associated with a risk of dissolution that is a third lower than if working full-time. This is consistent with the earlier findings of studies such as Lye (1989), Greenstein (1990) and Kalmijn and Poortman (2006). Family care is negatively associated with dissolution

risk in both samples. In the final models, family care is associated with a third lower risk of dissolution in the 1992 sample compared with a quarter in the 2009 sample. Highest qualification was not found to be significant in either sample.

Being employed at the start of a union is associated with a reduced risk in both samples, although once all other factors are controlled for, this only remains significant in the 1992 sample. The size of the hazard ratios remains fairly constant as additional measures are introduced. This is consistent with the findings of Greenstein (1990: 672). The effect of the proportion of time spent in work prior to the first union was not found to be significantly associated with dissolution in either sample once all other factors are controlled for.

The life-course measures perform generally as expected based on the findings of the studies discussed in chapter two. In terms of religious group membership, those with no religious group membership have an increased risk of dissolution compared with those in the Church of England of 23.9% in the 1992 sample although it was not found to be significantly associated with dissolution risk in the 2009 sample. This is in line with the findings of Johnson and Skinner (1986) in the US and of Goodman and Greaves (2010) in the UK. Those who are Roman Catholic and those who defined themselves as belonging to other Christian denominations were, however, found to have a greater hazard in the 2009 sample, which was not expected. The measure of attendance at religious services was found to be of greater significance in both samples with attending services more regularly having a negative association with dissolution risk, which is consistent with the idea that it is religiosity that is of greater importance in terms of dissolution risk. The size of this effect is much reduced in Understanding Society. Attending services once a year or never compared with once a month or more frequently is associated with a risk that is nearly two thirds higher in the 1992 sample, but just a fifth higher risk in the 2009 sample. This is in line with the earlier findings of Lyngstad and Jalovaara (2010). The additional variable measuring whether a woman lived with both biological parents included in the 2009 sample also proved highly significant, with women who did not live with both biological parents having a 36.1% higher risk of dissolution. Once again these results are in line with previous findings by Berrington and Diamond (1999) and Fokkema and Liefbroer (2004).

Many of the measures of early union characteristics were found to be significant in both samples. A woman who had a birth prior to the start of her first union was found to have a risk of dissolution that was nearly doubled in the 1992 sample, but this was reduced to an increase of about a third in the 2009, suggesting – as was discussed earlier, in Section 4.6.2 – that the increased risk of dissolution that is associated with these births is reducing over time.

As discussed in the literature review, cohabitation is considered to be less stable than marriage and this is borne out by the results in Table 5-3 and Table 5-4. The union status throughout the union duration was found to be significantly associated with a lower risk of dissolution in both samples. Marriage was found to have a risk that was a third lower in the 1992 sample and a risk that was half that of cohabitation in the 2009 sample. This is consistent with studies by Kiernan (1999) and Goodman and Greaves (2010) who found that cohabitation had a greater risk of dissolution, although this is not consistent with the finding by Haskey (1999) who found that pre-marital cohabitation was associated with a lower risk. However, it should be noted that in these data, no distinction is made between cohabitation and periods of cohabitation that precede marriage. So it is not possible to draw direct comparisons between the results in these data and those of Kiernan (1999), Goodman and Greaves (2010) and Haskey (1999). Indeed there is no direct comparability between the findings of Haskey (1999) and Kiernan (1999) or Goodman and Greaves (2010), so the latter studies measure cohabitation whilst Haskey's (1999) findings were based on union durations that were measured from the point of cohabitation rather than the date of marriage.

When the union started also was found to have an effect on dissolution risk. With every year increase in when the union started the risk of dissolution increases by 4.5% in the 1992 sample, and by 2.8% in the 2009 sample. The final measure of early union characteristics is the age at which a woman enters her union, which performs very much as expected from the literature review. Entering a union at under 20 years of age is associated with a higher hazard in both samples compared with women aged 20–24 years, although the size of the hazard is more than halved in the 2009 sample. Entering a union at the age of 25 or over is associated with a decreased hazard with increases linearly as age increases in the 2009 sample, but only entering a union at the age of 30 or over is significantly associated with dissolution in the 1992 sample. As discussed previously in section 4.6.2, this is in line with previous studies.

The final set of measures relate to a woman's fertility history. In contrast to the findings of Bernardi and Martinez-Pastor (2011) and Muszynska (2008), the number of children was not found to be significantly associated with dissolution in either sample. Being pregnant was, however, found to be associated with a lower risk of dissolution in both samples. This is as expected, as couples would arguably be unlikely to consider dissolution during pregnancy. The evidence for the effect of having children of different ages was found to be mixed in the existing studies discussed in Chapter Two. For example Boheim and Ermisch (2001) found that pre-school children were found to be associated with a reduced risk of dissolution whilst Lyngstad and Jalovaara (2010) found that the effect for older children was weaker. It was expected that they would be less likely to dissolve a union when their child is very young, something which is borne out in both sets of models. The measure of time since last birth (which is a measure of the age of the youngest child) was, however, largely insignificant in both samples. In the 1992 sample, the category of 49 months or more since the last birth was associated with risk of dissolution that was a third higher than the baseline category, whereas in the 2009 sample the youngest children being born 13–24 months previously was associated with a risk that is a third lower. So the results are inconclusive in these data. However, as discussed previously in chapter 2, the differences in the way the presence of children is measured between the existing studies and between these data make direct comparisons difficult.

5.5 Hypothetical women work history profiles

In order to visualize these results and examine the effects of various factors in a meaningful context, three women are hypothesised for each dataset. These women have the following characteristics. They are white and state their religious group membership as Church of England, but only attend services at least once a year. Their highest qualifications are O-Levels and they have two children, both born within the union, so they did not have any births prior to the start of their union. In the 2009 Understanding Society sample, these women were all born in 1945 and were 25 when they entered their first union, which started in 1970. They were also living with both of their biological parents at the age of 16. In the 1992 BHPS sample, these women were born in 1930 so their unions began in 1955. There is no information on whether they

lived with their biological parents in these data. Each woman is then allocated a different work history which aims to allow comparisons to be made between the risk of dissolution for women with a minimum, medium and maximum-level work history. These work patterns are as follows:

Woman A: Medium level work history

This woman was employed at the start of her first union and spent half of the time between her 16th birthday and the start of that union in employment. She worked full-time until her first birth, and then was on maternity leave for 12 months. She remained engaged in family care until her second child was 4 years old. She then returned to part-time employment for the rest of the time period examined.

Woman B: Maximum level work history

This woman was employed at the start of her first union and spent all of the time between her 16th birthday and the start of that union in employment. She worked full-time until her first birth. She had 12 months maternity leave for each of her births, but returned to full-time employment after each birth. She remained in full-time employment for the rest of the observation period.

Woman C: Minimum level work history

This woman was not employed at the start of her first union and spent no time in employment between her 16th birthday and the start of that union. She was economically inactive prior to her first birth, and was then engaged in family care until her second child reached 20 years. She was then classed as economically inactive for the rest of the observation period.

5.5.1 Survival probabilities for these hypothetical women

For each of these women, using the hazard rates in tables 5.3 and 5.4, the predicted probability of surviving at each six month period was calculated for a time span of thirty years. From these probabilities, the proportion of unions that are still intact at each time period have been calculated and these proportions are then plotted in a series of graphs, Figure 5-6 to Figure 5-8. These graphs allow the impact on differing patterns of

economic activity to be examined. As there is evidence of different levels of risk involved with different types of unions, each woman is examined based on three types of union: a direct marriage, a marriage preceded by two years' cohabitation and a cohabitation. As there is an overlap in birth cohorts seen in the two datasets, a comparison is carried out for identical women who were born in 1930 and whose first union started in 1955 in order to check for any inconsistencies between the two samples. As very similar survival curves were found for identical women in the two samples, no inconsistencies are assumed and so the differences seen as likely to be genuine rather than an artefact of the data.

Figure 5-6 Survival curves for women whose first union was a direct marriage for the 1992 BHPS and 2009 Understanding Society samples, by all variants of work history

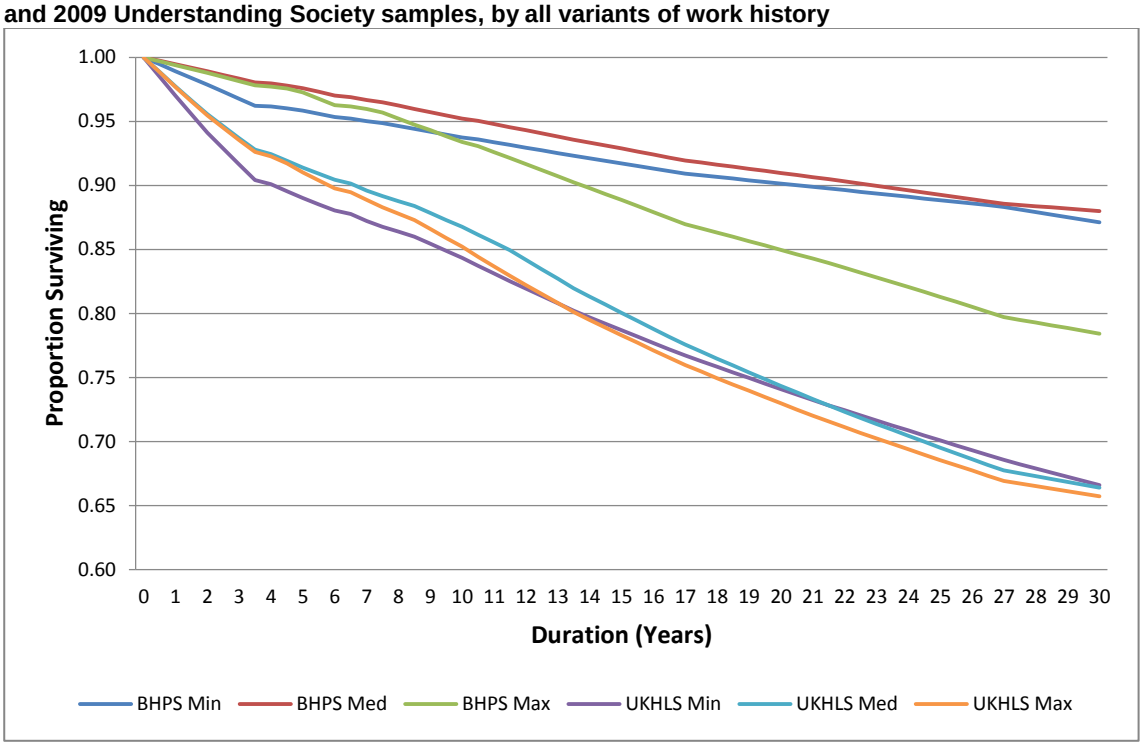


Figure 5-7 Survival curves for women whose first union was a marriage preceded by cohabitation for the 1992 BHPS and 2009 Understanding Society samples, by all variants of work history

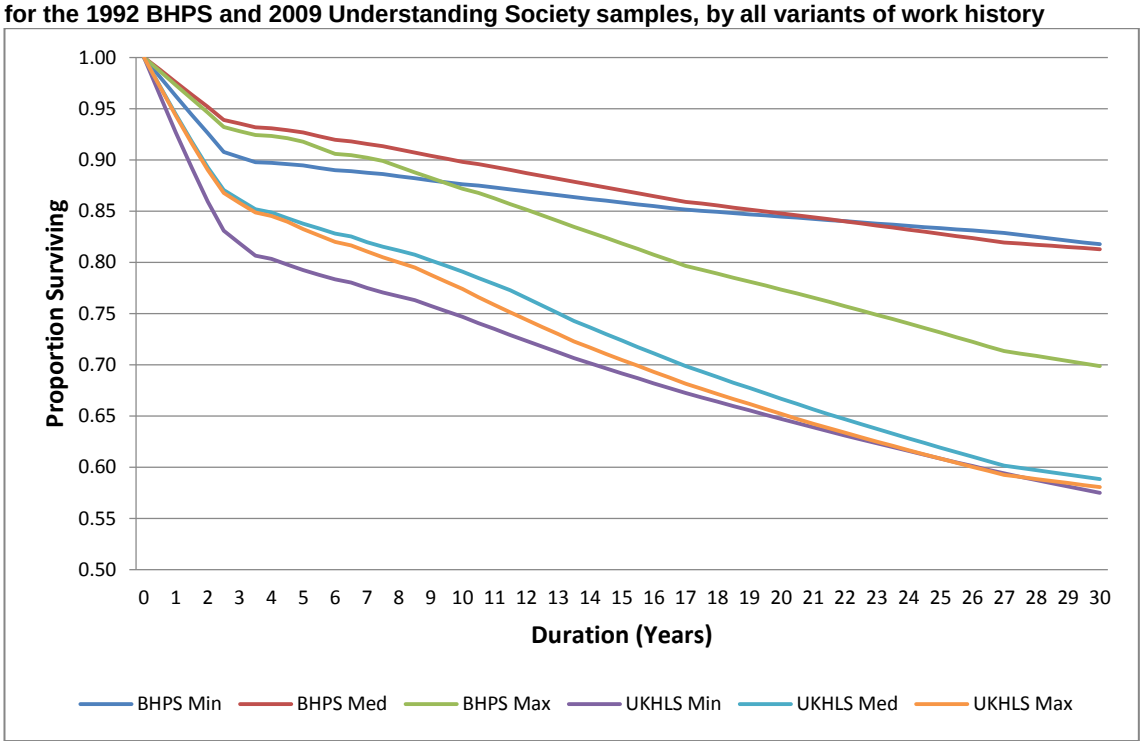
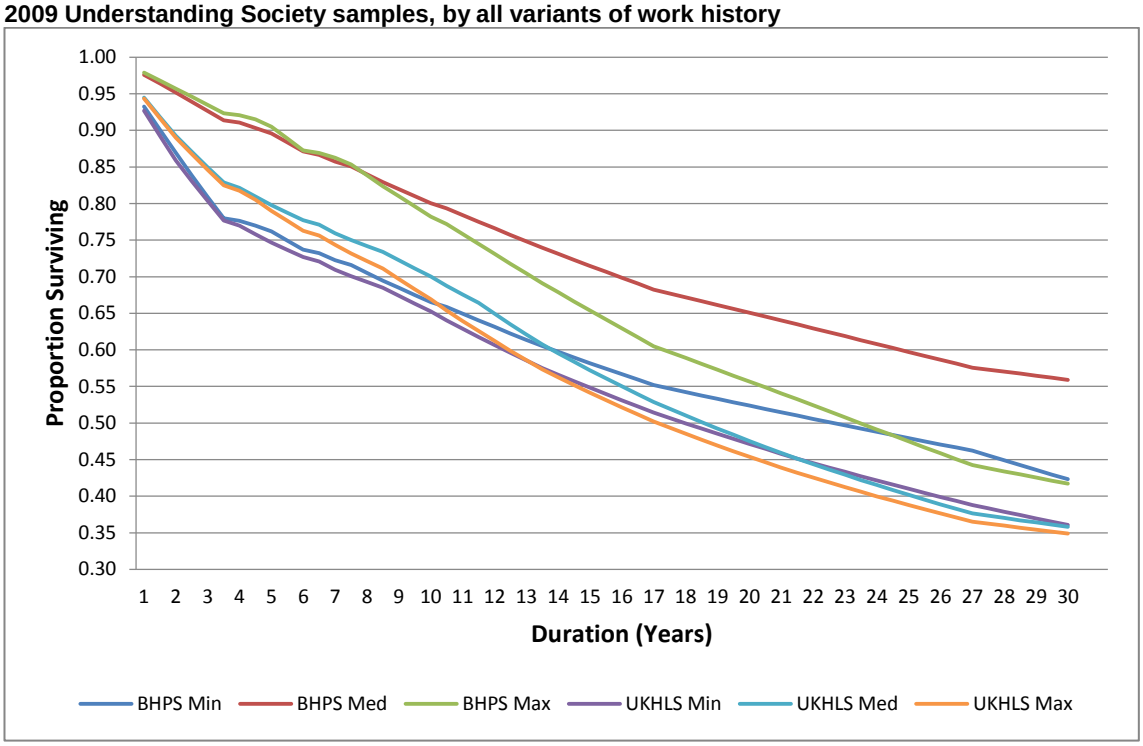


Figure 5-8 Survival curves for women whose first union was a cohabitation for the 1992 BHPS and 2009 Understanding Society samples, by all variants of work history



Among the different hypothetical women in the 1992 BHPS sample, those with a minimum or medium work history have very similar survival curves regardless of union type. For example, among direct marriages 87% of unions where women have a minimum work history are still intact at the end of the observation period, compared with 88% of those with a medium work history. Cohabitations are less likely to survive for all categories of work history, as expected, with just 53% of these unions surviving where the woman has a minimum work history. For all union types, far fewer unions survive where the woman has a maximum level work history. For example, among women whose union was a cohabitation 56% of unions survive where she has a medium level work pattern, compared with 42% of unions where she has a maximum level work pattern. So in the 1992 BHPS sample most unions that are direct marriages or are marriages preceded by cohabitation and with a minimum or medium work pattern will survive. Those most at risk are cohabitations, where at least half of the unions will dissolve. It is within cohabitations that having a maximum and minimum work patterns has the greatest effect, with just 42% of these unions surviving. So it appears that having a maximum work pattern has a negative influence on the probability of the union surviving regardless of union type.

Among the hypothetical women in the 2009 sample, differences emerge. One major difference is that among the Understanding Society women, regardless of union type or work pattern, far fewer of their unions will survive compared with the BHPS women. The second major difference is that whilst distinct differences are seen between the proportion of unions surviving between women who have a minimum and medium work pattern and those who have a maximum work pattern in the BHPS women, no such distinction is seen in the Understanding Society women. So for example, among women whose first union was a cohabitation 36% of unions where the woman has a minimum and medium work patterns survived, compared with 35% of those where the woman has a maximum work pattern. This similarity is seen for all union types. Another overall difference between the two sets of women is that in the 1992 sample women who have a maximum work pattern have the smallest proportion of unions that survive for all union types. In contrast, in the 2009 sample, little difference is seen between the differing levels of work history.

5.6 Discussion

Table 5.5 summarises the results from the piecewise constant models, and shows that in terms of early life course, early union and fertility characteristics, with a few exceptions that were discussed in section 5.4, the results were largely as expected from the existing studies discussed in chapter two.

Table 5-5 Summary of the results found in the Piecewise Constant Models for both samples

Dependent Variable	Expected Direction	Expected result found: BHPS	Expected result found: Understanding Society
Employed at start of the union	Specialisation/Independence effect – higher risk Income effect – lower risk	Lower risk found	No association found
Economic Activity status	Specialisation/Independence effect – work associated with higher risk, but part-time work might be lower risk Income effect – work associated with lower risk	Part-time employment & family care associated with lower risk; economic activity associated with higher risk	Unemployment is associated with a higher risk; family care is associated with a lower risk
Cumulative time spent in work	Specialisation/Independence effect – positive association Income effect – negative association	No association found	No association found
Highest Qualification: Degree or higher	Higher risk	No association found	No association found
Ethnicity: White	Lower risk	Yes	No association found
Religious group membership: None	Higher risk	Yes	No association found with no religious group membership; Roman Catholic & Other Christian groups are associated with a higher risk
Attendance at religious services: 1x month or more	Lower risk	Yes	Yes
Living with biological parents at 16	Lower risk	N/A	Yes
Pre-union birth	Higher risk	Yes	Yes
Union status: Marriage	Lower risk	Yes	Yes
Year union started	Positive association	Yes	Yes
Age at start of union	Young age – higher risk 25 years & over – lower risk	Yes	Yes
Cumulative number of births	Negative association	No association found	No association found
Pregnant	Lower risk	Yes	Yes
Time since last birth	Mixed results	49+ months – higher risk	13-24 months – lower risk

In terms of the measures of economic activity, it is more difficult to draw direct comparisons as the expected result would differ depending on which of the three hypothesised mechanisms one expected to be in operation. In order to draw some conclusions about the effect of work on the risk of dissolution, we need to return to the questions posed at the start of this chapter and which these analyses aimed to address. The primary focus of this chapter was to address the first research question set out in section 1.2.1 by establishing whether there is an association between a woman's economic activity and the risk of her first union ending in dissolution, and whether this association is negative or positive.

Few of the economic measures in the models were found to be significantly associated with dissolution risk, although some differences were found between the two surveys. In the 1992 BHPS sample, the results appear to be inconsistent. Being employed at the start of the union was associated with a lower risk of dissolution, whilst being economically inactive is associated with a higher risk. This negative association might arguably be consistent with the income effect, whereby economic activity has a stabilising effect on a union, as discussed in section 2.2.3. However, being in part-time work is associated with a lower risk than full-time work, and the survival probabilities calculated for the hypothetical women in Section 5.5 show that the smallest proportion of unions surviving across the observation period are found among women who have the maximum work pattern for all union types. This pattern, along with the reduced risk associated with part-time work, is consistent with the specialisation of roles theory discussed in Section 2.2.1 and with the idea that part-time work is less disruptive to the specialised roles within the household.

None of the economic measures were found to be significantly associated with union dissolution in the 2009 Understanding Society sample, with the exception of being engaged in family which was found to be associated with a reduced risk in both the Understanding Society and BHPS sample. Family care may be directly associated with dissolution risk or perhaps as it is probable that family care involves looking after children, it may more likely operating via the lower risk associated with having children. In contrast to the 1992 BHPS sample, the survival probabilities calculated for the hypothetical women in Section 5.5 show that the smallest proportion of unions surviving across the observation period are now found among women who have the minimum work pattern for all union types, although the differences between the proportion of unions surviving among the difference work patterns are very minimal.

So the results of the analyses in this chapter do not provide evidence for an association between economic activity and the dissolution of first unions, and as such do not provide conclusive evidence of which direction such an association would operate. Is the lack of conclusive evidence for an association between a woman's economic activity and the risk of her first union ending in dissolution surprising? Although many of the studies discussed in chapter two found some evidence of an association between certain economic measures, the results were mixed with some producing findings consistent with the independence effect, some consistent with the specialisation of roles theory and others with the income effect. It is difficult from these studies to determine what results would be expected in these data. The studies after all include different economic measures, use different data from different countries which have different social and cultural contexts. In addition economic activity is a multi-faceted concept and how it is measured or conceptualised in such studies depends in no small part on the limitations of the available data. And that makes direct comparisons between findings extremely problematic. That no association is found in the more recent 2009 Understanding Society does arguably make sense however. As Sayer, et al. (2011) state, the employment of women has become very much the norm and widely accepted, and so can it really play such a disruptive role in partnerships?

The next question posed at the start of this chapter asked whether the effect of economic activity was the same across all union types or whether differences would observed. This question was addressed using the survival probabilities calculated for the hypothetical women introduced in section 5.5. As in the piecewise constant models, differences are seen between the two samples that are interesting. Firstly the results find only very weak evidence for an association between economic activity and dissolution in either sample. So there is little evidence consistent with either the first hypothesis or the second hypothesis discussed in Section 1.2.1. The second finding is that the two samples show differences which might be interesting. The analysis in Section 5.5 suggests that women in the BHPS sample who started their unions in 1955 and who had a maximum level work pattern throughout their unions see a far larger proportion of their unions dissolve compared with those who have a minimum or medium work. This same trend is not seen in the women in the Understanding Society sample, who started their unions later, in 1970. This suggests that any association between economic activity and union dissolution might be changing over time. This possibility of a changing association feeds into the second research question discussed in section 1.2.1 and will be examined in the following chapter. For now the discussion will focus on the differences observed between the union types.

In the 1992 BHPS sample, for direct marriages and marriages that were preceded by cohabitation little difference was seen in the proportions of unions surviving across the time period examined, but women who had the maximum work history saw a far smaller proportion of their unions survive. Among the cohabitations, a different result was seen. Now there is little difference between the proportion of unions surviving among women who had a minimum and maximum work history, whilst women with a medium level work history fared much better with a larger proportion of their unions surviving at thirty years duration. These findings are arguably consistent with unions starting as marriage or converting into marriage having more 'traditional' roles which might be disrupted by a woman working. In contrast, in the 2009 Understanding Society sample very minimal differences were found in the proportions of unions surviving by work history profile between the three union types which is consistent with the lack of an association in the findings from the piecewise constant models and the argument of Sayer et al. (2011) that working women are now a social norm.

The final questions asked whether the risk of dissolution changes over the duration of the union, and whether the effect of economic activity is consistent across the life time of the union. The results from the piecewise constant models in tables 5.3 and 5.4 show that an association between duration and dissolution risk is only found at later durations; specifically from piece seven (204-257 months) in the BHPS sample and piece nine (324-413 months) in the Understanding Society sample. These findings are consistent with Cooke and Gash (2010) who found no significant increased risk at the start of the marriages in their data. The survival probabilities described in section 5.5 show that for all union types, the proportion of unions surviving declines steadily across the thirty year time period examined. However, the decline is more rapid for cohabitations and marriages preceded by cohabitation, although the proportions surviving decrease more slowly after the union converts to marriage.

In terms of the effect of economic activity and how that might change over the duration of the union, once again differences between the union types are seen in the BHPS sample and differences are seen between the two samples. In the 2009 Understanding Society sample little difference is seen between the proportions of unions surviving in each of the work history profiles for each union type. The only exception is among cohabitations, whereby women who have the maximum work history have a slightly larger proportion of their unions surviving for the first ten years only. In the BHPS sample however, greater differences emerge. In direct marriages and marriages

preceded by cohabitation, women with the minimum work history profile saw a larger proportion of their unions dissolve across the first ten years. From this point the proportion of unions surviving declines much faster among women with the maximum work history profile, with the gap between them and those with the minimum and medium work history profiles continuing to widen across the remainder of the time period. Among cohabitations, women with a minimum work history profile see a far smaller proportion of their unions surviving, although the rate at which the proportion surviving decreases slows from 17 years duration until 24 years duration when the proportion surviving matches that among women with a maximum level work history. Women with a medium or maximum work history profile see little difference in the proportion of their unions surviving until year 9, when the proportion among women with a maximum work history profile start to decrease at a steeper rate. So in the BHPS sample, the findings suggest that in the first ten years of a union, working has less effect on dissolution risk, whilst from the ten year it shows a much greater negative effect on the probability of a union surviving. One likely explanation for this trend, is that in the early years of their union a couple will encounter the cost of setting up home and of accumulating joint assets, and as Easterlin (1966, 1976) suggests, having a dual income household makes meeting these aspirations more achievable.

One key observation from the analyses in this chapter is that there are some interesting differences in the findings between the 1992 BHPS and 2009 Understanding Society samples. This feeds into the second research question introduced in section 1.2.1 and will be the focus of the following chapter.

Chapter 6 Is the association between economic activity and union dissolution changing over historical time at the individual level?

6.1 Introduction

The analyses in chapters four and five were primarily aimed to address the first research question of whether there is a relationship between the dissolution of first unions and women's economic activity in the UK at the individual level. The results were inconclusive but the differences found between the two samples, containing women's histories that were collected 17 years apart, are consistent with the idea that any potential association between a woman's economic activity and her risk of experiencing the dissolution of her first union might be changing over time. This leads into the second research question introduced in section 1.2.1. This question asks whether any individual-level association between the dissolution of first unions and women's economic activity in the UK remains constant over time and the aim of the analyses in this chapter is to attempt to address this question.

As the social, cultural and legal context and status of women has changed substantially over time, it is certainly feasible that any association between economic activity and an individual's propensity to dissolve their union might also have changed or be changing over time. In particular, Ono (1998) suggested that in the late 1960's/mid 1970's, when male incomes were generally good, an increase in women's incomes may have disrupted unions. In the late 1970's/1980's, however, when male incomes were growing much more slowly, women's income then becomes negatively associated with dissolution. So in effect it may be that in earlier periods, prior to the 1970's, economic activity and union dissolution may have been associated through the mechanism of the specialisation of roles theory, but later may be associated with the income effect.

There are a couple of studies which have used Russian and Spanish data to address directly whether the economic determinants of dissolution have been changing over time. In her study of union dissolution risk during the Socialist and transition periods in Russia, Muszynska (2008) utilised data on 2803 women who had ever had a union to produce

two models which calculated the relative risk of working versus not working and working with one job or with having a second job. In the first model the results show little difference in the relative risks between women who worked and women who did not work in the two time periods; however, in the second model Muszynska (2008) found that among women who had a second job, they had a risk of dissolution 28% lower than non-employed women during the Socialist period (1967–1991) but had a risk 32% higher during the transition period of 1992–2004 (Muszynska, 2008: 196). In their study of 6559 Spanish marriages that were formed between 1949 and 2006, prior to and after the 1981 Divorce Law was passed, Bernardi and Martinez-Pastor (2001: 787/788) found that the hazard rate for employed women compared with economically inactive women was 2.7 for marriages formed before 1981, but had reduced to 1.9 for marriages formed after 1981. Both these studies show some evidence of a change in the association between economic activity and union dissolution.

Therefore this chapter focuses on testing whether there is any evidence consistent with this hypothesis that the association between economic activity and union dissolution at the individual level in the UK context has changed over time. This is an aspect that has not been fully examined as yet, and certainly not using British data. This chapter attempts to do so using BHPS and Understanding Society data and by adopting a similar approach to the one used to good effect by Bernardi and Martinez-Pastor (2011) and Muszynska (2008). In order to achieve this, the BHPS and Understanding Society datasets used in Chapter 4 and Chapter 5 were merged to create a single dataset which spans the widest timespan available. The combined dataset contains data on 7668 unions formed between 1914 and 2009. As discussed in Section 3.5.7 this merging of data from the two surveys has not been widely carried out yet, so this adds to existing research by examining the two surveys together.

As discussed by Lyngstad and Jalovaara (2010), changes in divorce rates over time can be either period or cohort driven. A period effect suggests that changes occur that affect all cohorts such as legislative changes, whilst a cohort effect might mean that each cohort will have different experiences with diffuse changes from cohort to cohort. From here two approaches have been used, a period approach and a cohort approach.

6.2 Period analysis

The first stage of the analysis in this chapter, the combined dataset is split into two sub-samples based on a specified point of time, as in Muszynska's 2008 study. Each sub-sample then contains the person-periods of unions intact in the relevant time periods. The date selected here is 1 January 1971 as this was the date that the 1969 Divorce Reform Act came into force. This is arguably a key piece of legislative change which introduced the additional criteria of separation and, as seen in Chapter Three, preceded a sharp upward trend in divorce rates. This legislative change will have impacted on all unions at the same time and will have opened up the possibility of divorce for unions regardless of when they formed. This, as will be discussed in more detail in the next chapter, is also a time period during which steeper increases were seen in divorce rates.

So one subsample contains all person-periods starting prior to 1 January 1971, and the second contains all person-periods starting on or after 1 January 1971, so a particular union could contribute person-periods to both sub-samples. The justification for this is that it would capture period effects, as all unions intact during that time period would be exposed to the same social context. Lyngstad and Jalovaara (2010) suggest that increases in the rate of dissolution are period-driven as all union cohorts would be affected by social factors and changes at the same time. So for example the introduction of new divorce legislation which broadens the eligibility criteria would affect all cohorts simultaneously, and, as Lyngstad and Jalovaara (2010) state, older cohorts would now become eligible as well as younger cohorts that were formed after the legislative change.

Table 6-1 Cross tabulations of whether the union ended by when the union started for the 1992 BHPS and 2009 Understanding Society samples

Ended by dissolution	Union started prior to the introduction of the 1969 Divorce Reform Act			
	BHPS		Understanding Society	
	No	Yes	No	Yes
No	68.8%	80.5%	59.3%	74.5%
Yes	31.2%	19.5%	40.7%	25.5%
Total	100.0%	100.0%	100.0%	100.0%

Table 6-1 looks at union outcomes by whether the union started prior to the introduction of the Divorce Reform Act 1969. It shows that unions that began after 1 January 1971 were more likely to have ended in dissolution (31.2% compared with 19.5% of unions that started before the Act in the BHPS). This could be an indication that dissolution

became more common in recent years rather than specifically an effect of the introduction of new legislation. It does also indicate, however, that something has changed over time and thus the association between economic activity and dissolution may have changed.

Models were then run using the same stepwise process as in Section 4.6 and Section 5.3 for each sub-sample. The results of these models are presented in Table 6-2.

Table 6-2 Piecewise constant models for calendar time for the 1992 BHPS and 2009 Understanding Society samples

	Combined	Pre 1971	1971 onwards
Constant	0.010**	0.020**	0.020**
Duration (ref: Piece 1 1-23 months)			
Piece 2: 24-53 months	0.920	1.195	0.887
Piece 3: 54-83 months	1.001	1.456	0.938
Piece 4: 84-119 months	0.857	1.509	0.763*
Piece 5:120-161 months	0.790	0.717	0.751*
Piece 6: 162-203 months	0.716*	0.850	0.641**
Piece 7: 204-257 months	0.568**	0.420	0.504**
Piece 8: 258-323 months	0.552**	0.735	0.433**
Piece 9: 324-413 months	0.279**	0.113	0.210**
Piece 10: 414-744 months	0.073**	…	0.050**
EMPLOYMENT CHARACTERISTICS			
Employed at start of union (ref: No)	0.827**	0.831	0.798**
Proportion of time prior to union in work	1.207*	1.173	1.195*
Current employment status (ref: employed)			
Unemployed	1.608**	2.015	1.567**
Retired	1.098	2.491	0.845
maternity leave	0.795	1.091	0.760
family care	0.810**	0.522**	0.901
Economically inactive	1.742**	2.348*	1.668**
Cumulative time spent in work (years)	1.008	1.025	1.009
Highest qualification (ref: 1st/higher degree)			
Nursing/teaching/other higher	1.041	1.015	1.029
A-levels	1.067	0.599	1.087
O-level/equivalent	0.923	0.731	0.935
Commercial/apprenticeship/other	0.944	1.124	0.890
None	0.845	0.804	0.849
EARLY LIFE COURSE CHARACTERISTICS			
Ethnicity	1.254	1.282	1.244

Religious group membership (ref: C of E/Anglican)			
None	1.208**	1.903**	1.164*
Roman Catholic	1.267**	0.641	1.316**
Other Christian	1.196*	0.979	1.235*
Other religion	0.855	1.246	0.803
Attendance at religious services (ref: at least 1x month)			
Less often, but at least 1x year or practically never	1.519**	1.382	1.520**
EARLY UNION CHARACTERISTICS			
Pre-union birth	1.315**	2.802**	1.219*
How the union started (ref: cohabitation)	0.812*	0.642	0.814*
Union status in time period (ref: cohabitation)	0.383**	0.188*	0.394**
Age at start of union (ref: 20-24 years)			
under 20	1.642**	2.255**	1.566**
25-29 years	0.714**	0.611	0.739**
30 + years	0.471*	0.201**	0.507**
FERTILITY CHARACTERISTICS			
Cumulative number of births	1.006	0.940	1.007
Pregnant in time period (ref: no)	0.430**	0.472*	0.432**
Time since last birth (No births)			
0-6 months	0.751*	1.305	0.713*
7-12 months	0.655*	1.319	0.599**
13-24 months	0.780	1.223	0.750*
25-48 months	0.912	1.151	0.900
49+ months	1.022	1.482	0.974
LR chi2	**2948.88**	**333.55**	**2187.31**

**** p-value <0.001 * p-value <0.05**

Some initial differences appear between the two sub-samples in terms of the measures of economic activity. Firstly, being employed at the start of the union and the proportion of time spent in employment prior to the start of the union are only significantly associated with dissolution for the person-periods after 1 January 1971. The magnitude of the increased risk associated with being economically inactive is much smaller in the time period from 1 January 1971, whilst being unemployed is positively associated with dissolution only in the period after 1 January 1971. As in the models discussed in the previous analysis chapters, highest qualifications are not found to be significantly associated with dissolution. In terms of early union characteristics, the reduced risk associated with marriage is reduced in the 1971 onwards sample as seen in the hazard ratios for the time-varying measure of union status. The reduced risk associated with entering a union at older ages and the increased risk for entering the union under the

age of twenty are both reduced in magnitude for the later time period. Likewise the increased hazard associated with having a birth prior to entering the union is much smaller after 1971, suggesting that perhaps this has become more acceptable and thus does not contravene social norms in such the same way. In contrast, the hazard ratios associated with pregnancy are of similar sizes across the two samples so this factor appear to have a consistent influence on dissolution risk across the two time periods. The measure of time since last birth variable in the pre-1971 time period was not found to be significantly associated with dissolution, however for person-periods starting after 1 January 1971, the first 24 months after the most recent birth was found to be associated with a decreased risk of dissolution compared with the baseline category of women who have not yet had a birth. It might be that there is some interaction between this variable and the current economic status so the model was run without the current economic activity measure.

6.2.1 Hypothetical Women Work History Profiles

The next stage of establishing whether the association between economic activity and union dissolution is changing over time is to once again calculate survival probabilities for the three hypothetical women introduced in Section 5.5. Figure 6-1 to Figure 6-3 show the union survival curves for each of the three women for each of the three hypothesised work patterns. As in Section 5.5.1 they also show these survival curves for each of the union types.

Figure 6-1 Survival curves for women whose first union was a direct marriage by calendar time, combined sample

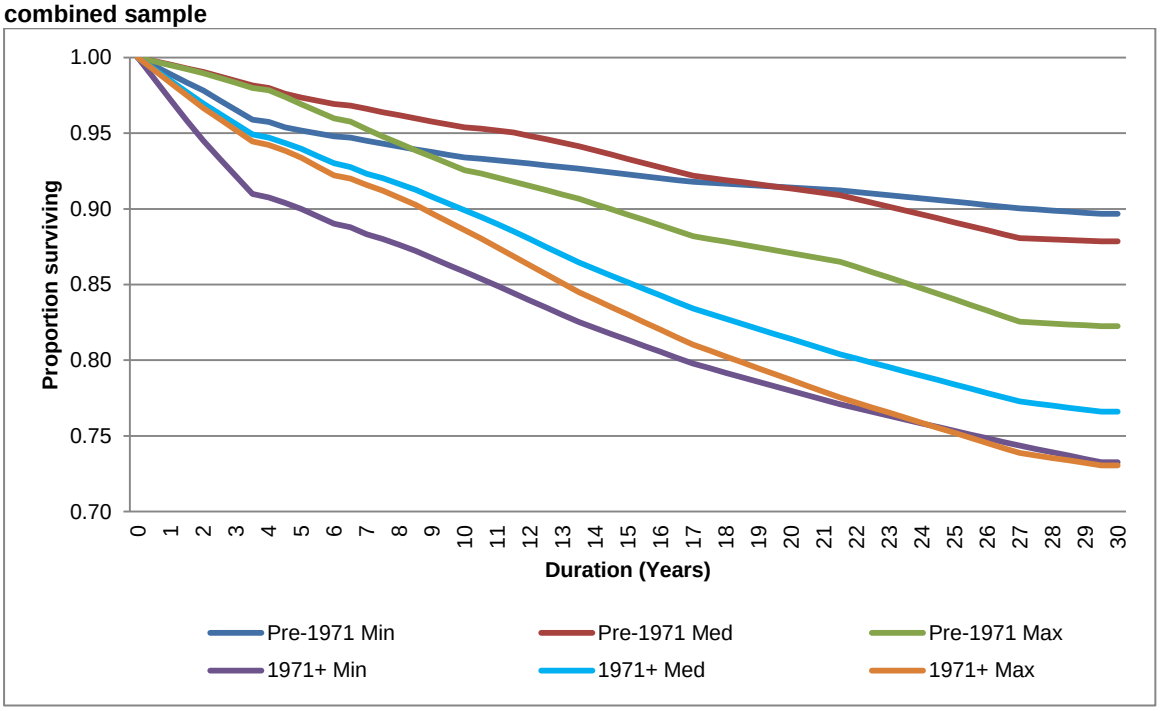


Figure 6-1 shows the proportion of unions that survive over a 30 year time period for those that began as direct marriages. Overall it shows that in the sample for pre-1971 periods, a clear linear trend is seen, with the proportion of unions surviving declining as the work pattern changes from minimum to maximum. So such a trend is seen in the sample for 1971 onwards periods, here those with a medium work pattern see the largest proportion of unions surviving, whilst there is little difference between unions of women who have a minimum and maximum work pattern. In the pre-1971 sample most of the unions that start as a direct marriage among women with a minimum work pattern were still intact at thirty years (90%); however, among women who had a maximum work pattern, 82% of unions were still intact. In the sample covering the 1971 period and onwards, the greatest proportion of unions survived among women with a medium work pattern (77%) compared with 73% of unions intact among women with a minimum or maximum work pattern. This would suggest that among unions that were intact during the time period for 1971 onwards, the effect of employment is diminished compared with those intact during the pre-1971 period.

Figure 6-2 Survival curves for women whose first union was a marriage preceded by cohabitation for the combined sample

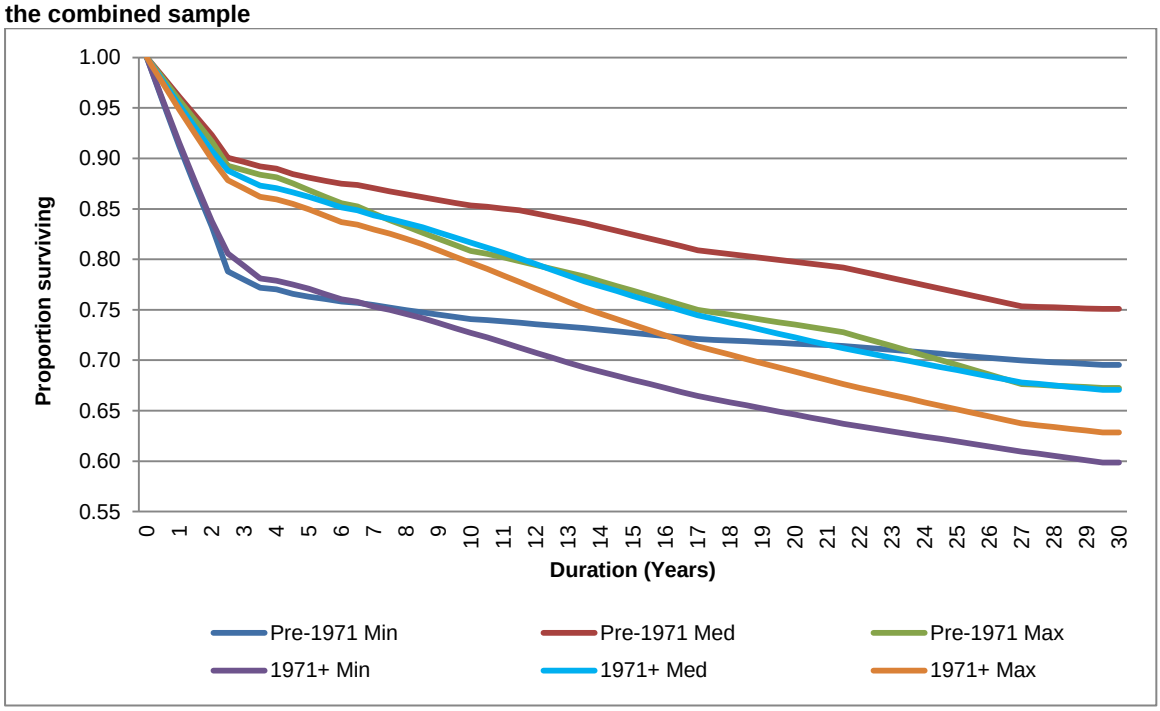


Figure 6-2 compares the survival curves for unions that began with a period of cohabitation before converting to marriage. In both time periods, the largest proportions of unions surviving at thirty years' duration are found among women with a medium work pattern. One difference is that in the pre-1971 sample, the smallest proportions of unions surviving are found in women who have a maximum work pattern, whilst in the 1971 onwards sample it is found among women with a minimum work pattern, potentially reflecting change.

Figure 6-3 Survival curves for women whose first union was a cohabitation for the combined sample

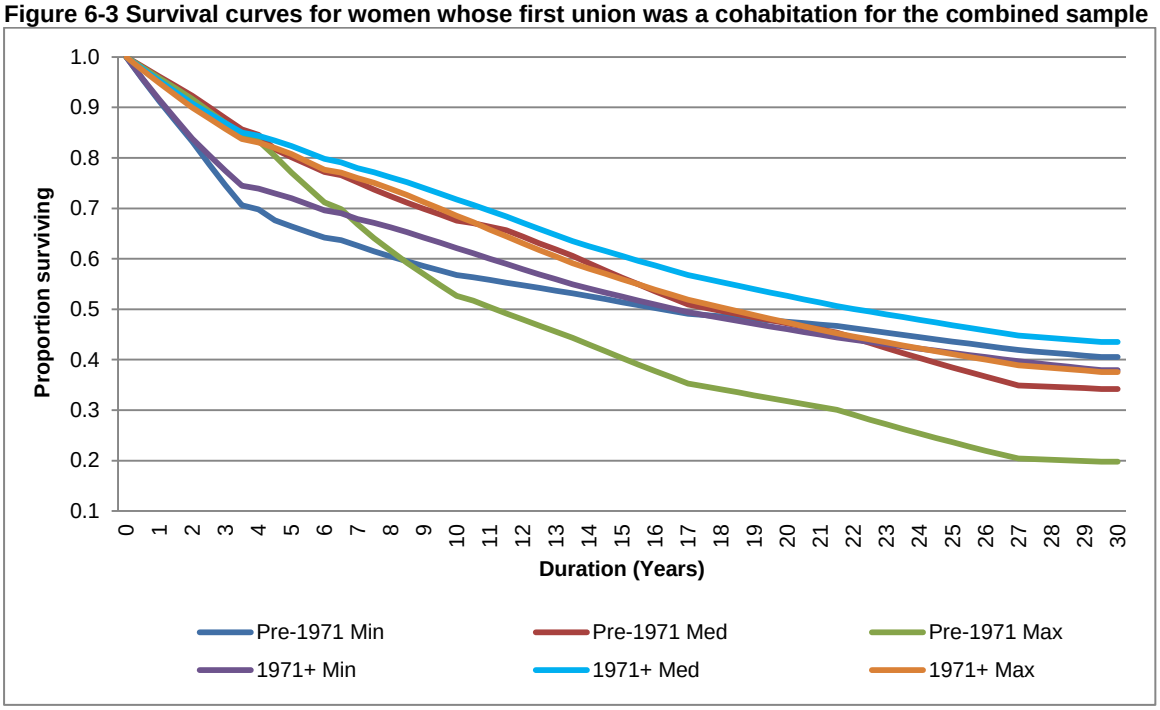


Figure 6-3 shows the survival curves for cohabitations, and, compared with the other union types, the smallest proportions surviving at thirty years duration are seen. As in the case of direct marriages, within the time period prior to 1971 a clear linear trend is seen, with the proportion surviving declining as the level of work increases. One clear difference emerges in these unions, however, compared with direct marriages and marriages that are preceded by cohabitation. Among these unions, more unions survive among women with a medium and maximum work pattern in the 1971 onwards period than in the pre-1971 period. So it would appear that being economically active is associated with a reduced risk among cohabitations after the beginning of 1971.

From these analyses, it appears that for direct marriages and marriages that were preceded by a period of cohabitation, the increased risk of dissolution associated with being economically active is smaller in magnitude after 1971. Indeed, for cohabitations, being economically active appears to be associated with a reduced risk of dissolution after 1971. This may be due in part to the increasing occurrence and acceptance of cohabitation and of women's employment that emerged from the 1960's onwards. It may also be the case that more egalitarian roles are emerging and so work no longer has such a disruptive effect on the gender roles discussed by Becker (1981).

6.3 Cohort analysis

The second approach is to divide the dataset into a number of subsamples based on union cohorts. This approach allows the experience of each specific cohort to be examined individually (Schoen & Baj, 1984; Sweeney, 2002). This is an important approach to studying social change because as Ryder (1965: 844) states “if change does occur, it differentiates cohorts from one another, and the comparison of their careers becomes a way to study change”. Different union cohorts may also have arguably been exposed to differing social and legal contexts at the start of their unions.

It was anticipated that splitting the dataset into ten year union cohorts would be possible and would allow the most detailed analysis of cohort differences. It was found, however, that there were too few women in the earliest and latest cohorts which meant that twenty year cohorts are used instead. The 1920–1949 cohort contains unions that started just after the First World War and before, during and after the Second World War periods. This is aimed to capture the effect of the increased labour force participation of women during both wars. These unions will also be expected to have been structured around the Breadwinner model. The 1950–1969 cohort contains unions that are expected to still be based around the Breadwinner model but will have been subject to the beginning of social changes which would enable women to have greater control over their fertility and wider access to employment as marriage bars were being abolished. The next cohort contains unions that started between 1970 and 1989 and that were formed during a period of sharp increases in divorce rates as well as greater acceptability and occurrence of cohabitation. This is arguably a period where attitudes towards many aspects of unions and sexual and fertility behaviour are increasingly liberal. The final cohort contains unions formed between 1990 and 2009. These are the most recent cohorts and are formed in a period where cohabitation and employment among all groups of women including mothers is widespread. Also in recent decades, divorce rates have been seen in Chapter Three to have been decreasing since the early 2000’s.

A series of piecewise constant models were then run for each of the union cohorts, the results of which are shown in Table 6-3.

Table 6-3 Piecewise Constant Models for Union cohort for the combined sample

	1920-1949	1950-1969	1970-1989	1990-2009
Constant	0.076**	0.015**	0.058**	0.035**
Duration (ref: Piece 1 1-23 months)				
Piece 2: 24-53 months	0.623	1.466	1.124	0.735*
Piece 3: 54-83 months	1.256	1.473	1.265	0.863
Piece 4: 84-119 months	0.748	1.459	1.107	0.768
Piece 5:120-161 months	0.438	1.368	1.003	0.980
Piece 6: 162-203 months	0.375	1.203	1.001	0.618
Piece 7: 204-257 months	0.203*	0.914	0.807	0.891
Piece 8: 258-323 months	0.447	0.833	0.668	….
Piece 9: 324-413 months	0.164*	0.392*	0.313**	….
Piece 10: 414-744 months	0.012**	0.117**	0.131*	….
EMPLOYMENT CHARACTERISTICS				
Employed at start of union (ref: No)	0.794	1.150	0.602**	1.052
Proportion of time prior to union in work	1.450	1.180	1.191	1.214
Current employment status (ref: employed)				
unemployed	….	2.280	1.231	2.587**
Retired	2.679	0.840	0.539	0.475
maternity leave	….	1.200	0.847	0.593
family care	0.500	0.810	0.808*	1.049
Economically inactive	2.060	2.731**	1.303	1.646*
Cumulative time spent in work (years)	1.031	1.015	0.994	0.955
Highest qualification (ref: 1st/higher degree)				
Nursing/teaching/other higher	….	0.877	0.824	….
A-levels	….	1.091	0.881	….
O-level/equivalent	….	0.794	0.835	….
Commercial/apprenticeship/other	….	0.768	0.811	….
None	…..	0.643*	0.721**	…..
EARLY LIFE COURSE CHARACTERISTICS				
Ethnicity	….	1.744	1.493*	0.788
Religious group membership (ref: C of E/Anglican)				
None	2.577**	1.564**	1.139	1.076
Roman Catholic	1.530	1.076	1.204	1.647*
Other Christian	1.695	1.005	1.233	1.386
Other religion	….	0.908	0.775	0.965
Attendance at religious services (ref: at least 1x month)				
Less often, but at least 1x year or practically never	1.120	1.596**	1.437**	1.600**
EARLY UNION CHARACTERISTICS				

Pre-union birth	3.440*	1.990**	1.074	1.147
How the union started (ref: cohabitation)	….	0.501**	0.756**	0.969
Union status in time period (ref: cohabitation)	0.020**	0.459*	0.401**	0.345**
Age at start of union (ref: 20-24 years)				
under 20	2.149**	2.225**	1.488**	1.554**
25-29 years	0.408*	0.847	0.703**	0.706**
30 + years	0.131*	0.321**	0.379**	0.585**
FERTILITY CHARACTERISTICS				
Cumulative number of births	1.081	1.122	0.823**	0.850
Pregnant in time period (ref: no)	0.561	0.616	0.399**	0.354**
Time since last birth (No births)				
0-6 months	0.648	0.959	0.661*	1.296
7-12 months	0.629	0.590	0.662	1.259
13-24 months	0.860	0.603	1.121	0.695
25-48 months	0.963	0.596	1.277	1.119
49+ months	1.080	0.997	1.262	0.922
Wald chi2	**254.50**	**344.07**	**827.04**	**395.58**

**** p-value <0.01 * p-value <0.05**

There a few points of note in these results. In terms of economic activity measures, few of the hazard ratios are significant for any of the cohorts. The measure of whether the woman is employed at the start of the union is associated with a decreased risk of dissolution only for the 1970–1989 cohort. Being unemployed or economically inactive is associated with an increased risk for the most recent cohort, whilst being economically inactive is associated with an increased risk for the 1950–1969 cohort as well. Due to the smaller sample size in the 1920–1949 and the 1999–2009 cohorts, there is insufficient data to include a highest qualification measure. Highest qualification, however, was not found to be associated with dissolution among the 1950–1969 and 1970–1989 cohorts, with the exception of those with no qualifications, who were found to have a reduced risk of dissolution compared with women with a degree or higher qualification. In terms of life-course characteristics the results are inconsistent across the cohorts. Having no religious group membership is associated with an increased risk for the 1920–1949 and 1950–1969 cohorts, whilst women who were Roman Catholic in the 1990–2009 cohort were also found to have an increased risk.

Many of the union characteristics were found to be associated with dissolution. Having a pre-union birth was found to be associated with a much increased risk of dissolution in the earlier 1940–1949 and 1950–1969 cohorts but was not found to be significantly associated with dissolution in the later cohorts. The time-varying measure of union status

was found to be significantly associated with dissolution risk, with marriage associated with a reduced risk in all cohorts. The size of the hazard is very small in the earliest cohort, but this is likely to be an artefact of cohabitation being relatively unusual in these earlier unions. Entering a union under the age of twenty was found to be associated with an increased risk of dissolution, although the magnitude of the hazard ratio decreases for this, however, showing that the disruption of these factors is less important in recent cohorts. In contrast entering a union at later ages was found to be associated with a decreased risk in all cohorts with the magnitude of the hazard increasing in later cohorts, although the hazard still decreases with older age at first union. When analysing union cohorts separately, few of the fertility measures were found to be associated with dissolution. Being pregnant was found to reduce the risk but only in the 1970–1989 and 1990–2009 cohorts, whilst in the 1970–1989 cohort the number of births was negatively associated with dissolution risk.

6.3.1 Hypothetical Women's Work History Profiles

Once again, the hazard rates produced in the piecewise constant models and shown in tables 6.2 and 6.3 have been used to calculate predicted survival probabilities and then the proportion of unions surviving at each six month period for each 20 year union cohort by union type and work pattern. These can be seen in Figure 6-4 to Figure 6-7. The duration for these analyses have been limited to 20 years because this is the maximum union duration that women in the most recent cohort could have achieved at the latest point of data collection in 2009-2010.

Figure 6-4 Survival curves for women whose first union was formed in 1920-1949 by work pattern and union type, for the combined sample

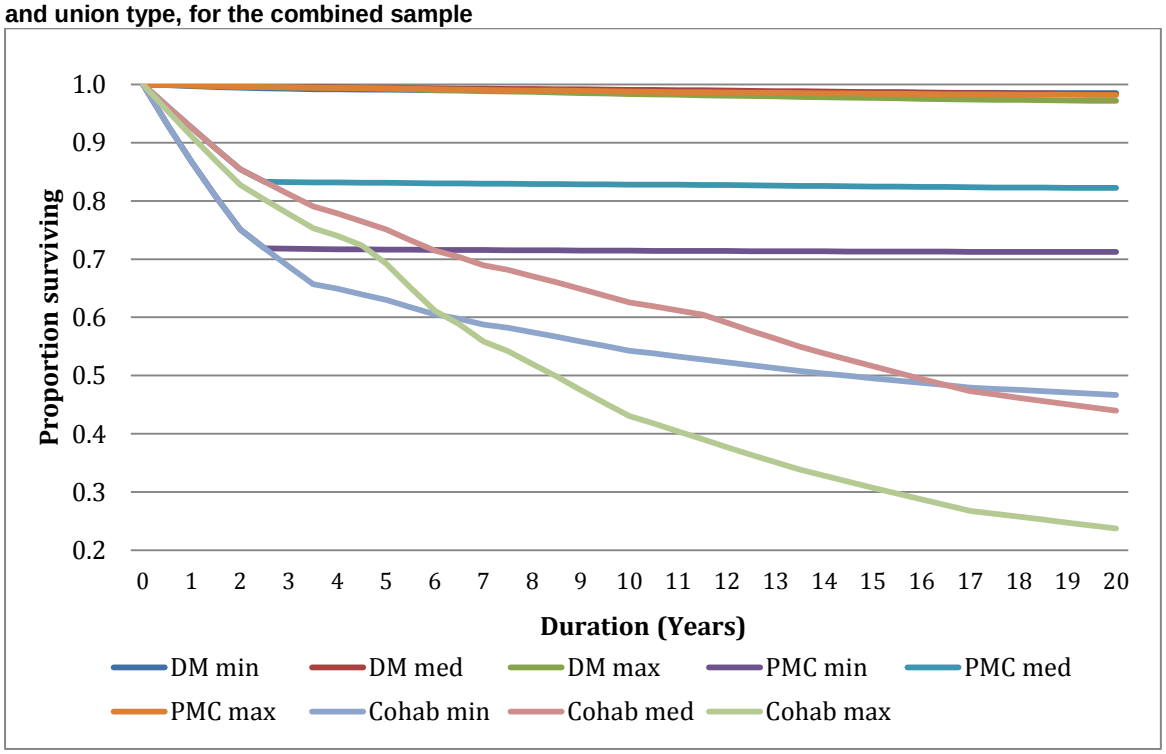


Figure 6-5 Survival curves for women whose first union was formed in 1950-1969 by work pattern and union type, for the combined sample

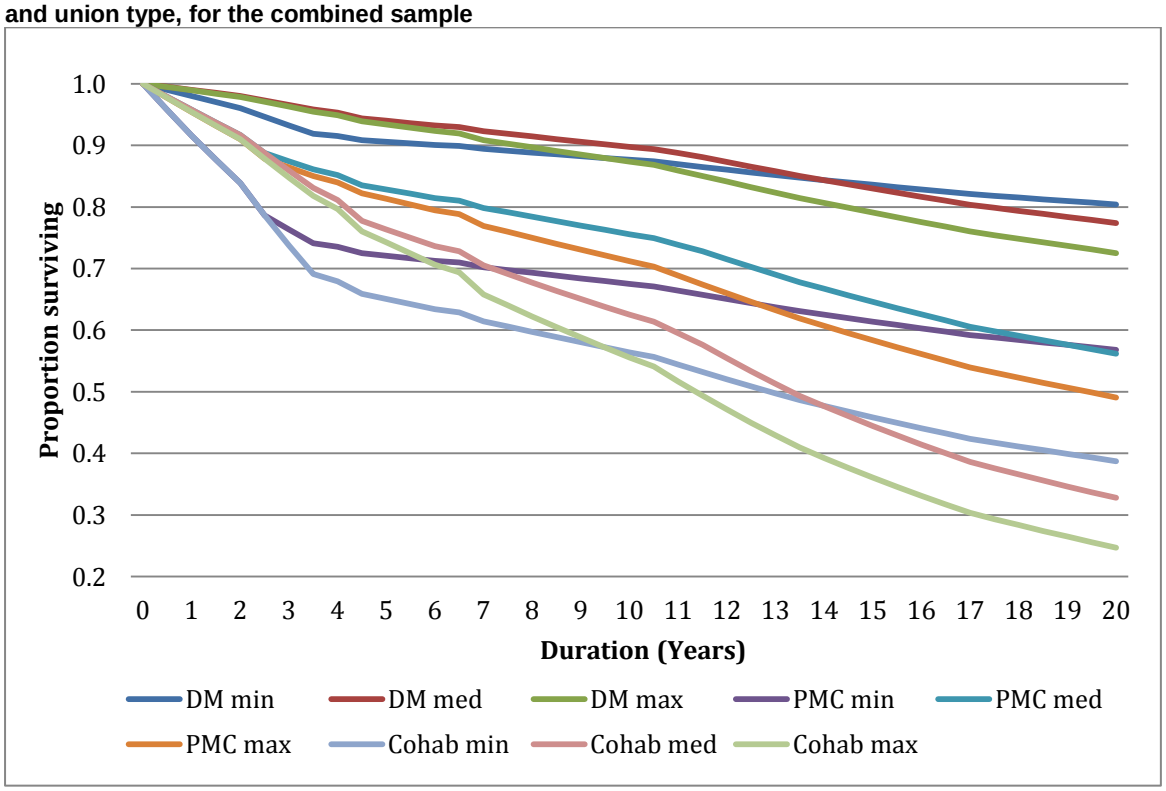


Figure 6-6 Survival curves for women whose first union was formed in 1970-1989 by work pattern and union type, for the combined sample

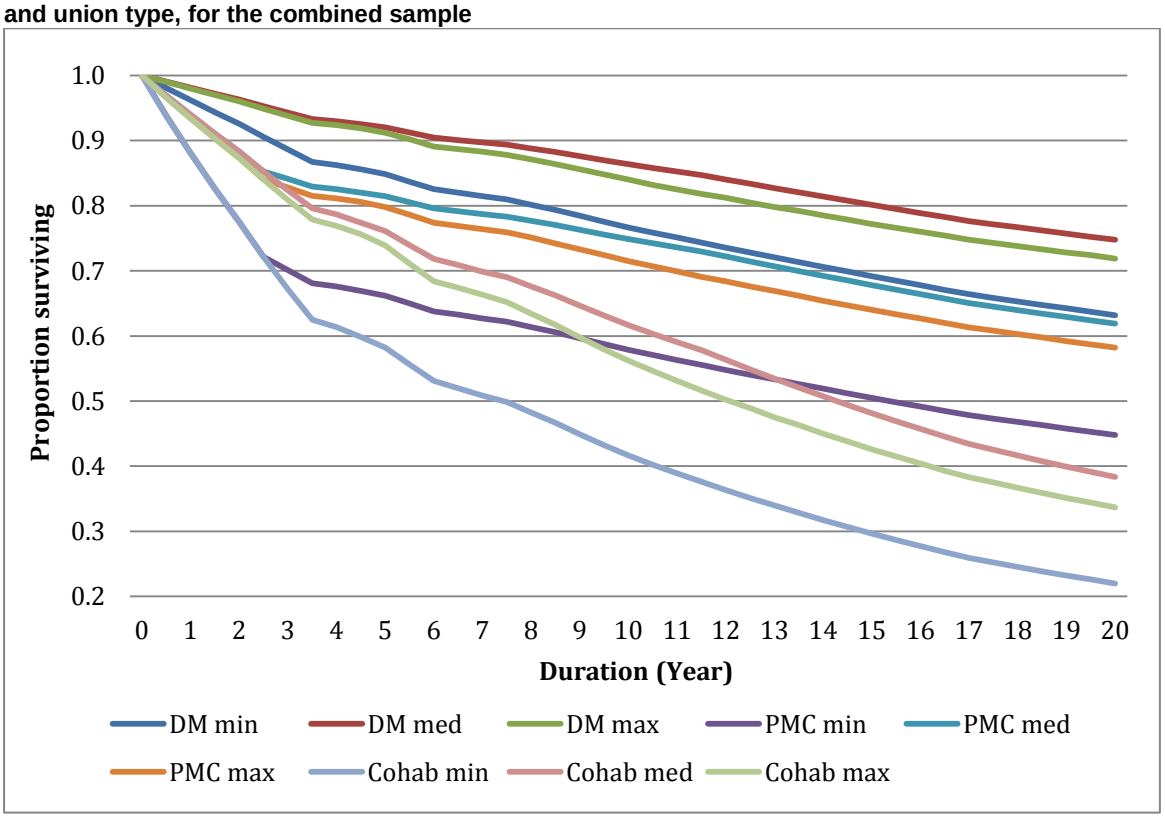
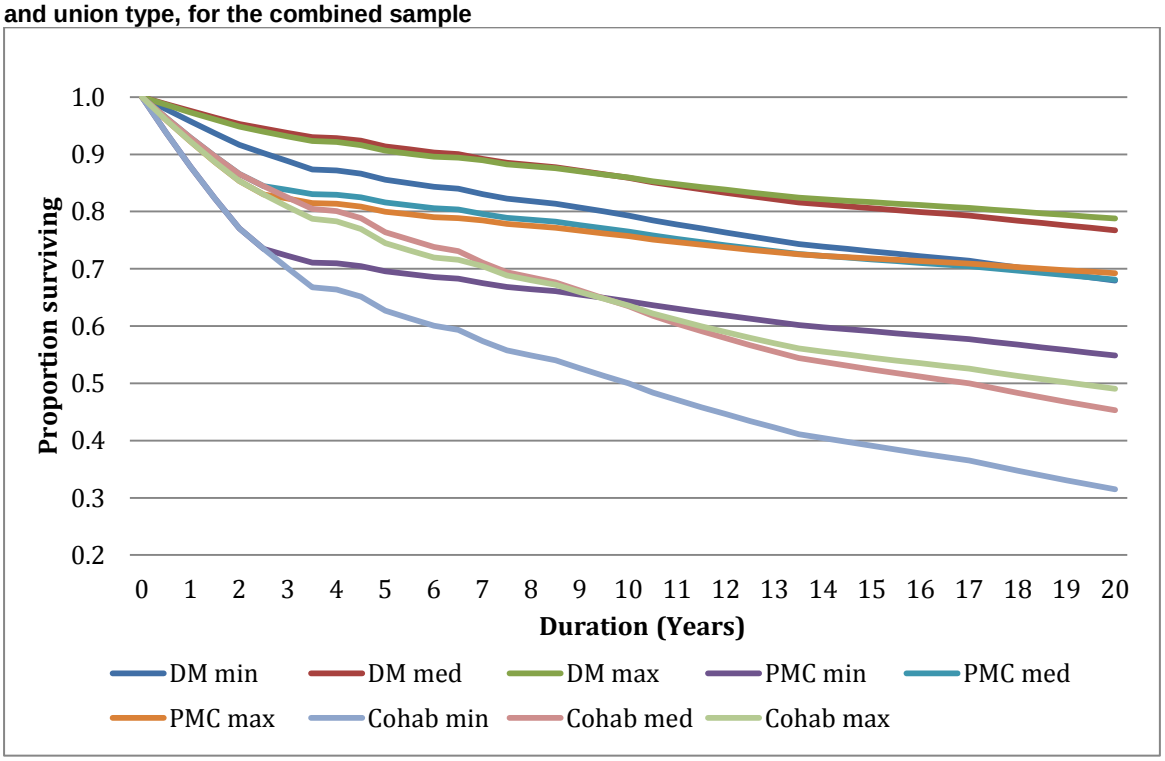


Figure 6-7 Survival curves for women whose first union was formed in 1990-2009 by work pattern and union type, for the combined sample



The graphs show that for all cohorts, cohabitations are more at risk regardless of work pattern. In most of the union types and work patterns combinations, the 1920–1949 cohort see the largest proportion of their unions surviving at thirty years. For women with a minimum work pattern, 1950–1969, 1990–2009 and 1970–1989 unions have declining levels of survival in that order. Among women with a medium or maximum work pattern, the order is changed with the 1990–2009, 1970–1989 and 1950–1949 cohorts having declining levels of survival in that order for cohabitations and marriages with pre-marital cohabitation, with little difference seen between these cohorts for direct marriages.

There is one change of interest here across the cohorts, which relates directly to the question of whether the association between economic activity and union dissolution is changing over time. In the earliest cohorts of unions formed between 1920 and 1949 and between 1950 and 1969, women who follow the maximum work pattern see the largest proportion of their unions dissolve, followed by women who follow a medium work pattern. Women with a minimum level of economic activity have seen the largest proportion of their unions survive by thirty years' duration. The reduced risk of dissolution associated with direct marriage appears to be smaller in magnitude for the 1950–1969 cohort compared with the 1920–1949 cohort, and they also see a far smaller range of proportions surviving between the three work patterns than the 1920–1949 cohort. This suggests the beginning of a changing pattern of dissolution. In the 1970–1989 cohort, the trend has changed and now women who have a medium level of work history see the largest proportion of unions surviving, followed by women with a maximum level of work history. Women who have a minimum involvement with economic activity see the smallest proportion of their unions survive, a trend also seen in the most recent cohort of unions formed between 1990 and 2009. In the most recent 1990–2009 cohort a further change is seen. Now it is women who have the greatest level of economic activity that see the largest proportion of their unions surviving by twenty years duration.

6.4 Discussion

The analyses in this chapter allow investigation into the second research question which asks whether any individual-level association between the dissolution of first unions and women's economic activity in the UK remains constant over time or whether it has changed. These analyses also allow some initial investigation into the hypothesis that the relationship between economic activity and union dissolution may be changing over time. This would appear to be consistent with the idea that the individual level association between economic activity and union dissolution may not be consistent but may be linked to a rise in the economic activity of women, which in turn contributes to wider social change such as a rise in the status of women, increased expectations among women, changing gender roles and social norms and demographic changes. This in turn leads to a rise in union dissolution.

Splitting the sample based on calendar time periods shows a mixed picture. For direct marriages, before1971, women with a minimum history of work generally saw the greatest proportion of their unions survive, but from 1971 onwards it is women with a medium work pattern who have the highest level of union survival. Among marriages that were preceded by cohabitation, women with a medium work pattern have the highest survival rates in both time periods, but women with a maximum work pattern have the highest level of union dissolution prior to 1971, and women with a minimum work pattern from 1971 onwards. For cohabitations, the trend is different again. Here women with the maximum work pattern have the highest level of dissolution for both time periods, whilst women with a minimum level of work see the highest level of survival in the pre-1971 period, and women with a medium work pattern from 1971 onwards. This mixed picture suggests that whilst changes are seen between the two time periods, it may be union type that is driving these figures rather than levels of economic activity. Certainly the picture is not clear enough to reach any firm conclusion about a changing association between economic activity and union dissolution.

The cohort-based analyses in Section 6.3, however, suggest a much clearer change emerging as has already been discussed. In earlier cohorts, women with the minimum level of work history see the greatest proportion of their unions surviving. The trend shifts to women with the maximum level of work history seeing the highest proportion of their unions surviving in the most recent cohort of unions formed from 1990 onwards. This seems to be consistent with for the hypothesis that the relationship between economic

activity and union dissolution is changing, not through calendar time but through cohort-driven changes. Perhaps this is occurring via the mechanism of a diffusion effect, as cohorts have absorbed the attitudes, aspirations and social norms for their predecessors with change emerging from a diffusion of changing ideas. This is consistent with the work of Easterlin (1966, 1976). Easterlin (1966) considered a generational effect in terms of the economic and social aspirations of couples. He argued that whilst couples just starting out in their early twenties would be able to achieve similar levels of economic and social capital as the generation of their parents, they base their aspirations on the level of economic and social capital that their parents had achieved by their thirties and forties. So there is a gap between what a couple can achieve and what they aspire to (Easterlin, 1976). So Easterlin (1966, 1976) argues that couples will seek to alleviate this gap in a number of ways, including increasing female employment as well as delaying marriage and childbearing. As a consequence of this, Oppenheimer (1976) suggests that as couples see the increased ability to meet these higher economic and social aspirations that comes from women entering the labour market, then those who are still following the breadwinner model face what Oppenheimer (1976: 455) terms an "economic disadvantage". This finding is also consistent with for the flexibility hypothesis discussed by Cooke and Gash (2010) which argued that a woman's employment would be associated with an increase in marital stability in more partnerships. It is certainly increasing the case that dual-income partnerships are the norm across many countries, and whilst longer working hours may cause tension within unions as suggested by Jacobs and Gerson (2004), it may also be the case that this dual-income arrangement leads to a better ability to withstand financial shocks through what Weiss (2000) terms risk pooling.

These analyses along with the analyses in Chapter 5 and Chapter 6 show that no conclusive evidence for a consistent association between economic activity and union dissolution. The first research question discussed in 1.2.1 asks whether economic activity and union dissolution are associated, however the findings from the analyses in chapter four and five were not consistent with this. The potential change across union cohorts seen and the absence of a consistent association between economic activity and dissolution in this chapter would suggest that the relationship between economic activity and union dissolution might have changed over time, although again the findings do not allow any conclusive evidence for this. So if the findings of the individual level analyses are not consistent with a relationship between a woman's economic activity and her risk of the dissolution of her first union, then perhaps any form of association might operate

at the aggregate level? This leads to the third research question which asks whether there is an association between time trends in marital dissolution and in married women's economic activity in England and Wales. It also asks whether the rise in divorce coincide with, precede or follow on from the rise in married women's economic activity. These questions are the focus of the remaining part of this thesis.

Chapter 7 Empirical review of the time trends in aggregate divorce and female employment measures and the relationship between them

7.1 Introduction

So far this thesis, in the literature review and the previous analyses chapters, has focused on the first two research questions which asked what the relationship is between the dissolution of first unions and women's economic activity in the UK at the individual level and whether any individual-level association between the dissolution of first unions and women's economic activity in the UK has remained constant over time. Thus so far, the study has focused on examining this relationship at the individual level. The literature review discussed findings that were consistent with there being an association between a woman's economic activity and the risk of seeing her first union ending in dissolution although no consensus was found among these studies as to whether this association is negative or positive or to which of the mechanisms discussed in section 2.2 such an association might be operating through. The analyses discussed in Chapters Four, Five and Six have shown inconsistent evidence for the first research question, that economic activity among women is associated with union dissolution at the individual level, and the analyses in Chapter Six have found inconclusive evidence that any association between economic activity and union dissolution has remained constant over time. Rather there is the suggestion that the relationship between economic activity and union dissolution may have changed across subsequent union cohorts.

Papers by Easterlin (1966, 1976) and Oppenheimer (1976) are consistent with this idea, arguing that as people's aspirations and expectations grow, so the need for a dual income model becomes ingrained; although, once again the regression analyses have shown inconsistent evidence for this in terms of the economic measures. What the analyses in Chapter Six have found is the effects seen for other factors (such as early union factors) have shown differences within the different union cohorts. This suggests that some change has been occurring in the factors which are associated with union dissolution.

This chapter explores this change by moving on to testing the third area of interest, that a relationship may exist between economic activity and union dissolution at the aggregate level. It may be that at the individual level the association between economic activity and union dissolution may not be consistent, but a rise in the economic activity of women contributes to wider social change such as a rise in the status of women, increased expectations among women, changing gender roles and social norms and demographic changes. This in turn leads to a rise in union dissolution. This idea is examined through testing the following questions: Is there an association between time trends in marital dissolution and in married women's economic activity in England and Wales? Does the rise in divorce coincide with, precede or follow on from the rise in married women's economic activity?

7.2 Are economic activity trends among women associated with changing levels of divorce over time?

This first stage is to establish whether there is any evidence of an association between time trends in economic activity in women and in divorce in existing studies. One key study that takes this approach is by Ruggles (1997) who used US census data for the period 1880–1990. In this analysis, Ruggles (1997) used five measures of economic activity: labour force participation rates for men and women, economic opportunity for men and women (defined as the percentage with a job with a median income, calculated as equivalent to $2200 in 1950) and the percentage in non-farm employment within each district. The findings suggest that non-farm employment, labour force participation for women and low levels of employment opportunities for men are positively associated with divorce rates (Ruggles, 1997). Another key finding is that the strongest effect was found for non-farm employment between 1880 and 1940, but after 1940 this changed to female labour force participation (Ruggles, 1997). One of the key problems with this study – and with the use of census data for this kind of analysis – is the large time gaps between each observation. This means that whilst economic activity is measured during the week of the census, divorce can have occurred at any point within the previous ten years, so there is no way of being certain whether economic activity preceded divorce or vice versa.

There are also studies that link changing levels of divorce or dissolution with wider economic cycles. South's (1985) study of divorce in the United States found that female labour force participation, unemployment levels and the size of cohorts were strongly associated with divorce. From these findings South (1985) concluded that divorce rates were positively associated with the rate of unemployment. Thus, divorce rates were seen to rise after economic downturns and decrease with prosperity. Larger cohorts, South (1985) suggests, create greater competition for jobs and more financial pressures whilst smaller cohorts mean less competition so less risk of financial stresses. Cvrcek (2009) also suggests that a link exists between marital disruption, measured as the proportion of marriages ended and economic cycles, but found in contrast that in the US, in the 1880's, as the economy declined so the rate of disruptions also declined.

So far these studies have worked on the assumption that aspects of female employment are associated with rising trends in divorce. This relationship could work in either direction, however, so the level of divorce in a society could potentially be affecting the level of participation in the labour force among women. Johnson and Skinner (1986) put forward the hypothesis that if women increase the number of hours they worked prior to separating from their partners, the probability of divorce within society could increase labour force participation. In effect, they are proposing a similar argument to the first hypothesis discussed in Section 1.2.1, that there is an aggregate effect due to an individual level association. They suggest two reasons for this: either, women are working in anticipation of divorce, or increased employment leads to a greater risk of divorce. Their analysis of families in the Michigan Panel Study of Income Dynamics found that overall the rise in divorce between 1960 and 1980 could explain up to 2.6 percentage points of the 15 percentage point increase in married women's employment (Johnson & Skinner, 1986). Therefore they conclude that the probability of divorce, assessed by increasing divorce rates, significantly affects the labour force participation rates of married women (Johnson & Skinner, 1986). Oppenheimer (1982) also looked at the impact that divorce rates may have on married women's employment. She found that higher labour force participation rates were found among wives who had already experienced previous marital breakdown, possibly because they were aiming to guard against the financial problems of a future breakdown. This idea is also discussed by Davis (1984) who suggests that because men are more likely to be exposed to the opposite sex at their workplace and therefore have greater opportunity to engage in extra-marital relationships, this perhaps means that women feel less confident about

their partners' commitment to them – so they seek employment as a means of protecting themselves from the financial impact of separation (Davis, 1984).

It appears from these studies that there might be some evidence of an association between economic activity among women and the changing trends in dissolution, although as White (1990) suggests there is not conclusive evidence for this. The studies discussed here certainly do not answer the question of whether the economic activity among partnered women precedes the rises seen in divorce rates. Lye (1989) found no significant correlation in her cross-national study between labour force participation among married women and divorce rates. She did find, however, that many countries with high rates of married women in work tend to have higher divorce rates, but suggests that this may be due to both trends responding to a third factor, so would be consistent with the second hypothesis in this study.

The third hypothesis, which is the focus of this chapter, states that whilst evidence for an individual level association between economic activity and union dissolution may not be consistent, a rise in the economic activity of women contributes to wider social change. This could incorporate a rise in the status of women, increased expectations among women, changing gender roles and social norms and demographic changes which in turn leads to a rise in union dissolution.

Therefore, the next stage is to examine the changing social and legal context of both marital disruption and the economic activity of women in depth.

7.3 Divorce in England and Wales

Divorce is a legal process through which marriages are terminated, and as a legal process has changed since the introduction of civil divorce in 1857. It is an area which appears to have divided public and policy opinions across time about who should be allowed to divorce and under what conditions it is acceptable to seek the legal termination of a marriage. As such, there have been many debates and many changes in legislation which have impacted either directly or indirectly on divorce as we understand it today. Any study of changes in divorce trends over time is not complete without an understanding of some of these key debates and changes. Therefore, before any

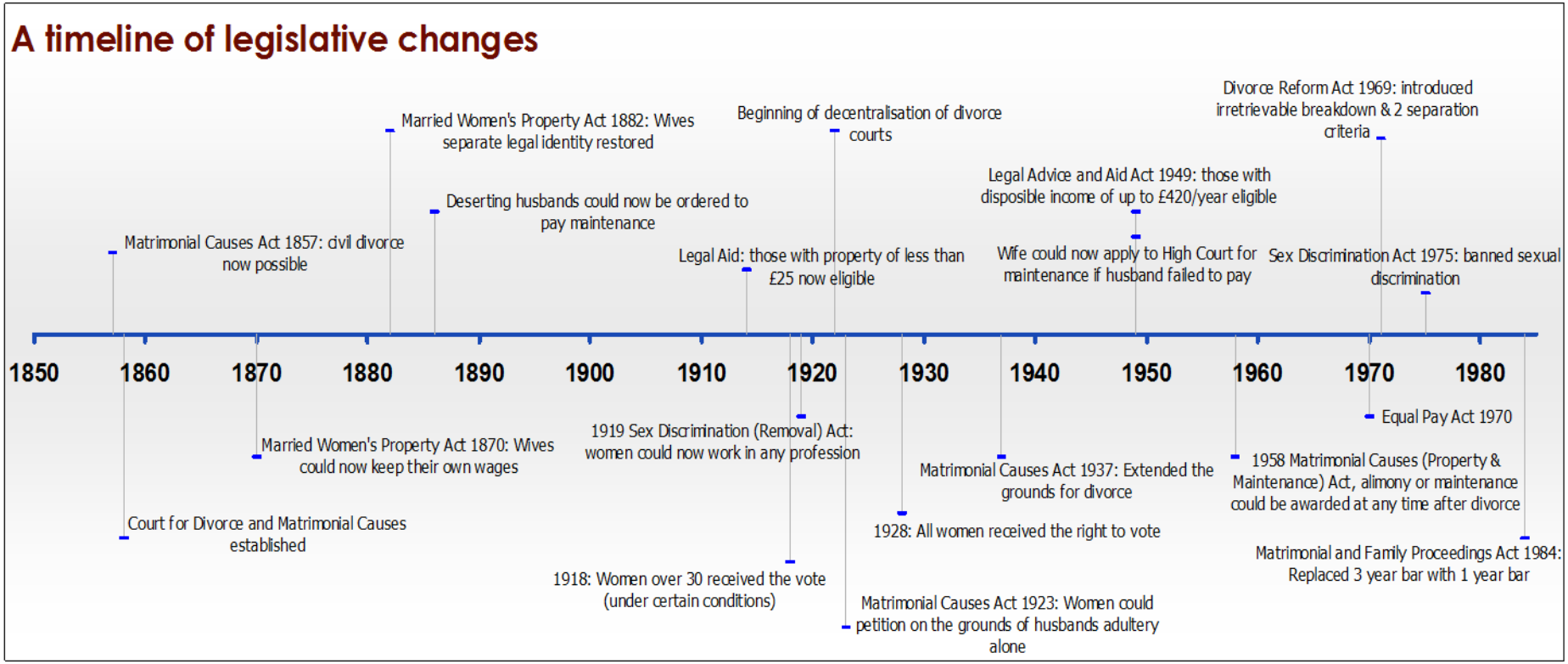
discussion of trends can begin, a history of divorce and divorce legislation is attempted here. There is much to say about the history of divorce, (indeed, whole books have been written on this subject) so the following history is not meant to be complete, but rather aims to give a contextual background to later discussions.

7.4 A history of divorce

A review of the literature around the history of divorce in England and Wales suggests that different forces of change are at work throughout history: social change (including legislative change), economic changes or pressures and cultural shifts. Although these forces are distinct, they do not occur exclusively or independently of each other. For example, social change may occur via legislative changes but often these come about due to cultural shifts in thinking and/or economic pressures. Likewise, cultural shifts may occur as a result of social changes and key events such as the world wars. Change has also been as a result of behavioural changes, for example, the growing incidence of marital disruption not catered for under legislation which leads to an underlying demand for change.

7.4.1 Legislative changes: criteria for divorce

Figure 7-1 A timeline of legislative changes



Prior to the mid 1800's, divorce was possible with the first parliamentary divorce being granted in 1670 (The National Archives, 2011). However it was a complicated and expensive process involving a civil court, an ecclesiastical court and then Parliament, and costing in the 1850's around £700-800 (Rowntree and Carrier, 1958). This meant that few sought a legal divorce, instead resorting to more informal arrangements such as living apart, separation orders, desertion and in some cases wife sales (Rowntree & Carrier, 1958; Cvrcek , 2009; Horstman, 1985). All options had their subsequent problems, for example unofficial separations were sometimes followed by bigamous marriages, (Horstman, 1985) and there was also a growing number of criminal conversion actions whereby the "wronged" husband sued his wife's lover for damages (Stone, 1990). It became necessary to find a solution to these problems and also to the emerging middle classes inability to afford to divorce (Stone, 1990). Key Victorian thinkers like Jeremy Bentham and John Wright Mills supported the idea of divorce, with Bentham stating that "marriage was a contract which should be dissolvable by will" (Horstman, 1985: 70). Further pressure for divorce reform came from those who believed that differing divorce laws in England and Scotland were being abused by couples who migrated to take advantage of the more relaxed Scottish laws (Stone, 1990). Prior to 1857, wives who had been deserted claimed Poor relief and as the numbers of desertions rose, this created an economic pressure that needed addressing (Diduck & Kaganas, 2006). These factors all contributed to the introduction of the Matrimonial Causes Act 1857 despite religious opposition (Stone, 1990).

The Act meant that divorces were now heard in one specific court, which from January 1858 was the Court for Divorce and Matrimonial Causes; this made the process far more accessible (Rowntree & Carrier, 1958: 191). Possible grounds for divorce included adultery by either party, although women had to prove their husbands had committed at least one other matrimonial offence, and annulments for offences such as bigamy were also possible (Rowntree & Carrier, 1958: 191). In addition, from 1878 local Magistrates could grant wives whose husbands were physically abusive legal orders allowing them to live apart from their husbands; this also allowed them custody of children under the age of 10 years in some cases (Smart , 1984: 31).

However, the 1857 Act did not mean that divorce became widely accessible to all sections of society. Stetson (1982: 100) suggests that between 1897 and 1906 only 5700 divorces were granted compared with 87,000 separation orders, suggesting that recent legal changes were not keeping up with the demand for legal termination of marriage. In addition, subsequent relationships could not be made legal through

marriage, leading to illegitimacy for subsequent families (Stetson, 1982). At the same time, cultural shifts in thinking informed subsequent legislative changes. For example, in the early 1900's society was becoming more secular with religion beginning to lose its power, and at the same time interest in gender equality was rising (Diduck & Kaganas, 2006). These factors, along with debates about how to deal with the increase in marriages ending following World War I (Stone, 1990), influenced the Matrimonial Causes Act 1923, which amended divorce legislation to enable women to petition for divorce on the grounds of their husbands' adultery without the need to prove any additional matrimonial offences (Rowntree & Carrier, 1958: 191). Calls to broaden the grounds for divorce were not included (Stone, 1990). The Guardianship of Infants Act of 1925 gave women the same legal rights to apply for child custody following a separation or divorce as their spouses (Smart, 1984: 28).

More liberal divorce laws had previously been recommended by a 1912 Royal Commission on the recommendation of many professionals. One magistrate was quoted as saying "Marriage cannot hope to be a working success unless divorce is in the background as a reserve…Without divorce I look on marriage as a dangerous, mad gamble" (Rowntree & Carrier, 1958: 199). Questions were also raised about deliberate acts of collusion by couples as a means of accessing divorce (Stone, 1990). These combined pressures contributed to the extension of grounds for divorce which the 1937 Matrimonial Causes Act (also known as the Herbert Act) introduced and which included 3 years desertion, cruelty, long-term insanity, alcohol abuse and certain types of imprisonment which aimed to allow more people to access divorce (Rowntree & Carrier, 1958: 192).

7.4.2 Changes to the administrative provision for divorce

It is also important to consider other changes that impacted on people's ability to access the divorce process. One such area of change is the physical accessibility of divorce. A process of decentralisation had begun to extend the accessibility of the divorce process by allowing cases to be heard in selected assizes towns from 1922, and petitions to be filed in selected district registries outside of London from 1927 (The National Archives, 2010). Although the 1857 Matrimonial Causes Act and the widening number of towns which could process petitions had reduced the cost of divorce, it remained expensive and out of reach for many people on lower incomes. Further

localisation of the divorce process included allowing County Courts to hear divorce cases from the late 1960's (The National Archives, 2010), which worked to further reduce the cost and increase the accessibility of the divorce process (Rowntree & Carrier, 1958).

Prior to 1914 a system of legal aid had been available to people who owned property valued at less than £25, but the eligibility criteria was widened in 1914 to include those with capital of £100 or less (Rowntree & Carrier, 1958: 193). The Administration of Justice Act 1920 further expanded the criteria for legal aid to add that people should also earn less than £4 per week (Rowntree & Carrier, 1958: 193). Further changes occurred with the Legal Advice and Aid Act 1949 increasing the availability of legal aid to all those who had disposable income of £420 per year or less (Rowntree & Carrier, 1958: 194).

Legislation passed in 1889 enabled women to claim maintenance of £2 per week from husbands who had deserted them (The National Archives, 2010). In 1949, wives could apply to the High Court for the first time to claim maintenance where their husbands had previously failed to pay (Lee, 1974). The Matrimonial Causes (Property and Maintenance) Act 1958 also introduced a courts right to award alimony or maintenance to the wife at any point after divorce had been awarded (Lee, 1974). The increasing provision of maintenance or alimony was important as it began to make life beyond divorce a more viable option for women.

7.4.3 The changing legal status of women

Prior to the 1857 Act, divorce had been primarily a male domain with the first divorce bill awarded to a woman as late as 1801 (Stone, 1990: 360). Pressure for change from Feminist campaigners had been an additional contributory factor in the introduction of the Matrimonial Causes Act 1857 (Stone, 1990). Other advances for women at this time, following pressure from influential figures such as Sir Erskine Perry and Lord Lyndhurst, included the right of separated women to regain control over their own income and property, although married women were still denied this right (Stone, 1990: 376-7). Two further acts, the Maintenance of Wives (Desertion) Act of 1886 and the Summary Jurisdiction (Married Women) Act of 1895 extended the provision of maintenance and the magistrate's ability to award child custody to deserted wives (Smart, 1984: 28).

There are several legislative changes which, whilst they are not directly connected to the divorce process, are important, as they provide contextual information around the changing social and legal status of women. This is especially important when looking at changes in female labour force participation and divorce. Prior to 1870, women lost their separate legal identity on their marriage, becoming effectively the legal property of her husband, gaining the status of *femme covert*; this meant, for example, that she was unable to own property and any property gained before marriage had to be given up (Combs, 2006: 53-54). The Married Women's Property Act 1870 went some way towards correcting this by allowing women to keep any wages that they earned, with the Married Women's Property Act 1882 further expanding their legal rights so that women were able to retain their own separate legal identity (Combs, 2006). Combs (2006) argues that these Acts gave women a degree of economic independence that they had not previously had, suggesting that this altered the bargaining power within marriages, which would ripple out into other areas of their lives. She does acknowledge, however, that there is some debate over the level of impact the 1870 Act had, and whether the later 1882 Act had greater impact (Combs, 2006). As Smart (1984) notes, however, the legal freedom to own their own property was fine in theory but how were women to purchase such property without an income or independent finances? Even up to the 1950–60's building societies would not lend money to married women, and house ownership or tenancies were commonly in the sole name of their husbands (Smart, 1984).

Up to 1920, the majority of divorce petitions were granted to the husbands. From 1930, the balance shifted and an increasing majority of petitions were granted to wives, with 69.7% of petitions granted to wives in 2000 as seen in Table 7-1.

Table 7-1 Divorces: 1858-2003, by party petitioning/ granted decree, Office for National Statistics

Year	% granted to husbands	% granted to wives
1900	59.2	40.8
1910	55.7	44.3
1920	76.8	23.2
1930	42.7	57.3
1940	45.5	54.5
1950	49.0	51.0
1960	44.8	54.8
1970	38.3	60.7
1980	29.7	70.0
1990	28.1	69.7
2000	30.1	

It is not clear from these data how much influence the 1923 Matrimonial Causes Act – which allowed wives to petition for divorce on the grounds of their husbands' adultery alone – and The Guardianship of Infants Act of 1925 – which gave women equal legal rights over child custody (Smart, 1984: 28) – had on the swing towards women being granted petitions, but such a change may reflect a shifting of power within marriage or a shift towards women's ability to contemplate supporting themselves outside of marriage. The Legal Aid Act 1960 may have particularly enabled women to consider divorce as an affordable option (Stetson, 1982) so this may have also influenced the shift to the larger proportion of petitions being granted to women. These data however only show a limited story; they do not tell us who initiated the divorce process or who originally sought a separation or end to the marriage.

7.4.4 Attitudinal change to divorce

In the 18th century divorces were reported as scandalous events, but as reporting became more factual and less sensationalist the public became more aware that divorce was not a straightforward case of guilty versus innocent parties. As the general understanding of divorce changed, public opinion of divorce began to shift to a more accepting one (Rowntree & Carrier, 1958). As divorce became more commonplace, and stigma was further reduced, this lead to more couples seeking to end their marriage (South, 1985). World War II further increased public acceptance of divorce, for example Rowntree and Carrier (1958: 232), writing in the post-War period, concluded that divorce is "a part (whether we like it or not) of the fabric of our social life at all occupational levels". A sharp upward trend was seen in divorce in the post-war period, and people became less willing to condemn those wanting to terminate

marriages, perhaps because of an understanding of the disruptive impact the war may have had on people's lives and of the impact of long separations on marriages (Rowntree & Carrier, 1958). Rowntree and Carrier (1958) also note that help was given to men seeking divorce by the military. A Bill introduced in 1951 by Mrs White proposed that divorce should be allowed after 7 years' separation without any matrimonial offence being proven; however, opposition from churches and the Mother's Union was such that the Bill was withdrawn (Lee , 1974).

A Royal Commission on Divorce between 1951–1955 debated the introduction of a new ground for divorce, that of breakdown of the marriage. Once again, however, opinion was divided, with supporters claiming that the couple themselves would know when the marriage was over and those opposing suggesting that it would destabilise marriage by allowing an easy end to them (Lee, 1974). The grounds for divorce were later reviewed in a reform document produced by the Law Commission in 1966, which once again considered the introduction of breakdown of a marriage as grounds for divorce. The Law Commission stated that as marriages had always ended, but perhaps had not been eligible for divorce proceedings, an increase in divorce did not automatically spell moral decline or an increase in marriages breaking down. They stated that "If a divorce is obtained, it follows and is caused by the breakdown – not vice versa" (Great Britiain The Law Commission, 1966). This is an important point which is sometimes overlooked – divorce is the formalisation of an end, not the end itself (Great Britain The Law Commission, 1966).

The Commission also acknowledged that the need to divide couples into a guilty versus an innocent party created distress and embarrassment for the one deemed to be guilty and that marital breakdown was not often so clear cut. Also they raised again the problem of children of subsequent relationships remaining illegitimate if their parents were unable to divorce. The move to introduce the sole ground of marital breakdown proven by a period of separation was met with some opposition, especially by those concerned that a more accessible divorce would lead couples to treating marriages as less permanent. The Law Commission argued, however, that the existing discretionary requirement to have been married for a minimum of three years before a petition for divorce could be granted was a sufficient deterrent for this.

The Law Commission concluded that "the objections of a good divorce law should include (a) the support of marriages that have a chance of survival, and (b) the decent

burial with the minimum of embarrassment, humiliation and bitterness of those that are indubitably dead" (Great Britain The Law Commission, 1966: 53). These recommendations were formalised in the Divorce Reform Act 1969 which came into force in 1971 and introduced the sole ground of irretrievable breakdown (ONS, FM2 no 27, 1999). Additional facts of 2 and 5 year's separation were also introduced, which allowed divorce to be sought by either the mutual consent of both parties or by the petitioner alone (Lee, 1974; Stetson, 1982). A further review led to the Matrimonial and Family Proceedings Act 1984 which replaced the discretionary bar of three years with an absolute bar of one year (ONS Series FM2 no.27, 1999).

7.4.5 The changing meaning of marriage

Much has been written about the changing meaning of marriage itself which has had an impact on both its stability and its popularity. This idea is discussed by Coontz (2004) in her paper on the historic transformation of marriage. Coontz (2004) suggests that prior to the 17th century marriage was little to do with love but was a way of maintaining social and economic status, and a way for women, who could not own their own property, to attain a secure life. Marriages were designed to be advantageous and a way of "organising work along the lines of age and gender"; where marriages were dissolved this was more to improve one's position than because a couple were no longer happy together (Coontz, 2004: 977). During the 17th century, this function of marriage was to gradually change because of a "series of interrelated political, economic and cultural changes that began to erode the older functions of marriage and throw into question the rights of parents, local elites and government officials to limit individual autonomy in personal life, including marriage" (Coontz, 2004 : 978). Lewis (1985) hypothesises that the subservient position of women in earlier periods has had a detrimental impact on how women view marriage. She states that "[w]e are only just beginning to explore the effects that lack of access to divorce and the legal obligation to provide household and sexual services to husbands, had on the meaning of marriage for women" (Lewis, 1985: 2).

What evolved from this period was the idea that marriage could be about love rather than about practicality; marriage is now something from which people expect far more in terms of emotional fulfilment. With such higher expectations, however, comes a greater risk of dissatisfaction and of desire to seek something better. The liberal model

discussed by Giele (1996) suggests that marriages are now expected to fulfil all the emotional needs of the couple, which places a great deal of stress on the relationship, something also discussed by Coontz (1992). Coontz (1992: 15) found that 90% of people in the United States marry, but these marriages are shorter lived, although she suggests that spouses reported better partnership quality. Lye's (1989) study of divorce examines two US polls which asked people about their expectations of marriage. To a question asked in 1948 about what was the most important quality in a spouse, 47% of men stated they wanted a good wife/homemaker whilst 42% of women wanted a husband who was a good provider, while interestingly only 3% of all respondents mentioned love as being important (Lye, 1989). By 1974 expectations had changed with 83% of women and 77% of men stating that love was the most important reason for marriage, with only 14% of women and 7% of men mentioning economic security as being important (Lye , 1989). Summing up these changes Lye (1989) states "adulthood does not require marriage, and marriage does not require the assumption of traditional male and female roles. Without clearly defined roles individuals must define their own lifestyles and negotiate their own responsibilities". Another important point that Lye (1989) makes is that whilst women may have made quite substantial changes to their social roles, men have not made similar degrees of change in terms of their role within the household, a potential cause of tension among couples. Much more research is needed around this area, as White (1990) recommended, to determine whether there are gender differences in marital needs or expectations.

7.5 The rise in cohabitation

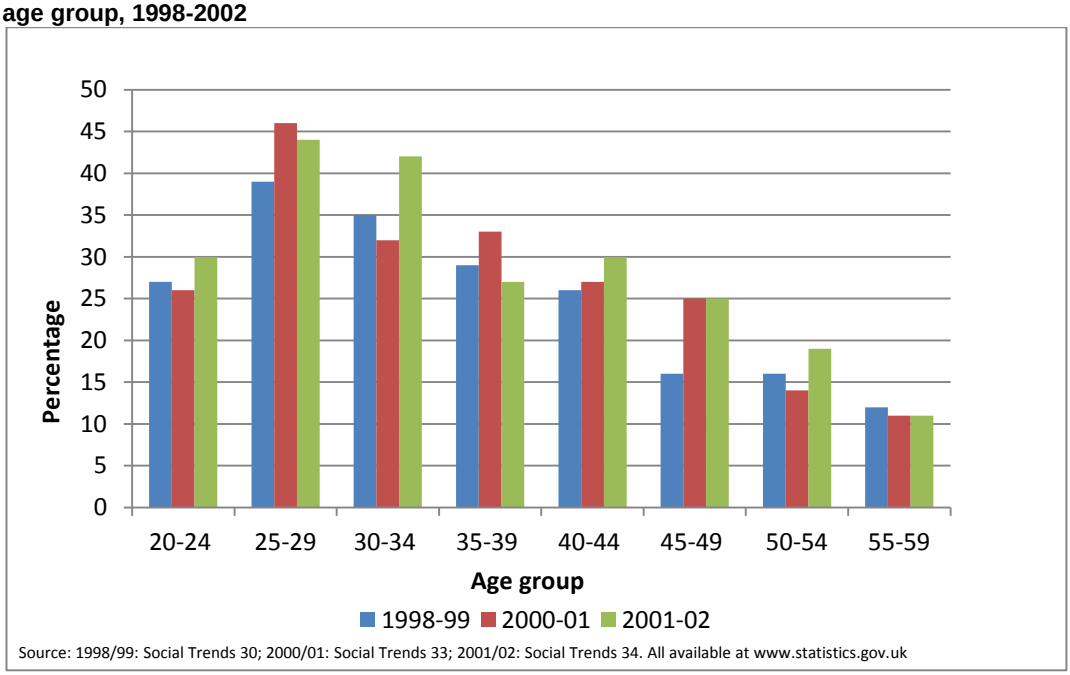
One of the major changes in the nature of partnership formation in recent decades is the increase of cohabitation among couples both prior to marriage and as a separate union type. Oppenheimer (1994) suggests that, contrary to arguments that marriage is being replaced by cohabitation, the rise in cohabitation is more likely to be due to people delaying marriage until they are more financially stable, meaning that they are cohabiting first. The following statistics focus on Great Britain only.

In the 1950's and 1960's virtually all first unions were direct marriages (Haskey, 1999), with just 6% of first unions in the 1960's being cohabitations (Hayward & Brandon,

2010:3). Lewis (2002: 213) estimated that 33% of marriages in 1975–79 were preceded by cohabitation. By the 1980's cohabitation had increased, with cohabitations estimated to account for 56% of first unions by Hayward and Brandon (2010: 3) or pre-marital cohabitation accounting for 40%, and cohabitations 20%, of first unions according to Haskey (1999: 23). By the 1990's, Lewis (2002: 213) estimates that 70% of marriages began with cohabitation. These figures have further increased since 2000 with Hayward and Brandon (2010:3) estimating that 82% of first unions were cohabitations.

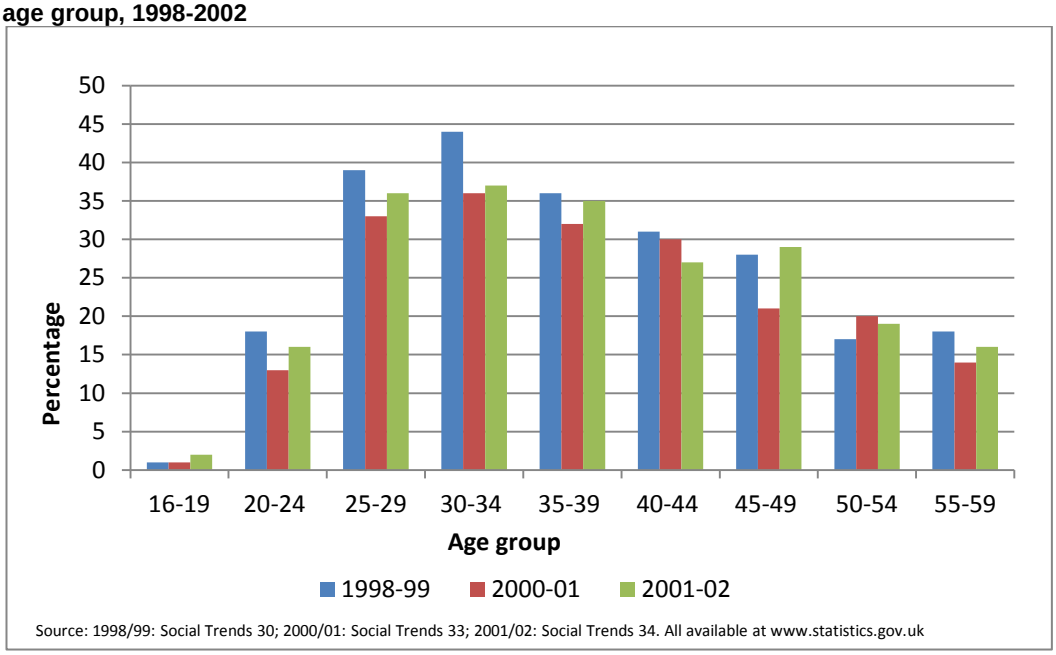
In terms of absolute numbers and who is cohabiting, Shaw and Haskey (1999: 9) estimated that in 1996 1.56 million men and 1.56 million women were cohabiting in England and Wales, of these 1.03 million men and 1.07 million women were never married. Shaw and Haskey (1999: 16) estimated that in 1996 40% of cohabiting men and 30% of cohabiting women were aged over 35 years; these proportions were projected to increase to about 60% and 50%, respectively, in 2021. They also estimated that the number of couples cohabiting would reach nearly 3 million by 2021 (Shaw & Haskey, 1999: 16). Interestingly, Wilson (2009: 26) estimated the number of couples cohabiting in 2007 in England and Wales as 2.25 million, consistent with the projection made by Shaw and Haskey. Haskey (2001: 8) found that in 1979 in Great Britain just 8% of single women cohabited, but this had increased to 31% by 1998. Haskey (2001: 7) suggests that the increase in cohabitation may be due to people cohabiting with new partners following the dissolution of a marriage, with cohabitation diffusing out to other groups. Figure 7-2 and Figure 7-3 adapted from data published in the Social Trends bulletins show the age distribution of cohabitation among single women and men from 1998–9 to 2001–2.

Figure 7-2 Percentage of non-married women in Great Britain who are currently cohabiting by age group, 1998-2002



Source: 1998/99: Social Trends 30; 2000/01: Social Trends 33; 2001/02: Social Trends 34. All available at www.statistics.gov.uk

Figure 7-3 Percentage of non-married men in Great Britain who are currently cohabiting by age group, 1998-2002



Source: 1998/99: Social Trends 30; 2000/01: Social Trends 33; 2001/02: Social Trends 34. All available at www.statistics.gov.uk

Outside the UK, all types of union occur, although Table 7-2 produced by Kiernan (1999: 29) shows that the type of first union varies across Europe; this suggests that some cultural factors such as the acceptability of cohabitation and perhaps religiosity may play a part.

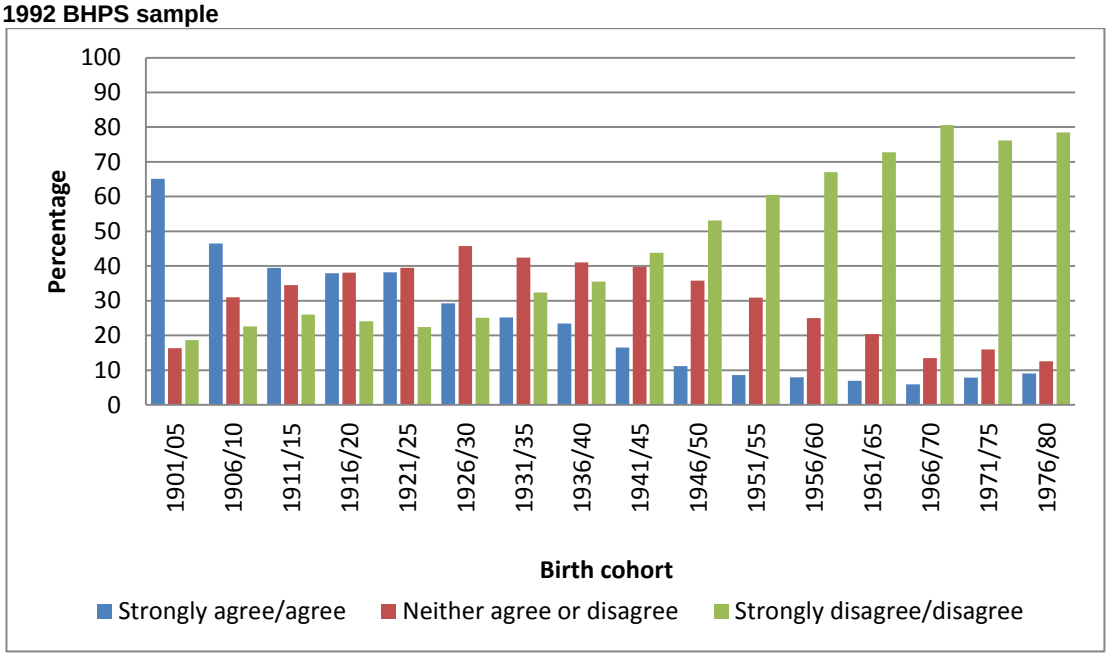
Table 7-2 Type of 1st partnership (%) among women with a 1st partnership and aged 20-39 at the time of survey, Kiernan 1999

	Direct marriage	Marriage with cohabitation	Cohabitation
Sweden	8	36	57
Norway	33	31	35
Finland	21	46	33
France	27	26	46
Austria	24	36	40
Switzerland	23	48	28
W Germany	30	32	38
E Germany	20	25	55
Great Britain	49	26	25
Italy	88	7	5
Spain	85	6	9

7.6 Changing attitudes towards cohabitation

Statistics from the 1993-94 British Social Attitudes survey quoted by Haskey (2001: 6) show that more than 60% of people born before 1930 would recommend direct marriage, approximately 40% of 40–59 year olds and under 20% of 20–39 year olds. Figure 7-4 is from the 1992 panel wave of the British Household Panel survey and shows clear differences between is consistent with for cohabitation across the birth cohorts.

Figure 7-4 Percentage of each birth cohort that agrees or disagrees that cohabitation is wrong, 1992 BHPS sample



7.7 Time trends in divorce rates

For the third hypotheses discussed in Section 1.2.1 to hold true, then it would be expected that rises in the economic activity rates for women would precede any rises in the rate of divorce. In order to establish whether the rise in divorce coincides with, precedes or follows the rise in married women's employment, time series for both trends are compiled. This examination of time order between the two trends is something which has not been discussed fully in the UK, so this next section will add to the existing research.

7.7.1 Data sources

The first stage in addressing this question is to compile a time series of divorce rates from 1851. Divorce rates are calculated as persons divorcing per 1000 of the married population, that is, the population at risk at a given time and place. So the formal end of the marriage is examined here, rather than the point of separation. The primary source of divorce statistics are datasets produced and published by the Office for National

Statistics (ONS). Extensive statistics relating to divorce are contained in the Vital Statistics: Population and Health Reference Tables, Spring 2013 Update which is obtained via the ONS website. These statistics include divorce rates and age-specific divorce rates by sex from 1950 which are calculated from data provided by the Courts. The Courts begin completing a D105 form at the time a petition is filed which includes information about the date of marriage, age at marriage (provided by the petitioner and respondent) and about the date the petition was filed and the date the decree absolute was granted (provided by the Courts). These D105 forms are then passed to the Office for National Statistics who then use the information to calculate and compile the divorce statistics used here (Office for National Statistics, 2012). Some checks are carried out on the processing of the data; but no checks are possible on the data itself. However, as those completing divorce proceedings are legally obliged to sign to say the information they are providing is correct, so the information is assumed to be sufficiently accurate. Some additional information provided by the ONS has been derived such as age at divorce, the duration of marriage at divorce and the age of children, and some data is imputed where the age at marriage or marital status at marriage for example is missing, although imputed data is minimal. Divorce rates include marriages that have been annulled as well as those that have been dissolved. Although strictly speaking divorce rates should only include dissolutions, the ONS suggests that as the number of annulments is very small this does not present any problems. Annulments follow “a successful petition for nullity. It declares that the marriage itself is void (that no valid marriage ever existed) or voidable (was legal at time of registration but is no longer legal)” (Office for National Statistics, 2004: 14) and so can legitimately be included. The quarterly Population Trends publications published by the Office for National Statistics (accessible via their website) also provide divorce rates from 1986 to 2008 with the information being collected in the same way as the historical datasets described above.

As it is preferable to compile trends in divorce from as early a time as possible, divorce rates prior to 1950 were sought. This information is provided by Stone (1990) in his book Road to Divorce. Stone has compiled divorce rates for the period 1851 to 1987, although these are not annual rates until 1911, and also provides data relating to other aspects of divorce including the proportion of divorces petitioned by wives and grounds for divorce. Stone (1990) obtained these rates from the Office for National Statistics, as these are no longer accessible directly Stone’s record of divorce rates has been used

for this study. As there is an overlap of around 37 years between Stone (1990) and the ONS statistics, it is possible to check the accuracy of Stone's data using the ONS statistics as a benchmark. Such a check confirmed that, at least for the overlapping period, Stone's data matches that provided by the ONS, and it can therefore justifiably be used as a data source with confidence. Although different data sources have been used to compile trends in divorce rates from 1851 to 2008, divorce has been measured in the same way so a sufficient degree of comparability is assumed.

An article by Rowntree and Carrier (1958) highlights an important limitation of divorce statistics in England and Wales. They suggest that not all marriages are terminated legally, especially historically, when divorce was out of reach of many due to the complex and expensive nature of the process (Rowntree & Carrier, 1958). This limitation has been discussed in more detail in a study of US marital disruption by Cvrcek (2009). Cvrcek argues that historically because many marriages ended in desertion or separation rather than divorce, divorce statistics do not provide an accurate picture of marital disruption, so any historical analysis should include separations and desertions in measures of marital disruption. This is partially because of the lack of reliable data and the informal nature of many separations, and partially because some couples who separate may be reunited (Cvrcek, 2009). Stone (1990) does provide absolute numbers of petitions for judicial separation; however these data would still not include marriages that had ended through more informal mechanisms. Census data may provide information about separation, but examination of the individual censuses has shown such data to be extremely limited. Until 2001, people who were married but not yet legally divorced, i.e. those who had separated from a spouse, were asked to record themselves as married. It may be possible to identify separated people by identifying married people with no spouse in the household at the time of the census. However, this would be a proxy measure only and is subject to limitations. In the 1971 census only people who are actually present on the night of the census or those who were expected to arrive the following day were included, however in 1981 and 1991 people who are usually resident but temporarily absent were also included. For 1981 and 1991, it is possible to assume that people who are married but who have no spouse recorded in the household are probably separated, although it may be that the spouse is working abroad but is expected to return at some point. For 1971 the picture is less clear as all that is recorded is that the spouse was not in the household on the night of the census. Therefore this section focuses solely on divorce.

7.7.2 Divorce rates

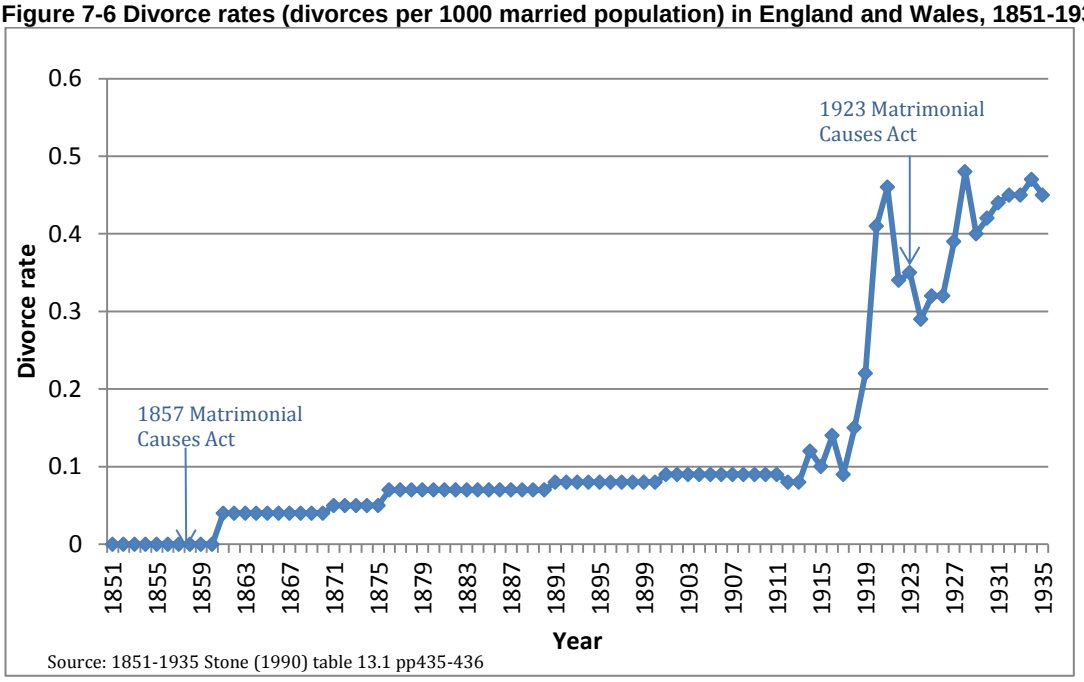
All the divorce rates reported and discussed in this section are, unless otherwise stated, calculated per 1000 married population.

Figure 7-5 Divorce rates (divorces per 1000 married population) for England and Wales, 1851-2011

Source: 1935-1949 Stone (1990) table 13.1 pp435-436; 1950-2011 Vital Statistics: Population & Health Refernce Tables, Spring 2013 Update available via http://www.ons.gov.uk/ons/publications/re-reference-tables.html?edition=tcm%3A77-289020

Figure 7-5 shows the trend in divorce rates in England and Wales from 1851 to 2008. The first thing to note is that by including a large time period on one graph means that a large scale on the y-axis is used. This in turn means that changes which occurred when rates were very low are hidden, thus this graph appears to suggest that few significant changes occurred prior to World War II. Therefore the data has been separated into two time periods 1851–1935 and 1936–2008 so that scales which are more appropriate to each time period can be used, enabling relative changes within each period to be examined in more detail.

Figure 7-6 Divorce rates (divorces per 1000 married population) in England and Wales, 1851-1935



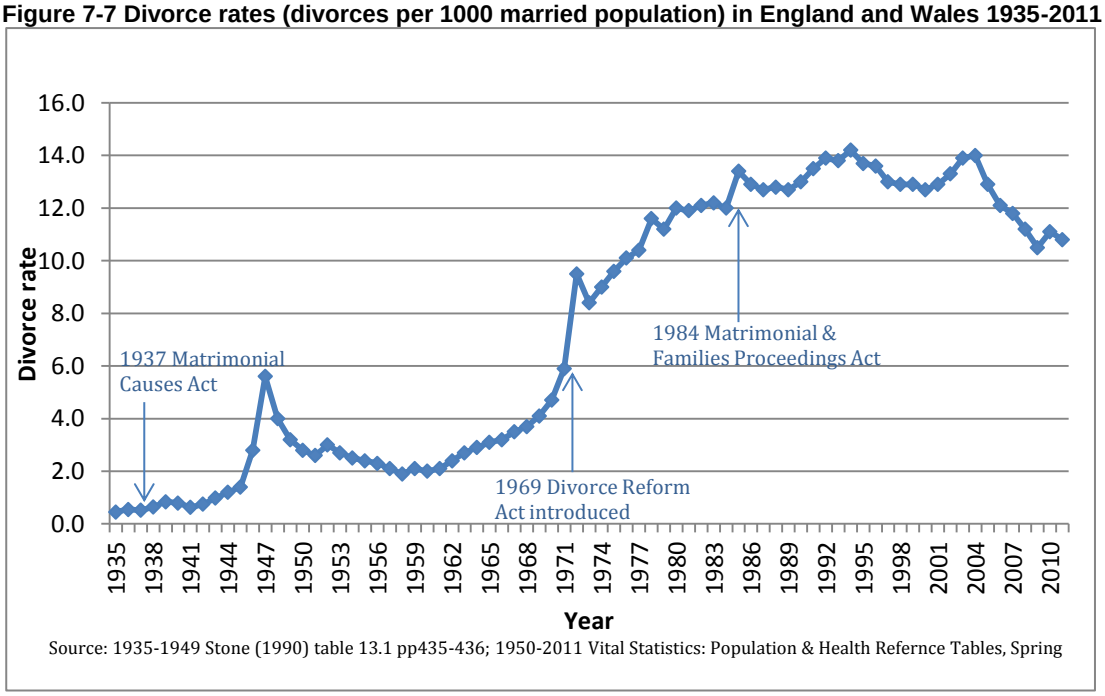
Source: 1851-1935 Stone (1990) table 13.1 pp435-436

The time-series for 1851–1935 (Figure 7-6) shows changes in divorce rates in more detail and show that over this period divorce rates increased from 0.0001 in 1851 to 0.52 in 1937. An increase is seen in rates after the introduction of the 1857 Matrimonial Causes Act, however rates remain fairly constant, with a slight upward trend after this until the World War I period. Rowntree and Carrier (1958:205–207) suggest that the 1914 changes to the Legal Aid criterion and provision increased the rate of petitions by 40%, but the data compiled here show that divorce rates increased from 0.12 in 1914 to 0.14 in 1916, an 16.7% increase – a smaller effect than the one suggested by Rowntree and Carrier (1958). The data suggests that the event of World War I had a far greater impact with divorce rates increasing from 0.09 in 1917 to 0.46 in 1921. The increases seen after the end of World War I may be a result of marriages formed during the war period ending but delayed in timing by the discretionary three year bar on divorce.

Another sharp peak in divorce rates can be seen at 1928, when rates increased from 0.35 in 1923 to 0.48 in 1928, an increase of 37%. This may be due in part to the 1923 Matrimonial Causes Act which allowed women to petition on the grounds of their husbands' adultery alone and The Guardianship of Infants Act of 1925 which gave women the same legal rights to apply for child custody as their spouses (Smart, 1984: 28). The effect is short-lived, however, as rates decrease in 1929 and return to the

general upward trend seen from the mid 1910's. Rowntree and Carrier (1958: 207) also believe that the 1923 Act had an effect, suggesting that the rate of petitions increased by 20–25% following the introduction of the Act although they also agree that the effect was short-lived. Rowntree and Carrier (1958:205–207) suggest that the extension of Legal Aid in 1926 increased petitions by 15%, although they state that such increases are due to backlogs so had no lasting effect of the overall trends in petitions. The divorce rates compiled here show that divorce rates increased from 0.32 in 1926 to 0.48 in 1928 (an increase of 50%), which seem to follow legal aid changes. With several changes in legislation within a short time span, however, it is not possible to determine the specific impact of each individual Act. So what triggered the steeper increases seen from around 1917? A rise in adultery is certainly a factor, and it may also be due to one or all of the legislative changes, the impact of World War I or a combination of several factors, although this graph does suggest that the period after 1917 was important in terms of increasing levels of divorce.

Figure 7-7 Divorce rates (divorces per 1000 married population) in England and Wales 1935-2011



Source: 1935-1949 Stone (1990) table 13.1 pp435-436; 1950-2011 Vital Statistics: Population & Health Refernce Tables, Spring

The time-series for 1936–2008 (Figure 7-7) shows that divorce rates continue their upward trend; however there are several periods of particular note. The first follows the introduction of the 1937 Matrimonial Causes Act, which as discussed earlier widen the eligibility criteria. Rowntree and Carrier (1958: 208) suggest that this legislative change led to a doubling of the rate of petitions between 1937 and 1938, although they acknowledge that this was due a backlog of cases and therefore not a permanent effect. In terms of the divorce rates presented here, increases are seen but are lesser in magnitude, with rates increasing from 0.52 in 1937 to 0.84 in 1939, followed by small decreases for the next two years. This is not quite the doubling effect seen in Rowntree and Carrier's (1958) paper but is still an effect to some degree. As with World War I, sharp increases in divorce rates are seen after World War II, when rates increased from 0.84 in 1939 to 5.6 in 1947, although by 1951 the divorce rate had fallen to 2.6. Rowntree and Carrier (1958: 210) also found that World War II had an impact on the rate of petitions, leading to an increase of 370% over ten years.

Diduck and Kaganas (2006) and Rowntree and Carrier (1958) have both suggested that divorce rates increased following the 1949 Legal Advice and Aid Act. Divorce rates presented here increased from 2.6 in 1951 to 3.0 in 1952 (an increase of 15.4%), although the rate then decreased for the next few years reaching 1.9 in 1958. This may potentially show that legal aid changes had an effect on divorce rates; however, it is not possible to distinguish this from the effect of World War II as the events are during the same time period. The Legal Aid Act 1960 also helped to make divorce more affordable, so may have influenced the rises in divorce seen from this time although it is not clear to what extent.

Divorce rates continue to rise consistently until the early 1970's when the magnitude of increase becomes far greater. Divorce rates rose from 4.7 in 1970 to 12.0 by 1980; such increases may be due in part to the 1969 Divorce Reform Act which came into effect in 1971 and which widened access to divorce by introducing the sole criterion of irretrievable breakdown, which could be established by proving either of two new facts of two and five year's separation. An immediate increase in divorce is seen after the introduction of the Act, with divorce rates increasing from 5.9 in 1972 to 9.4 in 1972. This effect was short-lived, however, as rates reduced the following year. Prior to the introduction of this Act, the most common fact proven was adultery in 70% of male divorces and 47% of female divorces in 1970 (data from Stone, 1990). The new 2 year and 5 year separation criteria had an immediate impact on what facts were proven at

the time of divorce. Desertion and adultery as a proven fact reduced significantly for both males and females after 1970, and 2 year's separation being the fact proven in 30% of cases for males and 24% for females in 1975, levels which remain fairly constant for the rest of the time period (data from Stone, 1990). 5 year's separation was proven in many cases initially, but declined fairly quickly. It is more commonly proven by males, ranging from 10–18% of cases between 1975 and 2008, although it was proven in just 4–9% of female cases (data from Stone, 1990).

A smaller peak is seen after the 1984 Matrimonial and Family Proceedings Act, which replaced the discretionary 3-year bar with an absolute 1-year bar, with rates increasing to 13.3 in 1985, but this does not appear to have had a significant impact on the overall trend. As will be shown in the next section, however, this Act did have a greater impact on divorce rates among certain age groups, but not on others. Divorce rates then peak at 14.2 in 1993, before decreasing to 12.7 in 2000. Divorce rates then return to an upward trend until 2004 when they reach 14.0. From this point, divorce rates begin to decline consistently, reaching 11.2 in 2008, their lowest level since 1979.

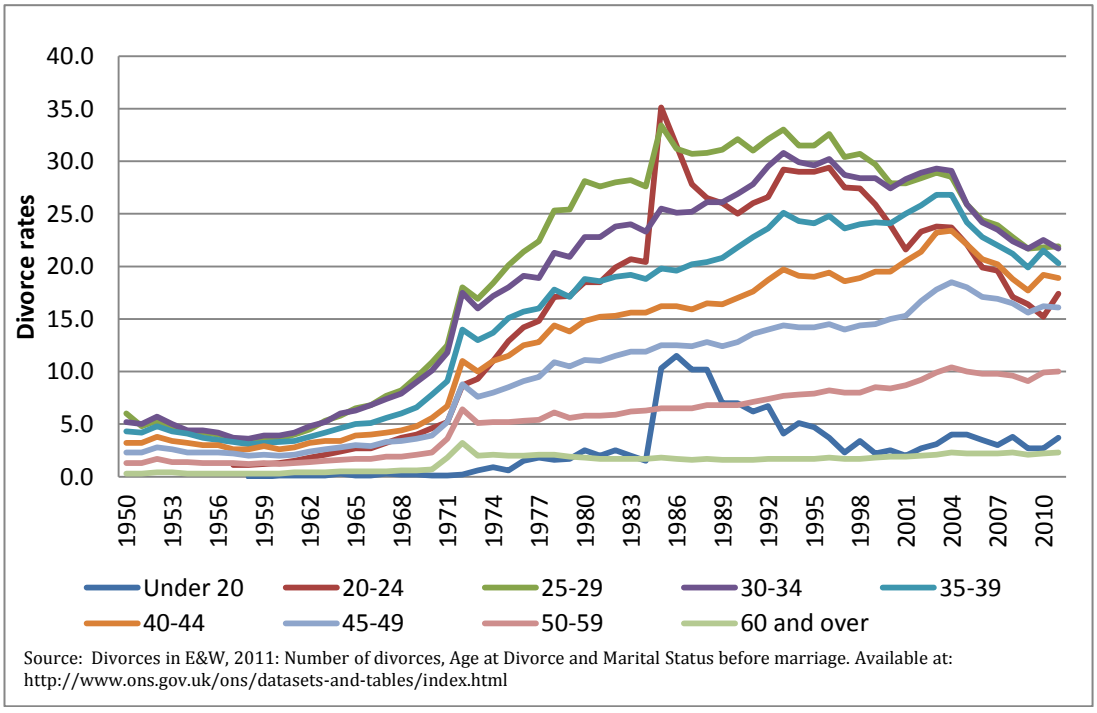
Rowntree and Carrier's (1958) examination of the impact of some key Acts of divorce legislation on English divorce rates concludes that the increases seen in divorce rates are partly due to the increased accessibility of divorce which enabled those who had previously desired divorce but had not been able to until changes in legislation had enabled the legal end of their marriage. They state that increasing divorce "implies no more than an increasing desire and ability on the part of estranged couples to seek a complete legal termination to marriage instead of separating on a partial or informal basis" (Rowntree & Carrier, 1958: 190–1). Their conclusion is that there may be a temporary increase in divorce rates because of the legislative change making provision for cases that were previously blocked, but that once these backlogs of people seeking a formal end to their marriage has been processed, rates will return to their general upward trend, a conclusion also drawn by Smith (1997) in his analysis of British time trends in divorce. This view is consistent with studies by Stevenson and Wolfers (2007) and Schoen and Baj (1984), who examined divorce legislation change in the United States and England and Wales respectively. The data compiled and presented here also finds that peaks occur in divorce rates following key legislative changes but whilst such changes will have increased the availability of divorce, such peaks are always short-lived and are often follow by a similarly temporary downward dip afterwards, a pattern also found by van Poppel and de Beer (1993) in their study of legislative

change in the Netherlands. However whilst the direct effect of legislative change might be temporary, van Poppel and de Beer (1993) suggest that such changes might change public opinion and behaviour as knowledge of new legislation becomes common knowledge.

7.7.3 Age-specific divorce rates

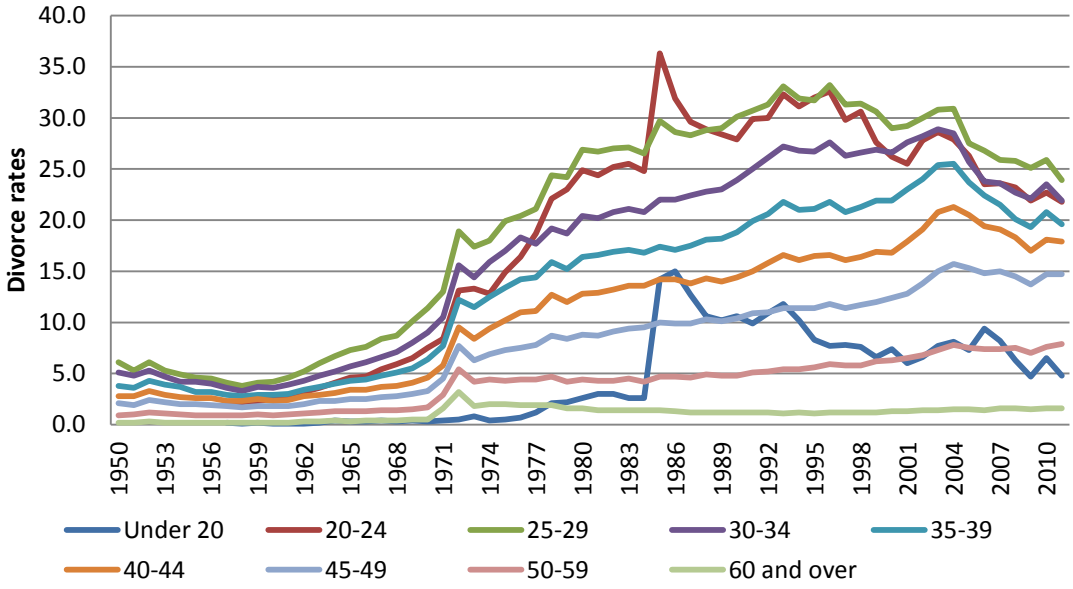
The overall divorce rates compiled and discussed in Section 3.3.2. actually tell us very little about who divorces or about who might be driving the increases in divorce. Therefore, to gain more detail, divorce rates have been broken down into age-specific rates by age at the time of divorce. Once again these rates are produced by the ONS; however age-specific rates are only produced from 1950, but are available separately for males and females. Age-specific divorce rates for men and women in England and Wales between 1950 and 2008 are shown in Figure 7.8 and Figure 7-9.

Figure 7-8 Age-specific divorce rates (per 1000 married population) for males in England and Wales 1950-2011



Source: Divorces in E&W, 2011: Number of divorces, Age at Divorce and Marital Status before marriage. Available at: http://www.ons.gov.uk/ons/datasets-and-tables/index.html

Figure 7-9 Age-specific divorce rates (per 1000 married population) for women in England and Wales 1950-2011



Source: Divorces in E&W, 2011: Number of divorces, Age at Divorce and Marital Status before marriage. Available at: http://www.ons.gov.uk/ons/datasets-and-tables/index.html

When looking at the change in age-specific divorces rates, all age groups show increases over the entire time period 1950–2008 although the magnitude of these increases vary by age group. As can be seen, all age groups up to and including 45–49 years show their greatest period of increases in divorce rates in the early 1970's, although the magnitude of these increases reduces with age. The 1969 Divorce Reform Act which came into effect in 1971 introduced the grounds of irretrievable breakdown of a marriage, which was effectively a no-fault basis for divorce; the Act also introduced two separation criteria which may in part be responsible for these large increases at this time. The exception to this is the under 20 year olds which show their greater increases around the mid 1980's; this may be due in part to the introduction of the 1984 Matrimonial and Family Proceedings Act which replaced the existing 3 year bar on divorce with a one year bar, and seems to have had a long lasting impact on women under 20 years.

Trends for both males and females are shown in Figure 7-8 and Figure 7-9 and although some differences in absolute rates are seen in certain age groups, the overall patterns are broadly similar. Therefore the following discussion will focus on age-specific rates among females. For those who are under 20 years of age at the time of divorce, over the time period rates are available, female divorce rates increase by 6.2

percentage points between 1960 and 2008, with increases up to 1990, followed by decreases from then onwards. A significant peak is seen around 1985–86 which, as already mentioned, is likely due in part to the introduction of the 1984 Matrimonial and Family Proceedings Act. For the 20–24 year age group, females show small increases in divorce rate initially but increases become greater between 1970–80 (+17.4 percentage points), with decreases seen between 1990–2008. Overall increases across the time period are 20.8 percentage points for females. 25–29 year old women also show their largest increase of 15.5 percentage points between 1970 and 1980, and have decreases from 1990–2000 onwards. Overall increases for females of 19.9 percentage points are seen from 1950 to 2008. Females aged 30–34 years show the same trend in divorce rates as the 25-29 year age group, although they only show a decrease in rates from 2000–2008. Likewise, the largest increases are again seen between 1970 and 1980 (+11.4 percentage points respectively), with overall increases seen of 17.6 percentage points respectively. Among the 35–39 and 40–44 year olds, similar trends as in previous age groups are seen, although decreases in rates are only seen from 2000-2008. Overall increases across the period examined are 16.4 and 15.5 percentage points for each period respectively. In the 45–49 and 50–59 year old age groups, no decrease in divorce rates are seen in recent years as in the younger age groups, however the 45–49 year group still shows its greatest increases between 1970 and 1980. 50–59 year olds show consistent but smaller increases over the time period. Finally those 60 years and over consistently show minimal increases over the time period, which are largely balanced by decreases. Overall the divorce rate for females increased by just 1.4 percentage points from 1950 to 2008.

As discussed, all age groups show some increases over the time period examined, but no single specific age group stands out as having significantly higher increases than the other groups. The oldest age groups stand out as having consistently low rates of divorce. This low trend among the older age groups reflects long marriage durations and is likely to be a selection effect as older people with marriages still intact are less likely to see those marriages break down. This would suggest that no single particular age group is primarily responsible for driving the overall increase in divorce rates from 1950. In general, similar trends are seen in men and women, with both sexes showing large increases from the early 1970's.

7.8 Economic activity among married women in England and Wales

The second stage in addressing the question of whether the economic activity of married women is associated with changing levels of divorce is to compile similar time trends in economic activity rates for these women. First, however, as in the case of divorce, it is important to have an understanding of the history of women's economic activity.

Contemporary studies of the relationship between female employment and divorce often imply an assumption that the entry of married women into the labour force is a recent phenomenon or trend. A review of research into female employment suggests, however, that this assumption is inaccurate. It is suggested that it was commonplace for married women to work prior to the 19th century, and that women withdrew from the labour force from this point, with increases seen from World War II. Therefore it is useful in this context to attempt a history of the economic activity of married women. As with the history of divorce, this is not intended to be a comprehensive history, but rather an attempt to understand when and why married women work.

This study proposes that, as will be shown in the literature discussed in this section, economic activity among married women (and perhaps for women in general) has gone through a three stage process. Around the 18th and early 19th centuries women were seen to contribute to the family economy in a number of ways. From the mid-19th century, with the emergence of ideals about gender roles, married women spent less time in the labour market before starting to re-enter the labour market around the early- to mid-20th century. The progression between each stage is perhaps directed by a number of forces of change, as in the case of divorce: for example, social change, economic change or pressures and cultural shifts. Arguably, different forces for change are at play during different stages of women's economic history. The following economic history will be organised along the lines of the above three stage progression, with discussion of the predominant forces for change at play during that period of time. Data relating to employment among married women specifically is often scarce, so much of the literature discussed here relates to all women. Some sources

may also refer to women from different social classes. Again, this is unavoidable due to limited data availability.

7.8.1 Women as contributors to the family economy

Historians write that during the 17th and 18th centuries many working class women worked, perhaps due to economic necessity because the wages earned by men were often insufficient to support families (Berg, 1991; Roberts, 1988; Hudson & Lee, 1990), with Anderson (1995) suggesting that married women played a key role in meeting the economic needs of the family. Women were often concentrated in industries such as domestic service, textile and clothing industries and food industries (Anderson, 1995; Roberts, 1988; Hudson & Lee, 1990; Berg, 1991). Goldin and Sokoloff (1982:753) suggest that in the United States 75.2% of employees in cotton firms were female. Another reason discussed for the high level of labour force participation of women during this period was their value to employers. Women were often concentrated in low skilled occupations and therefore cheaper (Valenze , 1995; Roberts, 1988; Goldin & Sokoloff, 1982). Hudson and Lee (1990) also add that women were often better able to adopt new working methods. Berg (1991) suggests that women were an important source of child labour which was also valued as cheap labour. Another important point raised by Valenze (1995) is that women were generally excluded from trade unions so were more likely to accept poorer working conditions. Accurate historical data on female labour force participation is difficult to obtain, a point highlighted by Horrell and Humphries (1995), as early censuses did not accurately measure female employment. Horrell and Humphries (1995: 98, table 1) used alternative sources of data such as household budgets and local archives to calculate participation rates by area and industry ranging, as seen in Table 7-3.

Table 7-3 Summary of trends in married women's participation rates (defined as having either a recorded occupation or non-zero earnings) in Britain, Horrell & Humphries, 1995

	High-wage agriculture	Low-wage agriculture	Mining	Factory	Outwork	Trade	Casual	All
1787-1815	54.8	84.9	40.0	36.8	45.5	62.5	100.0	65.7
1816-1820	34.2	n/a	27.8	4.2	41.9	30.0	66.7	49.4
1821-1840	22.2	84.6	33.3	85.7	54.3	62.5	66.7	61.7
1841-1845	40.0	55.6	9.4	100.0	72.7	100.0	0.0	57.5
1846-1865	47.8	63.0	0.00	100.0	69.1	42.9	n/a	45.3

These data show that participation rates ranged from 65.7% in 1787–1815 to 45.3% in 1846–1865, with particularly high rates ranging from 84.9 in 1787–1815 to 55.6 in 1841–1851 in low-wage agriculture. Due to the small sample sizes in their study, however, these statistics must be viewed with caution.

7.8.2 The breadwinner ideal emerges

Despite high participation rates, writers suggest that from around 1840 participation rates began to fall and a withdrawal of women from the labour force can be hypothesised. A number of ideas have been put forward to explain this withdrawal (Goldin & Sokoloff, 1982; Horrell & Humphries, 1995). These arguments suggest that cultural shifts in gender roles were occurring, although arguably such shifts may have been informed by economic motivations. One widely discussed argument centres around the emergence of the breadwinner/housewife model and the rise of Victorian respectability in the late 19th and early 20th centuries (Lewis, 1985) both in the UK and the US. The breadwinner/housewife model is often assumed to be the traditional way of family life but Davis (1984) suggests that actually this was a fairly short-term phenomenon which in the United States was particularly dominant between 1860–1920, although it would appear to have lasted for a longer period in the UK. Clark (2000) gives a particularly detailed account of the emerging breadwinner model in the UK. Clark (2000) suggests that around the 1840's/50's, although it was accepted that women who had lost a husband through death or desertion should provide for themselves, men were increasingly expected to be able to support their families alone. This view was encouraged by trade unions and moralists who believed that married women in the work place were "pernicious to family morality and social stability" (Clark,

2000: 268), although it may be more that, as Valenze (1995) suggests, female wages were lower and so were taking jobs from men. Public policy also played a part in consolidating these emerging ideals, and the role of men as breadwinners emerged as a mark of respectability around the 1870's to 1890's (Clark, 2000). Poor Law policies aimed to "draw a line between the respectable, who could be potentially be breadwinners, and the rough, who lacked respectability" (Clark, 2000: 272) whilst the Unemployment Assistance Board withheld unemployment benefits from men who could not prove that all family members were without income, meaning women working would prevent any State assistance (Hunt, 1968).

Male identities had become determined by their ability to provide for their families without help from the State or their wives. A speech by Henry Broadhurst at the 1877 Trades Union Congress quoted by Simonton (1998: 174) sums this philosophy up: "It was their duties as men and husbands to use their utmost efforts to bring about a condition of things, where their wives could be in their proper sphere at home, instead of being dragged into competition for livelihood against the great and strong men of the world", an expectation that must have weighed heavily on many working-class men. The idea that married women working was detrimental to society was also expressed in 1906 when the Labour party suggested that women withdrawing from the labour market would mean more jobs for men, especially where unemployment was high, and that women remaining in the home would "improve the domestic health of working-class families" (Clark, 2000: 273), something also discussed by Valenze (1995). Later, in the early 20th century, marriage bars were enforced meaning that many employers would not employ married women and would require women to leave their jobs upon marriage (Hunt, 1968).

Humphries (1987) also developed a theory about lower levels of female participation in the labour market in the UK around the mid-1800's to the early 1900's, which complements the above ideas but focuses on the desire to regulate the sexual behaviour of women. Humphries (1987) argues that in the UK, while industries existed that enabled families to work together and to watch over the behaviour of young, unmarried women, women working did not pose a threat. Once industries changed, however, and work and family life were no longer so easy to combine, young women were increasingly employed away from direct family supervision and concerns grew about potential temptations. Moralistic views became widely expressed with one Sub-Commissioner of one mine was quoted as likening "the underground of a coal mine to

a brothel" and opinion among miners that women were susceptible to moral corruption (Humphries, 1987: 938), although they were all opposed to women working in cleaner, more respectable jobs. The fears over moral decline and loss of control over sexual behaviour among women meant, as Humphries (1987: 947) writes, that "families began withdrawing their women from wage labour if they could afford to do so". This withdrawal began in the middle-classes but spread to the working-classes. Whichever explanation is adopted, it is accepted that "by the 1830's and 1840's, the wage-earning wife, once seen as the norm in every working-class household, had become a symptom and symbol of masculine degradation" (Valenze, 1995: 102).

7.8.3 Women as paid employees

Economic activity rates for married women in England and Wales remained low through the start of the twentieth century, but data presented by Gales and Marks (1974) shows some significant increases from 1931, suggesting increasing numbers of married women in the labour force. Much of the literature around these increases in the UK suggests an economic motivation, although some cultural shifts are seen, maybe as a result of changes to economic activity among married women. Many studies have suggested that World War II played a key part in increasing participation rates. Goldin (1991: 750) found in the US that wives often started work due to the financial pressures of their husband being absent with 55% of those whose husband was absent working, compared with 24.7% of those whose husband was present. Participation rates were also found to have increased because of a sense of duty for their country.

Economic activity rates are not available for the UK for the war period which makes assessing the immediate and long-term impact of the war on female employment difficult; however, Hart's (2009) discussion of the employment of women during World War II in the UK highlights the factors that led to increased participation during the war. The immediate effect of war was, as Hart (2009: 1) states, that around 4 million men were conscripted to fight, with an additional 530,000 involved in auxiliary and defence roles. This, coupled with an increased demand for war supplies, led to shortages in the supply of labour which had to be addressed (Hart, 2009). Hart (2009:1) states that such shortages were addressed by the employment of around 2.2 million women in war-related industries, initially on a voluntary basis by women who felt it was their duty or who were in need of additional income. Problems arose as voluntary labour supplies

were insufficient, so by 1941 the Government had made it compulsory for women to be available for work (Hart, 2009). This was done via the Registration for Employment Order in March 1941 which meant that 11.8 million women of working age had to register as available to work (Hart, 2009: 5).

Not all women who were drafted into war-related work stayed in the labour market after the end of the war. Goldin (1991) concluded that although in the US some women lost their jobs when the war ended, those who retained their jobs generally stayed in the labour force. Goldin (1991) suggests, however, that despite the effect of World War II, increases in participation in the US at least were more likely due to a return to traditional family values after the disruption of the war; this meant that fewer young wives were employed which in turn meant that more jobs were available for older wives. In a study of trends in employment in the UK, Simonton (1998) takes a slightly different approach by focusing on the changes that war work had on attitudes. She suggests that both world wars gave women the chance to do work from which they had previously been excluded. This exposed them to new experiences thus increasing their confidence and a "belief in a right to work" (Simonton, 1991: 187).

Despite these sentiments, ideals of women remaining at home persisted in the UK and women were expected to return to the home at the end of World War II (Hunt , 1988). Indeed via the Reinstatement of Civil Employment Act of 1944, men who returned to civilian life after the war had been guaranteed their pre-war positions back, which meant that far fewer jobs were available to women (Hart, 2009: 10). It is also suggested that many women left the labour market after the war voluntarily as they wished to return to domestic life, often due to desire to start or increase their families (Hart, 2009). Hubback (1947), writing after the end of World War II, reflected this belief by suggesting that the proportion of married women who work would not increase, a belief that statistics have since proved to be incorrect. She further claimed that women did not want to work after marriage, stating that "I do not think that I have ever met one woman among the whole lot who liked to contemplate the idea of returning to any sort of paid work after marriage. Earning the family income was, they said, the husband's affair – their own economic independence did not seem to them of any importance" (Hubback, 1947: 83). This strong statement is contrasted with Lewis's (1985: 3) discussion of two autobiographies by women after World War II from which she concludes that "neither was able comfortably to settle back into their previous stultifying domestic routines". Although Lewis (1992, 1984) suggests that the impact of wartime

work varied, those with mundane jobs were not so keen to continue after war. Poor childcare provision was also a problem in the post-war period, which may have deterred some women from continuing to work. Lewis (1992) discusses the role of nursery closures after the war in enhancing the ideology around a mother's place being in the home. This was further compounded by researchers such as John Bowlby who, in the 1940's onwards, looked at the problems experienced by children who were deprived of maternal attention and made links between this and delinquency. Working mothers thus became seen as detrimental to child health and development.

Whether World War II had a lasting impact on the employment of women is unclear. Statistics quoted by Hart (2009) suggest that whilst the proportion of women in the labour force in various industries decreased immediately after the end of the war, they remained higher than during the pre-war period. For example, women made up 15.4% of the labour force in metal industries in June 1939. This increased to 35.1% in June 1943 and 32.2% in June 1945 but reduced to 22.6% in December 1946, still 7.2 percentage points higher than before the war (Hart, 2009: 32). Likewise, in local government jobs, women made up 38.5% of the work force in June 1939, 57.3% in June 1943 and 47.3% in December 1946 (Hart, 2009: 32). Hart (2009) also suggests that women's work during the war impacted on the ratio between male and female wages, with ratios increasing during the war period. Although Hart (2009: 15) states that ratios fell by 30% by 1951, such ratios were still higher than prior to the war. A potential shortage of labour in the post-war period led to the Ministry of Labour asking women to work wherever possible to cover shortfalls in labour, such as that in 1948–49 when 6000 teachers were needed but only 4000 were available (Lewis, 1992: 72; Lewis, 1984: 152). Glynn and Booth (1996) also suggest that the economic climate after World War II meant more jobs were available than could be met by the existing labour force, so married women became an additional labour resource.

Such impediments to economic activity for married women as marriage bars were also phased out during the 1940's and 1950's, with marriage bars removed in teaching in 1944 and in 1946 for the civil services (Land , 1999). Also, National Service, which removed many men from the labour force during the war, did not stop until the late 1950's so there was still a need to fill shortages caused by the removal of men from the labour force (Land, 1999). Therefore Lewis (1992) argues that the demand for additional labour resources was a strong influence on increasing female employment.

Whatever the impact of the world wars, in the UK the proportion of women in the labour force that were married had increased from 13% in 1901 to 40% in 1950 (Lewis, 1984: 152 table 8) and to 63.8% by 1971 (Gales & Marks, 1974: 63, table 1). Continuing increases may have been due to a number of factors. Increases were facilitated by increases in the service sector and in part-time work both in the US and the UK (Goldin, 2006; Lewis, 1992; Lewis 1984). Part-time work was a way to resolve the conflict of trying to balance the two separate roles of family and work (Land, 1999) and this was helped by The Factories (Evening Employment) Order of 1950 which introduced early evening shifts for women (Lewis, 1992: 72). Also Lewis (1992) suggests that more careers were becoming open to women as their education increased. Using US data, Goldin (2006) put forward the theory that as well as an increased number of married women in employment, changes had occurred in the meaning of work for women. She suggests that women have changed from seeing employment as simply a job that they did because they needed the money to it being a career which formed part of their identity, and that female cohorts after 1940 had a clearer, more realistic idea of what they could achieve. Thus they shifted their focus from marrying at young ages and forming their identities after marriage, to focusing more on their education and career, and forming their identities *before* finding a husband (Goldin, 2006).

Changing demographic trends also had an impact. For example, younger age at marriage and low birth rates reduced the numbers of school leavers and thus changed the pattern of available labour resources (Lewis, 1992). Rosenfeld (1996) suggests shortfalls in labour supply caused by early marriage encouraged older wives into the labour market in the US. As well as the impact of demographic changes on the available pool of workers, Anderson (1989) and Davis and Van den Oever (1982) suggest that such changes to age at marriage and life expectancy have impacted on the number of years that women have available for work. Davis and Van den Oever (1982: 507) suggest that, for example, if a women lives until she is 79.4 years and ends her childbearing by 30 years of age, then she will have on average 32.5 years of 'spare' time after her child leaves home at eighteen. This contrasts with Anderson's (1989: 2) estimation that a woman born in 1861 would have just 3 years of life remaining at the marriage of her youngest child. Therefore women are more likely to seek employment in the post-war period (Anderson, 1989).

Data presented by Gales & Marks (1973) and Joseph (1983) show that increases in economic activity among married women are primarily driven by older women. Increases are also being driven, according to Lindley 's (1994: 105) analysis of labour market statistics, by married mothers moving from full time work to part time work. Lindley (1994: 105) found that participation among married women with children had increased from 23% in 1971 to 38% in 1991, whilst those who were single with children, single without children and married without children working part-time had shown only minimal increases. Lewis's (2002) study of family change and Gales' and Marks' (1974) study of census data also found that women with children who worked part-time showed the greatest increase in participation rates. Lindley (1994) also quotes figures which show that participation rates among mothers increase as the age of the child increases, perhaps because, as Oppenheimer (1982) suggests, older children require less input in terms of time. It is likely, however, that the 1975 Employment Protection Act may have influenced women's decision making processes, as this Act gave women protection against losing their jobs upon pregnancy and gave them the right to return to their previous job and the right to maternity benefits, although initially the strict criteria for eligibility meant not all qualified (Lewis, 1992). Glynn and Booth (1996) suggest as women were leaving childbearing until later in life, more were likely to be working between marriage and their first birth.

Despite increasing participation rates among married women, some writers suggest that the breadwinner ideal had not disappeared completely in recent decades. Hunt's (1965) survey of women's employment found that women's decisions about whether to work were still influenced by their husbands. She found that among married women who stated that their husband minded or would mind them working, 47% of those were not working compared with 17.1% working full-time and 16.2% working part-time (Hunt, 1968: 279, table K4a), whilst among married women who were asked whether their husbands approve of wives working 45.7% of non-working wives stated their husbands would disapprove or strongly disapprove (Hunt, 1968: 282, table K5a). A later study by Arber and Ginn (1995) of equality in the work place also suggests that breadwinner ideals still persist. They suggest that women still bear the primary responsibility for maintaining the home and family even when they work full-time, which serves to restrict their career opportunities, thus reinforcing their "relative powerlessness in marriage" (Arber & Ginn, 1995: 23). Studies by McRae (1986, cited by Arber & Ginn, 1995) and Brannen (1911, cited in Arber & Ginn, 1995) suggest that women also support the

expected roles, seeing their jobs as secondary to that of their husbands and to their roles as mother and wife.

7.8.4 Attitudes towards economic activity among married women

In her study of divorce in industrialised countries, Lye (1989) found that attitudes towards married women working had changed over time. Polls examined by Lye (1989: 350) show that in 1938, 83% of men and 75% of women disapproved of wives working where the husband was able to support the family alone, but by 1986 disapproval was expressed by only 20% of men and 33% of women. A 1983 Eurobarometer poll discussed by Lye (1989: 351) found that both sexes viewed women's work as less important, with 59.5% of men and 65.5% of women believing that women had less right to a job than men when unemployment was high.

Another possible influence of married women's decisions on whether to work or not is the attitudes of their husbands and/or society towards the employment of wives and mothers outside the home. Audrey Hunt's 1964 survey of British women and employment addressed such an issue, asking married women whether they felt their husbands approved of wives working. This shows a clear relationship between husbands' attitudes and wives' employment status. 51.2% of women who worked full-time and 46% of those working part-time stated their husband approved or strongly approved of wives working, compared with 11.7% of women who worked full-time and 15.9% of those working part-time stating their husbands disapproved or strongly disapproved. This would suggest that at the time the survey was carried out, wives whose husbands disapproved of wives working were less likely to work.

More recent figures from the annual British Social Attitudes Survey suggest that attitudes towards roles within the family have changed. The survey has included questions relating to the roles of men and women within the family. One such question asks whether a person agrees with the statement "a man's job is to earn money, a woman's job is to look after the family".

Figure 7-10 "A man's job is to earn money, a woman's job is to look after the family", percentage of women who agree by age group, British Social Attitudes Survey 1990-2006

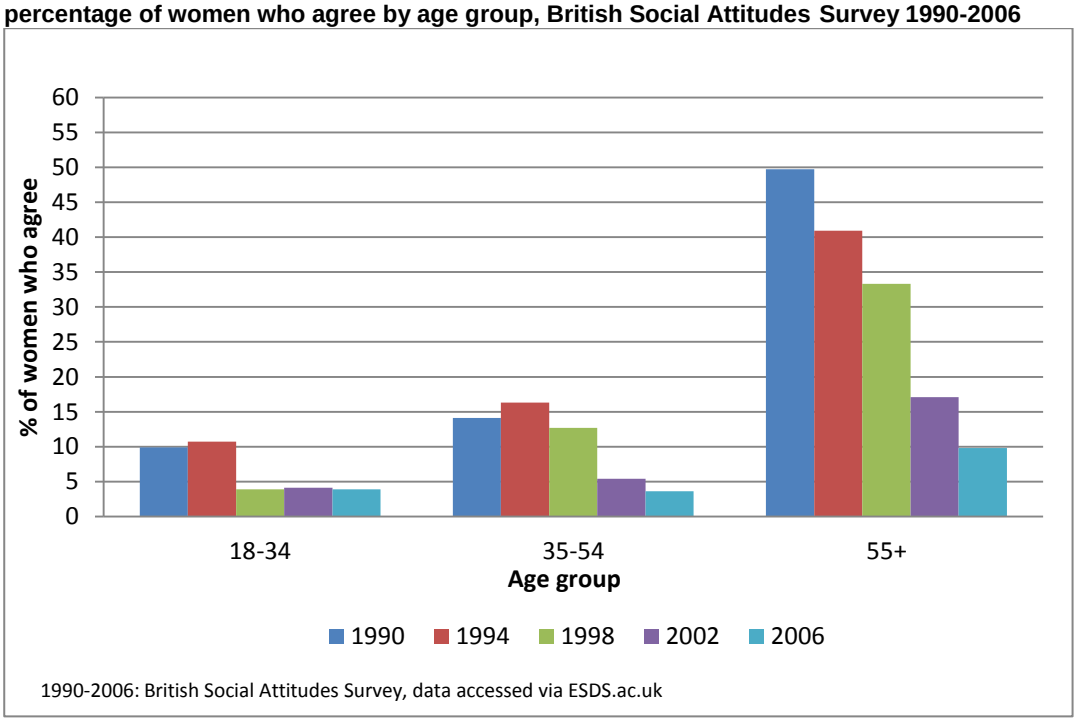


Figure 7-10 shows that there is declining agreement with the statement over time. At each survey, the younger age group 18-34 years show the lowest level of agreement. The interesting thing to note here is that among adults aged 55+ years in 1990 almost 50% agreed with this statement, by 2006 the percentage of people in this age group had fallen to 9.8%. This may suggest that support for the 'breadwinner' model may be declining over time, perhaps because it is no longer sustainable where dual incomes are needed.

7.8.5 The changing relationship between employment and child bearing

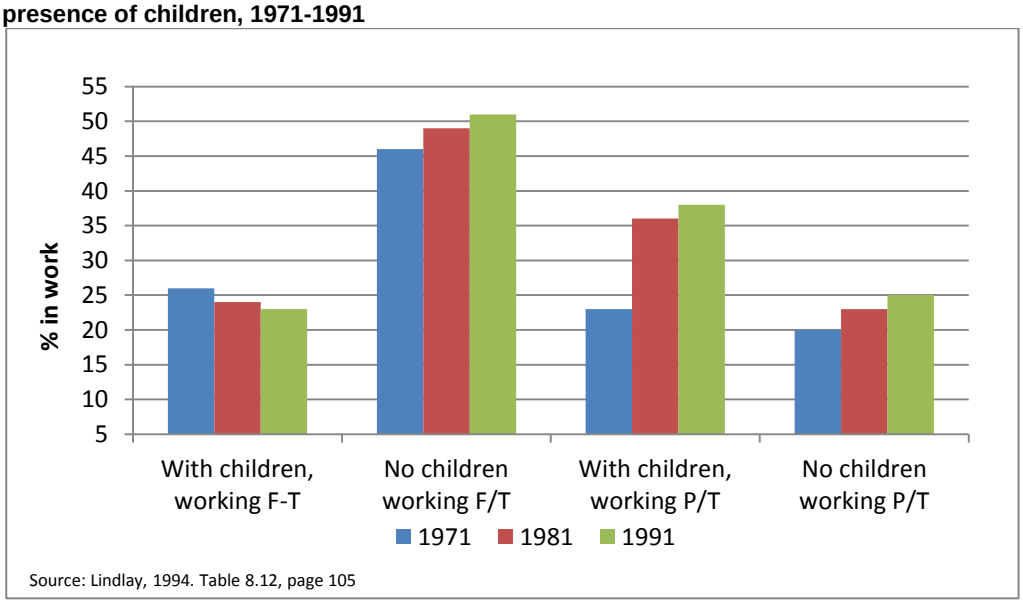
Another important change to note that was identified in section 2.6.4 is the relationship between a woman's economic behaviour and her childbearing behaviour. We often take it for granted that if a woman has young children, she is less likely to work and the studies discussed in section 2.6.4 are consistent with this assumption. However this has not always been the case. In the 19th century child labour was commonplace and so the relationship between a woman's economic activity and childbearing was very different. Among the working classes, male incomes were often not sufficient to support

their families and so the household income was supplemented by wives and children taking on paid work (Horrell & Humphries, 1995; 1997). In contrast to the more recent findings discussed in section 2.6.4 and in the more recent data that will be discussed later in this section, Horrell and Humphries (1995; 1997) found that in the 19th century a woman was more likely to work if she had very young children. Their analyses of household budgets found that having children under the age of two increased the likelihood of a woman working whilst the number of children was negatively associated with this likelihood. The reason behind this trend Horrell and Humphries (1995; 1997) suggest, is that where the husbands income was insufficient, further sources of income were necessary for the families survival. So when her children were very young a woman was required to work, but as her children became old enough to take on paid work, they replaced their mothers in the work force (Horrell & Humphries, 1995; 1997). However, along with increasing concerns about child welfare, a succession of child employment laws meant that children were withdrawn from the labour market and families lost their contribution to the household finances. Increasing labour market participation among women since the early 20th century has already been discussed in the previous sections, but have similar changes been seen in the economic activity of mothers? Rosenfeld (1996: 203) suggests that this is the case, at least in the US, with economic activity among married women with children under 6 years of age increasing from 11.9% in 1950 to 59.9% in 1992, the same level as all wives.

Prior to World War II, in Britain, it was primarily working class mothers who were in employment, however the gap between the classes began to decline and by the 1980's children were the main factor in whether women worked (Joshi, 2002). At this time women with very young children were mainly engaged in family care and those with school age children were largely employed part-time. By the 1990's, due in part to a widening range of work patterns such as flexi-time, shift work and part-time hours, the majority of women with children under 4 years were working, with around two thirds of these returning to work less than one year after the birth (Joshi, 2002).

Data collected for an Equal Opportunities study by Lindlay (1994) show these increases in economic activity among mothers in recent decades in more detail.

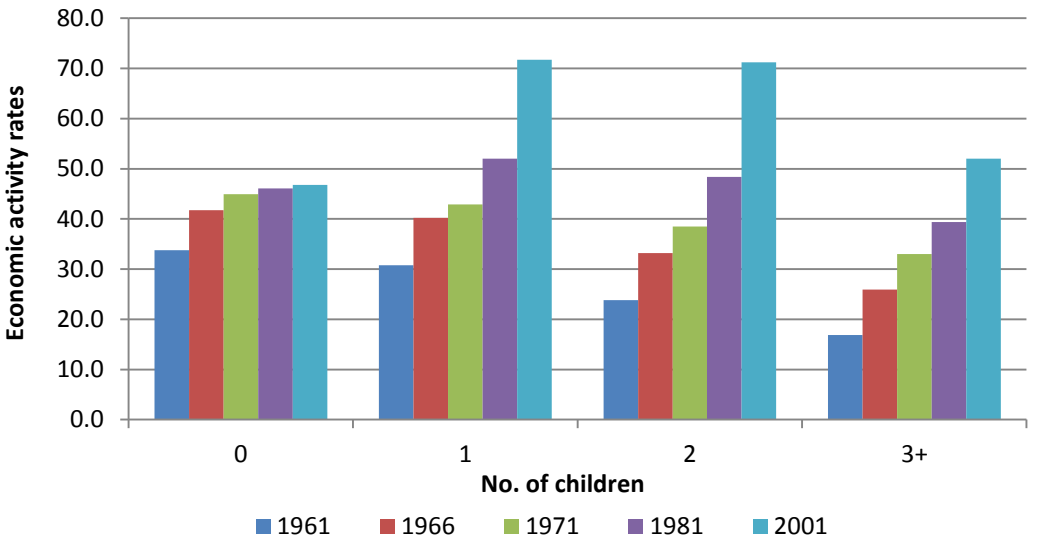
Figure 7-11 Percentage of married women in Great Britain by work status and presence of children, 1971-1991



Source: Lindlay, 1994. Table 8.12, page 105

Figure 7-11 shows the percentage of married women who work full or part time by the presence of children. Unsurprisingly the graph shows that married women without children have larger proportions in both full and part time work than those with children. One thing that the graph shows is that the main increases are seen among married women with children who work part-time, especially been 1971 and 1981 when the economic activity rate increased from 23% to 36%.

Figure 7-12 Economic activity rates of married women by number of dependent children, England and Wales 1961-2001



Source: 1961: Census 1961 Household Compostition Tables, table 41; 1966: Sample Census 1966 Household Composition Tables, table 29; 1971: Census 1971 Household Composition Tables Part III, table 53; 1981 Labour Force Survey; 2001 data extracted from the ONS Longitudinal Study June 2010

Figure 7-12 shows economic activity for married women in England and Wales with at least one child. Economic activity has increased at every time point, especially among those with 2 or more children. Among those with no dependent children, economic activity increased between 1961 and 1966 by 13 percentage points, but little change is seen beyond this time. Also by 2001, economic activity among married women with 1 child has increased from 30.1% in 1996 to 71.7%, so has more than doubled. Economic activity has more than trebled for those with 2 children, whilst among those with 3 children it has increased by 33.6 percentage points. However, from 1971 onwards, this category also includes women with 3 or more children as well, so it is not strictly comparable between 1966 and 1971. Economic activity rates for married mothers with 4, 5 or more children is only available here for 1961 and 1966, but both groups show increases. From these data it appears that the greatest increases are seen in married mothers who have 2 children. Also those with children are more likely to work by 2001 than those with no dependent children. This might possibly be an artefact of these women being older with children who have left home, so they might be of retirement age.

So it is clear that a greater proportion of women with children are working, but there are also other changes in the economic behaviour of mothers. A comparison of three separate birth cohorts (1946, 1958 and 1970) by Joshi (2002) has highlighted two such

interesting trends. Firstly she identifies a trend of delaying entry into motherhood. By the age of 26 years, just over two thirds of women in the 1946 cohort were mothers compared to just under a third of the 1970 cohort, although timing of first births varies by educational level with the most qualified starting their childbearing later (Joshi, 2002: 449).

The cohort data also showed changing trends in the time taken to return to work after a first birth. The mothers of the women born in 1946 took a median of 8 years to return to work compared with 5.5 years for their daughters and 2.2 years for the women in the 1958 birth cohort (Joshi, 2002: 449). At the time of her study, it was too early to determine the length of time women in the 1970 cohort took to return to work after their first birth, however Joshi (2002) estimates that they will take less than a year to return to work. She suggests that this may be due in part to the financial disadvantage associated with remaining outside the labour market for too long. Her study estimated that women who took more than one year off saw their wages drop to just under a fifth lower than women with children and mothers who had returned within the first year after the first birth (Joshi, 2002: 451).

Attachment to the labour market also appears to have been growing stronger. Joshi's (2002) measure of labour market attachment among women born in 1922 to 1970 showed a steady and consistent increase and this increased attachment may be contributing to the trend of accelerated childbearing identified by Ni Bhrolchain (1986). In the early Post World War II period, it was unusual for women to work in between their births so long birth intervals meant that women were out of the labour market for a relatively long time period. As seen in Joshi's (2002) study, this can have a negative impact on women's' earnings. One strategy which appears to have been adopted to enable a quicker return to work is to shortened birth intervals. By looking at the birth intervals of the mothers in the 1946 birth cohort, Ni Bhrolchain (1986) found that birth intervals were, on average, 4.4 months shorter for women who intended to return to work. So it appears that not only has women's economic behaviour changed, but the interaction between their economic activity and their childbearing has seen some changes.

7.9 Time trends in economic activity

7.9.1 Data sources

As this research is investigating the link between divorce and female labour force participation, economic activity rates have been sought for married women. There is no single source which provides economic activity rates across the entire time period of interest, so information has been collated from a number of different sources. This presents some problems as different sources may use a different measure of economic activity and care must be taken not to assume comparability of data without careful consideration of the methods used for each study. Another potential weakness of compiling a time-series using different sources is that different sources use different age ranges when calculating participation rates. For example the Labour Force Survey uses rates for women of working age and for women of 16 years and over; the 1974 Women and Work Survey includes women aged 15 and over whilst Joseph's statistics for married women includes women aged 10 and over. Care has been taken when compiling a time series using these data.

Accurate historical data on female labour force participation is difficult to obtain, a point highlighted by Horrell and Humphries (1995), who argue that early censuses underestimated female employment. In particular they suggest that the 1841 Census did not record the employment status of wives. Subsequent censuses, they note, whilst recording wives' occupations, often underestimated the level of employment for a number of reasons. One reason suggested for this was the contradictory and inconsistent instructions for how and indeed if women's work should be classified (Hall, 1990). This view is by no means universally accepted, for example some suggest that actually in certain occupations wives were fully accounted for and that in other occupations, wives may in fact be over-counted (Hatton & Bailey, 2001).

With these limitations of early data in mind, economic activity rates have been calculated using census reports for 1911 to 2001, by calculating the proportion of married women who were employed as a percentage of all married women. Age-specific rates have been calculated using the same calculation, but this was only possible from 1921 due to incompatible age groups being used in the 1911 census report. Also, for age-specific economic activity rates for 2001, data has been requested

from the Longitudinal Study as information was not available in the published reports that allowed analysis to be carried out by age group.

7.9.2 Data limitations

As with any data source, the censuses have some limitations. Firstly, censuses are only carried out every ten years, and a census was not carried out in 1941 due to World War II. This means that there is a large time interval between 1931 and 1951. Data with such large time intervals will generally produce a relatively smooth trend line and therefore potentially a great deal of detail may be lost. For example, if a key piece of legislation or a key event occurred mid-way through the census period, any short-term peaks in economic activity rates will not show in the overall trends.

Although the census is a consistent feature of British life, the style and content of the census questions have undergone many changes, which may arguably have some effect on the responses gained. Questions relating to economic activity are no exception, and changes in the way questions are formulated should be considered when comparing such data over time. A table showing the exact wording of the economic activity questions is included in the appendices. In the censuses from 1921 to 1951, the questions relating to economic activity were similar although the exact wording differed, and in all three censuses guidance was given on how women should record their activity. In 1921 the instructions stated that wives "mainly occupied in unpaid domestic duties at home, [should] write 'Home Duties'" as their occupation; in 1931 the instructions were that "no entry should be made…for wives or other relatives chiefly occupied in unpaid domestic duties at home"; whilst in 1951 the instruction was "for anyone chiefly occupied in unpaid domestic duties at home, write 'Home duties'". This may have potentially led to an underestimation of economic activity among married women as those who only worked a few hours a week, did casual work or who worked intermittently would record themselves as not having an occupation. It is in the 1931 schedule that the wording "for payment or profit" was introduced, which continued up to and including 1981 (with the exception of 1961 and 1971). Selected censuses also request that those who are engaged in unpaid work in a family business should record that work as an occupation.

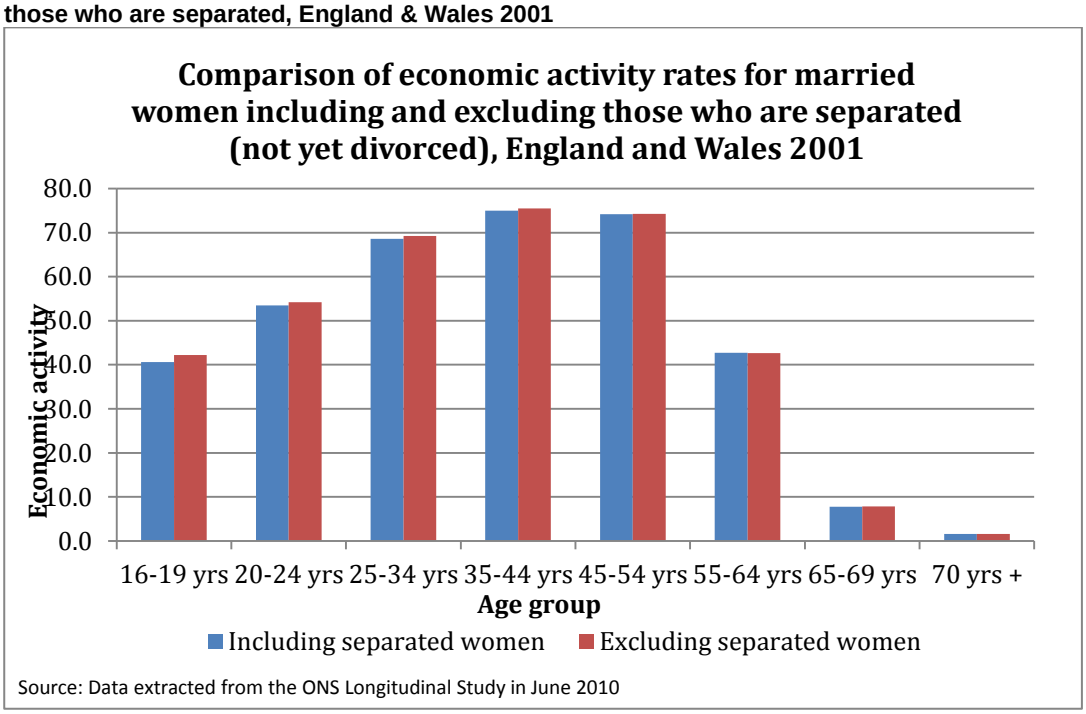
In 1961 the wording and definition changes quite significantly. The question is now asking about "persons who in the week ending 22nd April 1961, were in employment at

any time (including any part-time or casual employment), whether or not actually at work". The instructions state that those absent from work that particular week due to annual leave, sickness or strikes should still record themselves as working. The same applies for jobs that are "just for a few hours, for example a wife helping in her husband's shop", although unlike in 1951, the instructions do not specifically state if this includes unpaid help. It is not clear how much of an impact this change may have had on the responses gained, however. Questions in 1971 and 1981 remain relatively unchanged in wording, with the exception that the 1981 schedule does not specifically state whether work in a family business may be unpaid. The way the question is worded might suggest that unpaid help should not be recorded as an occupation. By the 1991 census, the wording "even if only for a few hours" has been replaced with a more specific instruction to record any part-time work that equates to one hour a week or more, which is continued in the 2001 census. In 2001, an additional eligible reason for being absent from work in the specified week is added, that of maternity leave, whilst "strikes" has been removed perhaps because by that time large scale strike action was not seen as frequently as in other decades.

In terms of marital status, those women who were separated but not yet legally divorced were asked to record themselves as married. Therefore, economic activity rates for married women calculated from census data will also include women who are separated. It is not clear what effect this has on economic activity rates. A distinct category for "separated" was only added to the census schedule in 2001, so it should be possible, for this year at least, to examine how much difference exists between economic activity rates including those who are separated and rates that include married women only. Some proxy measure could be requested from the Longitudinal Study using data on households with a wife present but no husband present for 1971, 1981 and 1991 although this will not be a strictly accurate measure as it could potentially include households where the husband is away from the household temporarily, for example if they are in the forces or regularly work away from the main household. However, census data for 2001 obtained from the ONS Longitudinal Study in June 2010 can yield data for those women who are separated but not yet divorced. Therefore this allows a comparison to be made of economic activity rates for married women including those who are separated (as per previous years) and also excluding those who are separated to see how much the inclusion of such women may affect the rates obtained. The data presented in Figure 7-13 below suggests that for 2001 at

least, the inclusion of women who are separated in the category ‘Married’ has very little impact on the economic activity rates obtained.

Figure 7-13 Comparison of economic activity rates for married women including & excluding those who are separated, England & Wales 2001



Source: Data extracted from the ONS Longitudinal Study in June 2010

Therefore for 2001, those women who are separated will be included to keep the economic activity rates as comparable over time as possible. A table showing the full details of the marital status questions from the census schedules are included in the appendices.

7.9.3 Economic activity rates for married women

Figure 7-14 Economic activity for married women in England & Wales, 1911-2001

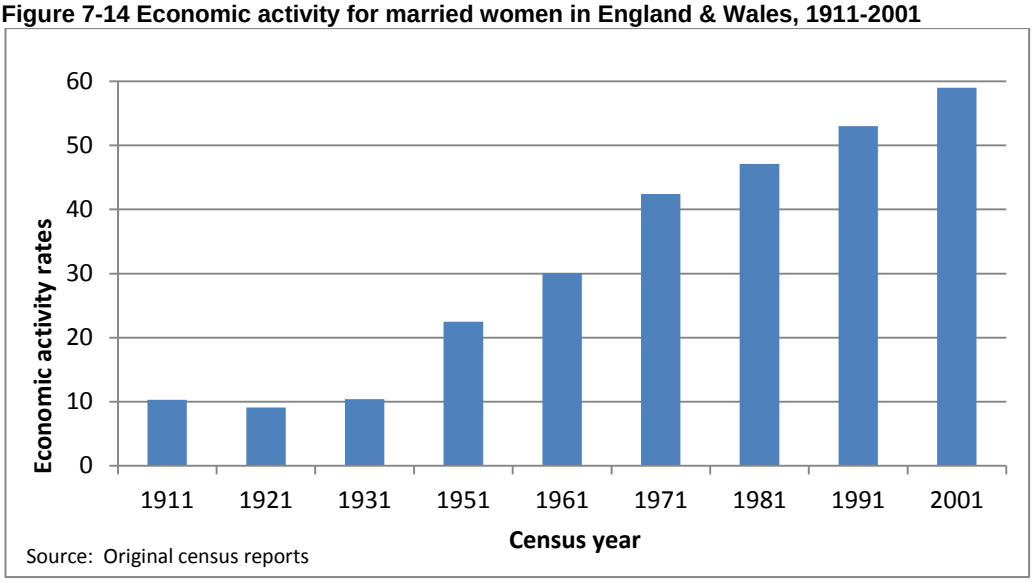


Figure 7-14 shows economic activity rates for married women of all ages and is compiled using data obtained from original census reports from 1991 to 2001. The graph shows a consistent, low level of economic activity among married women between 1911 and 1931, and then sharp increases are seen between 1931 and 1951, followed by a steady upward trend in economic activity up to the last time point of 2001. It is possible that the initial upward trend between 1931 and 1951 may be due, at least in part, to the impact of wartime employment on subsequent economic activity of women. It is not possible, however, to accurately determine whether women's war time work had a lasting effect on levels of economic activity.

This trend would be expected if one accepts the "breadwinner" model that suggests that prior to the mid-20th century it was not common for wives to work outside the home. However studies suggest that this breadwinner model may not hold if earlier data is examined. Due to the disputed nature of early data for economic activity among married women, only data from the 1911 census onwards will be discussed further. It is important to be aware of what is suggested by early data, however, especially when examining theories that are based on an underlying assumption that prior to the 1930's the employment of wives outside the home was not the norm. For this purpose Table 7-4 includes earlier data which was compiled by Horrell and Humphries in their 1995

article. This data was collected from sources such as household budgets and local records and show a different story to the previous graph and seems to suggest that the ideal of the wife and mother staying at home may not be the traditional arrangement, as is often assumed in academic literature and in popular commentary. These time periods are well before divorce is at all relevant, but for interest the data is presented here.

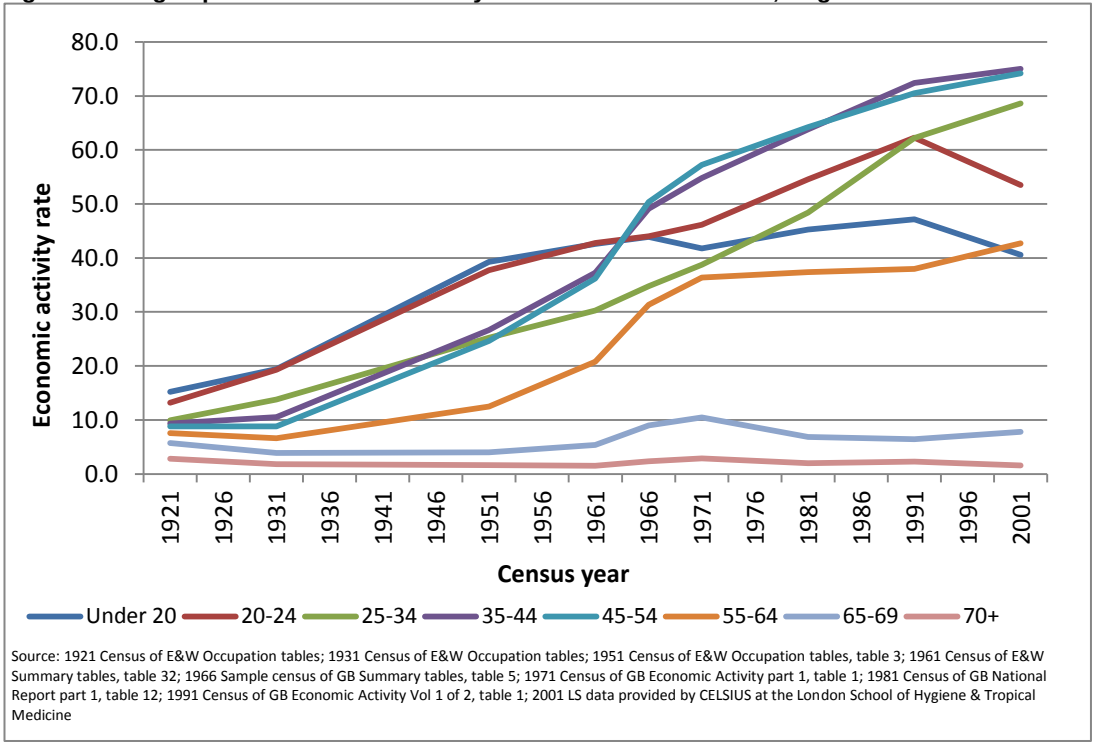
Table 7-4 Economic activity rates for married women

Year	Economic activity rate	Source
1787-1815	65.7	Horrell & Humphries
1816-20	49.4	Horrell & Humphries
1821-40	61.7	Horrell & Humphries
1841-45	57.5	Horrell & Humphries
1846-65	45.3	Horrell & Humphries

7.9.4 Age-specific economic activity rates

As with divorce rates, it is desirable to examine whether a particular group of wives is primarily driving the upward trend in economic activity or whether consistent, equal upward trends are seen for all age groups. Using census data, it is possible to obtain age-specific economic activity rates for married women from 1921 onwards. Although overall economic activity rates are available from 1911, the age groupings used at each census vary therefore it has only been possible to obtain age-specific rates for comparable age groups from 1921. There is one inconsistency in 1931, when under 21 and 21-24 years have been used instead of under 20 and 20–24 years which were used in all other censuses. However the rates produced do not show any inconsistency which would suggest that these differences do not have a significant impact on the economic activity rates for either age group.

Figure 7-15 Age-specific economic activity rates for married women, England & Wales 1921-2001



Source: 1921 Census of E&W Occupation tables; 1931 Census of E&W Occupation tables; 1951 Census of E&W Occupation tables, table 3; 1961 Census of E&W Summary tables, table 32; 1966 Sample census of GB Summary tables, table 5; 1971 Census of GB Economic Activity part 1, table 1; 1981 Census of GB National Report part 1, table 12; 1991 Census of GB Economic Activity Vol 1 of 2, table 1; 2001 LS data provided by CELSIUS at the London School of Hygiene & Tropical Medicine

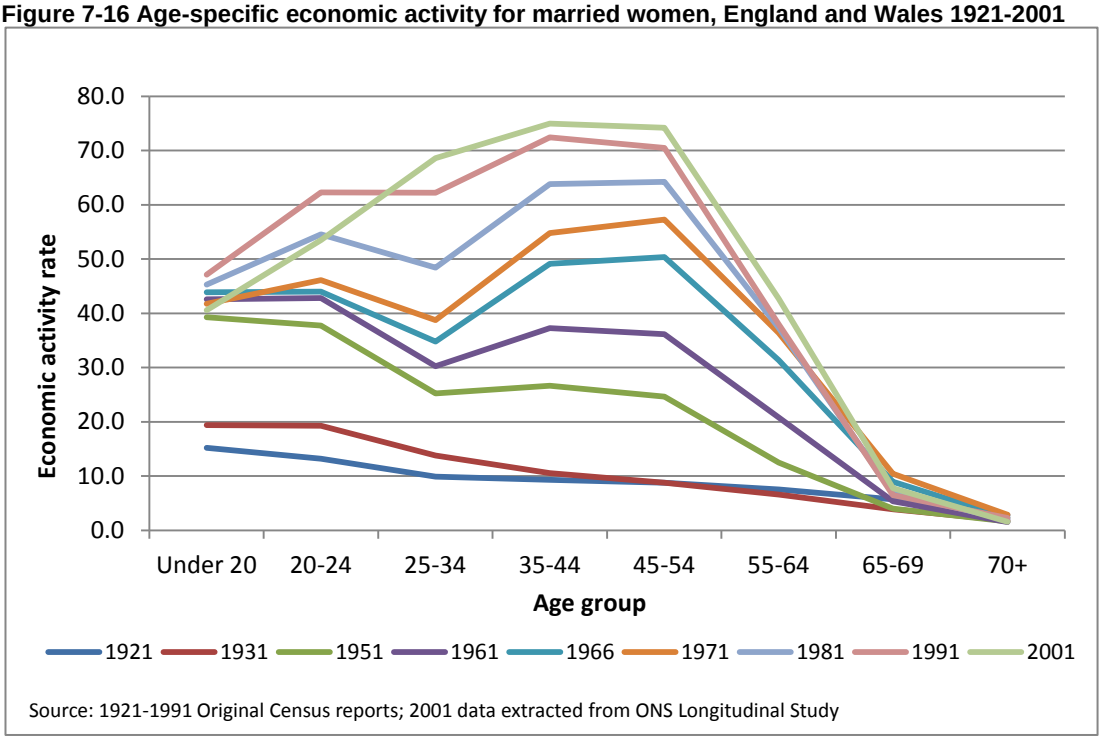
In 1921 and 1931 there is a clear inverse relationship between age and economic activity with the economic activity rates increasing as age decreases with small, consistent gaps between the age groups. From 1931 two changes occur: Firstly a notable gap emerges between the eldest two age groups, 65–69 years and 70+ years, and the younger age groups with the gap increasing from 1.9 percentage points between the 55–64 and 65–69 age groups in 1921, to 34.9 percentage points by 2001. The second change is that all groups (bar the eldest two) start to show significant increases. Between 1931 and 1951 all age groups show steep increases in economic activity, although as this spans a 20 year period with only two data points it is not possible to pinpoint exactly when this steep increase begins to occur. However there are a number of differences in how these increases occur by age group.

Starting with the under 20 and 20–24 age groups, economic activity rates for the two groups remain extremely close until 1971 when a gap emerges, as 20–24 year olds show a far greater increase than the under 20's. The under 20's show a large increase in economic activity between 1931 and 1951, although between all other observations they show far more modest increases with a small decrease between 1991 and 2001. The 20–24 and 25–34 year age groups show a later period of more rapid increases as well as the initial steep increase between 1931 and 1951 already discussed. For

example between 1971 and 1981 economic activity rates increase by 8.4 and 9.6 percentage points for 20–24 years and 25–34 years respectively. The 35–44 and 45–54 year olds follow the same trend, with economic activity rates at each time point remaining within 0.4 and 2.4 percentage points of each other. These age groups continue to show increases up to 1991, although increases become smaller in magnitude. The 55–64 year olds do not show as large an increase between 1931 and 1951 as many of the younger age groups, but do show consistent increases of between 5 percentage points between 1966 and 1971 and 10.5 percentage points between 1961 and 1966. The period of greatest increase for this group is between 1951 and 1961 and between 1961 and 1966.

From 1931 changes begin to occur in the order in which age groups are ranked, from the highest participation rates to the lowest. By 1966 the 35–44 year olds and 45–54 year olds have overtaken the youngest age groups to show the highest economic activity rates. By 1981 the under 20 year old age group have dropped further to just 5th place in the rankings. This suggests that the age groups that were the primary drivers in the overall upward trend in economic activity rates among married women are the 35–44 year olds and 45–54 year olds. This is consistent with the findings of the studies by Gales and Marks (1973) and Joseph (1983) who also concluded from alternative data sources that increases were greatest among older wives.

Figure 7-16 Age-specific economic activity for married women, England and Wales 1921-2001



Source: 1921-1991 Original Census reports; 2001 data extracted from ONS Longitudinal Study

The shape of the distribution of economic activity over the age groups has changed over time as shown in Figure 7-16. In 1921 and 1931, economic activity was higher for the younger age groups then decreased from 25–34 years, when most could be expected to marry and begin childbearing. Economic activity continued to decrease as the women aged. From 1951, the shape begins to change, and am 'M' shape starts to emerge, whereby economic activity which was higher at the youngest age groups, decreases from 25–34 years (again when marriage and childbearing is expected to occur). However now the trend is upwards again after 25–34 years, perhaps when the children are older, although economic activity does not reach the levels seen in the under 20 years and 20–24 year age groups. Economic activity then decreases after 45–54 years. The shape in 1966, 1971 and 1981 is a more definite 'M' shape as economic activity increases after 25–34 years and reaches levels higher than at under 20 years and 20–24 years, before again decreasing after 45–54 years. By 1991 the 'M' shape distribution is beginning to smooth out and by 2001 the shape has changed to show no such decreases after 20–24 years. Perhaps this smoothing of the distribution over the age groups is indicative of a lessening impact of childbearing and marriage on the probability of a woman choosing to work.

7.10 Comparing divorce and economic activity rates among married women

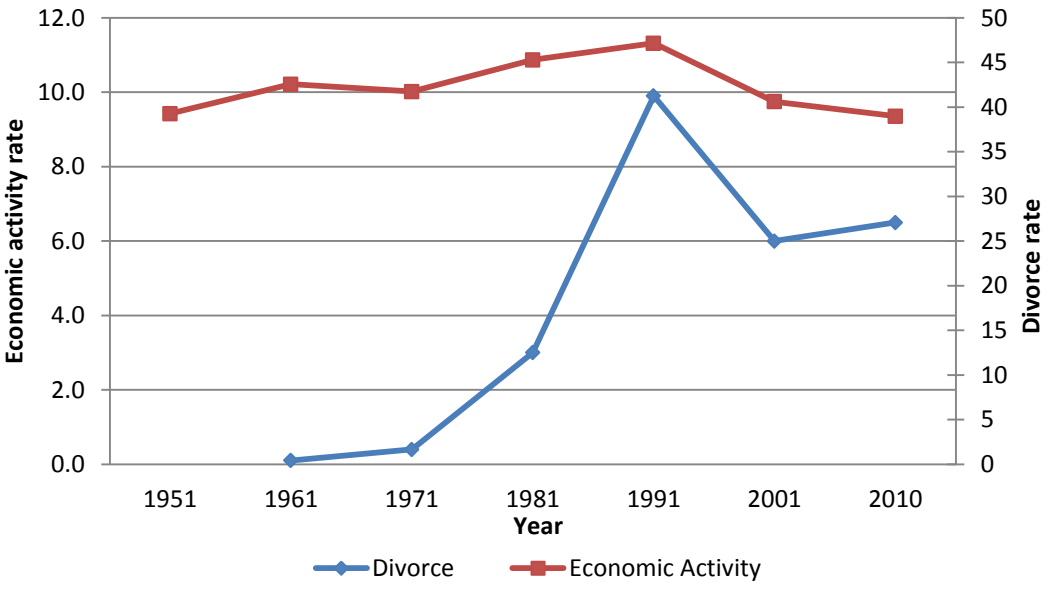
This section examines the data compiled in Sections 7.7 and 7.9, and addresses the third research question, which states that economic activity among married women is associated with the wider social changes discussed earlier and this in turn is associated with changing trends in divorce. As there are insufficient data points to carry out statistical tests of association, alternative methods of looking for an association are used. The following sections will approach this, first through graphical comparisons of the two time trends. This comparison examines whether time order can be established between the two trends, before moving on to establish whether the remaining points of the criteria proposed by Ni Bhrolchain and Dyson (2007) for assessing association or causality is met.

7.10.1 Graphical time trend comparisons

Using the data compiled in Sections 7.7 and 7.9, the two time trends for divorce rates and economic activity rates will be directly compared by plotting both time trends together on a graph. The aim of these direct graphical comparisons is to establish whether the increasing level of economic activity among married women coincides with, precedes or follows the increases seen in divorce rates. Establishing this temporal order is important as in order to conclude that increasing participation in the labour market among married women is influencing the rise in divorce rates, as hypothesised in Chapter One.

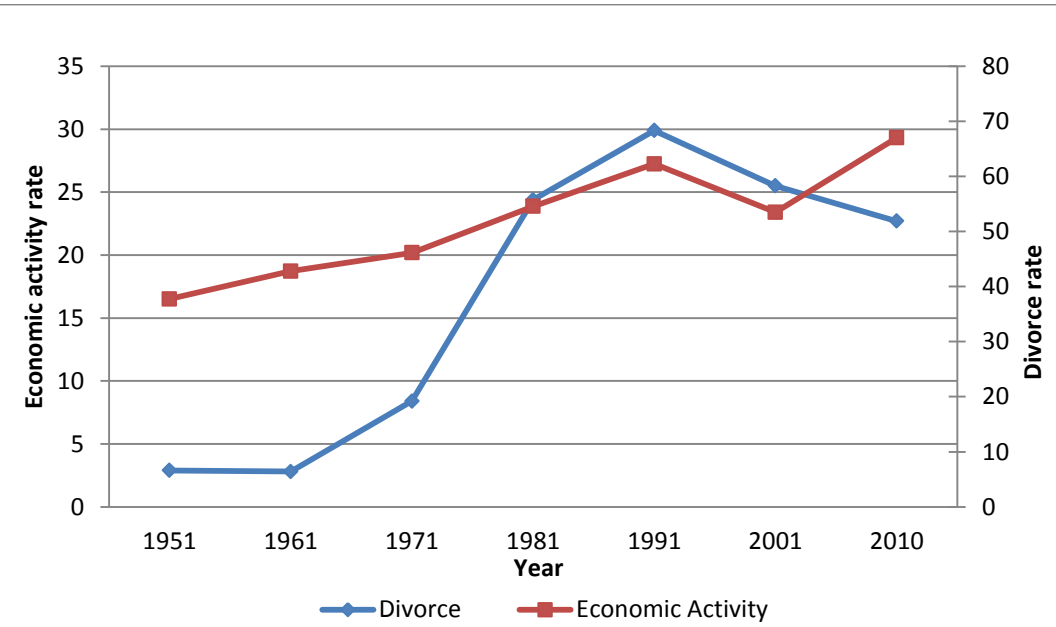
Figure 7-17 to Figure 7-22 show comparisons of economic activity rates and divorce rates by age group to see if specific age groups show a particularly apparent relationship between the two trends.

Figure 7-17 Divorce rates (per 1000 married population) and economic activity rates, women under 20 years



Source: 1951-2001 Economic activity rates original Census reports; 2010 LFS SN:6796 Labour Force Survey; all divorce rates Divorces: Sex & age at divorce (rates) 1951-2010, Divorce Statistics Historical Series, ONS

Figure 7-18 Divorce rates (per 1000 married population) and economic activity rates, women 20-24 years



Source: 1951-2001 Economic activity rates original Census reports; 2010 LFS SN:6796 Labour Force Survey; all divorce rates Divorces: Sex & age at divorce (rates) 1951-2010, Divorce Statistics Historical Series, ONS

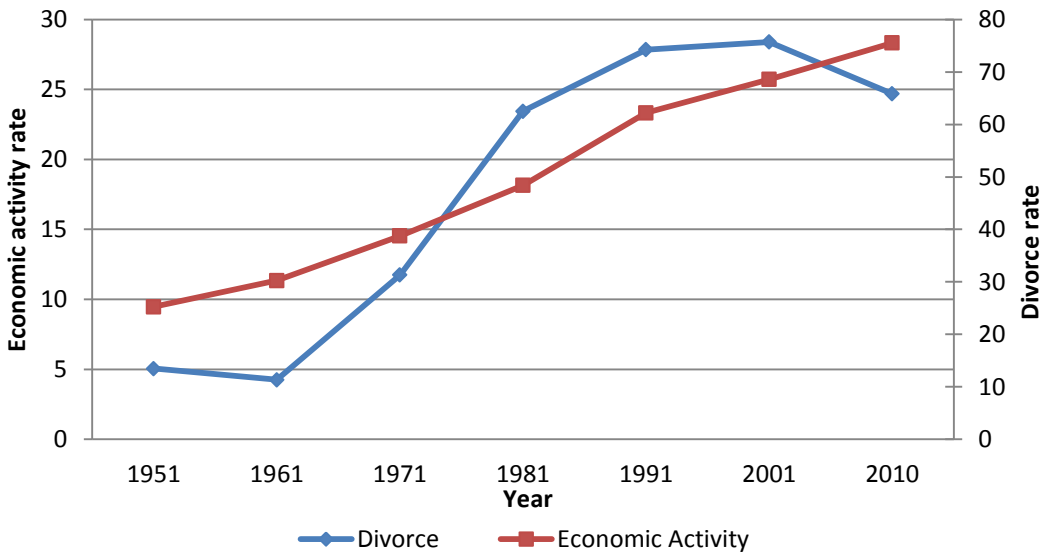
Figure 7-17 and Figure 7-18 show that, in both the under 20's and the 20–24 year olds, economic activity rates begin rising earlier than divorce rates. However, rather than suggesting a temporal order, it is more likely a factor of the difficulties of younger people seeking to divorce due to the legal requirement to be married for at least three years prior to filing for divorce. Both age groups show steep increases in divorce after 1971 and 1981, which indicate a temporary effect of the 1969 Divorce Reform Act and the 1984 Matrimonial Causes Act.

Table 7-5 Intercensal percentage change in divorce and economic activity rates for women aged under 20 years and 20-24 years

Year	Under 20 years		20-24 years	
	Divorce rate	Economic Activity rate	Divorce rate	Economic Activity rate
1951-61		8.4	-3.4	13.4
1961-71	300.0	-1.9	200.0	7.8
1971-81	650.0	8.5	190.5	18.3
1981-91	230.0	4.1	22.5	14.1
1991-2001	-39.4	-13.9	-14.7	-14.1
2001-10	8.3	-4	-11.0	25.3

Table 7-5 shows that whilst economic activity rates did show early increases between 1951 and 1961, the intercensal percentage rises in divorce rates for both groups between 1961 and 1991 far exceed the magnitude of increases seen in economic activity rates. Also in both groups, decreases are seen in divorce and economic activity. A further decrease is seen in divorce rates for women aged 20–24 years even though economic activity increases in the same intercensal period.

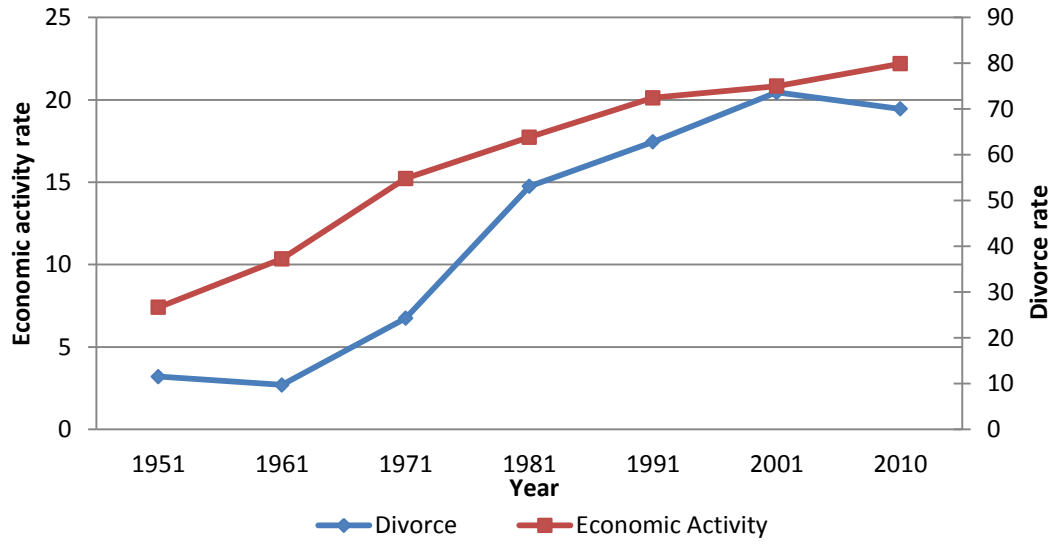
Figure 7-19 Divorce rates (per 1000 married population) and economic activity rates, women 25-34 years



Source: 1951-2001 Economic activity rates original Census reports; 2010 LFS SN:6796 Labour Force Survey; all divorce rates Divorces: Sex & age at divorce (rates) 1951-2010, Divorce Statistics Historical Series, ONS

Figure 7-19 shows that the 25–34 year olds had increases in economic activity prior to increases in divorce, although the discrepancy in the time periods examined for both trends could be misleading. Divorce rates overtake economic activity rates after 1971 until 2001. Then divorce rates decrease whilst economic activity rates continues to increase.

Figure 7-20 Divorce rates (per 1000 married population) and economic activity rates, women 35-44 years



Source: 1951-2001 Economic activity rates original Census reports; 2010 LFS SN:6796 Labour Force Survey; all divorce rates Divorces: Sex & age at divorce (rates) 1951-2010, Divorce Statistics Historical Series, ONS

As Figure 7-20 shows for women aged 35–44 years, economic activity does appear to begin rising in 1951 whilst divorce rates rise from 1961. The rate of increase in divorce rates seems to slow from 1981 and from 2001 actually show a decreased trend unlike economic activity rates which continue to increase beyond 2001.

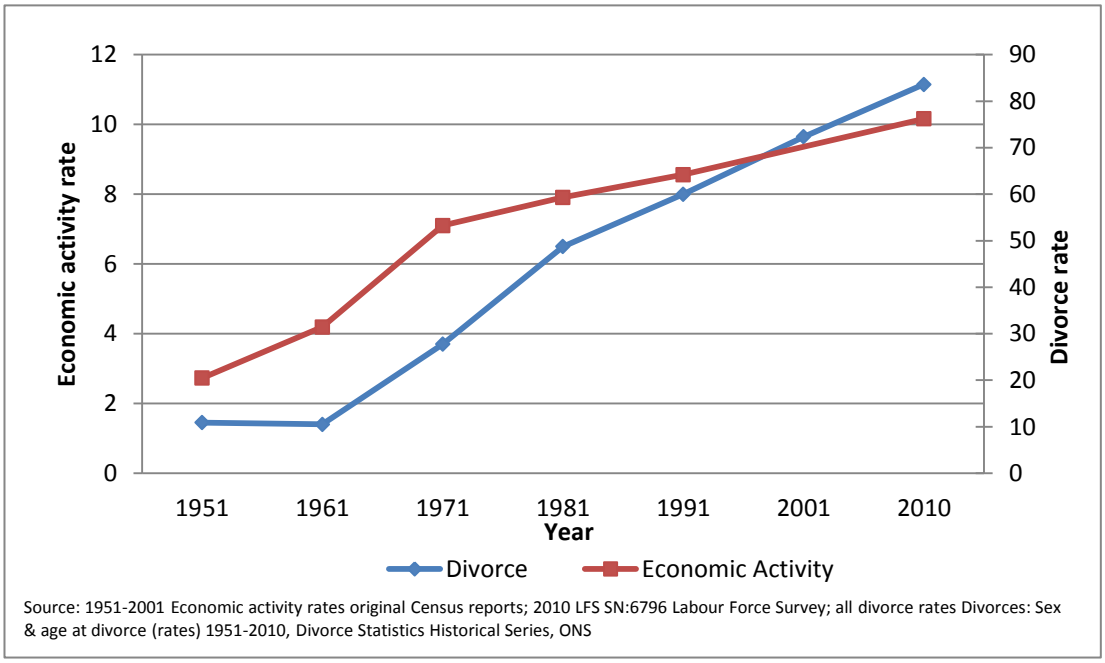
Table 7-6 Intercensal percentage change in divorce and economic activity rates for women aged 25–34 years and 35–44 years

Year	25-34 years		35-44 years	
	Divorce rate	Economic Activity rate	Divorce rate	Economic Activity rate
1951-61	-15.8	19.8	-15.6	39.7
1961-71	176.5	28.1	150.0	47.1
1971-81	99.6	24.9	118.5	16.5
1981-91	18.3	28.6	18.3	13.5
1991-2001	2.0	10.2	17.2	3.5
2001-10	-13.0	10.1	-4.9	6.5

When examining the intercensal change for women aged 25–34 and 35–44 years in Table 7-6, both age groups show initial decreases in divorce rates between 1951 and 1961, whilst economic activity rates steadily increase across the whole time period. So rises in economic activity do precede rises in divorce rates, although both age groups

see divorce rates decrease in the most recent intercensal period whilst economic activity continued to rise.

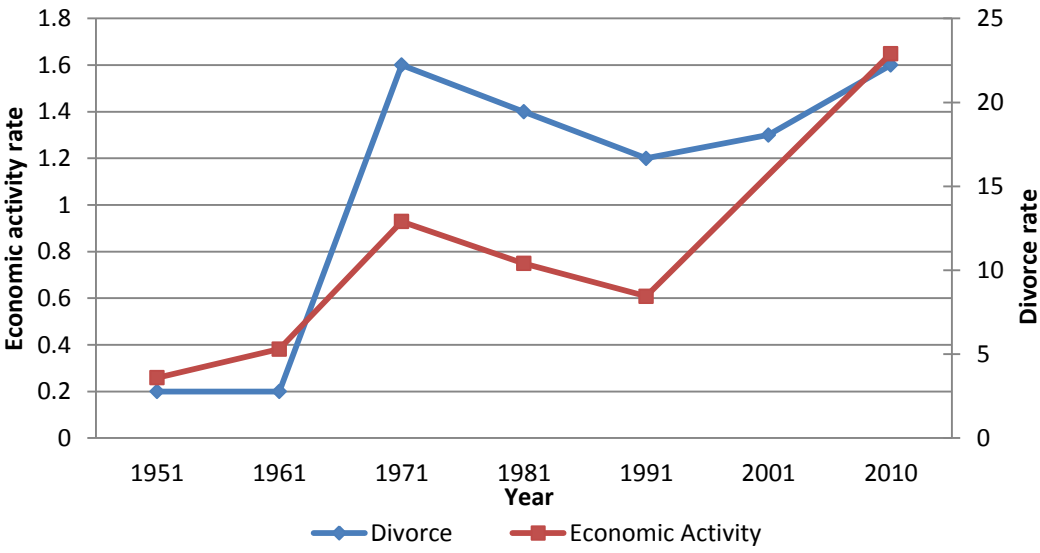
Figure 7-21 Divorce rates (per 1000 married population) and economic activity rates, women 45–59 years



Source: 1951-2001 Economic activity rates original Census reports; 2010 LFS SN:6796 Labour Force Survey; all divorce rates Divorces: Sex & age at divorce (rates) 1951-2010, Divorce Statistics Historical Series, ONS

Figure 7-21 shows that, like women aged 35–44 years, divorce rates appear to start rising after economic activity rates among women aged 45–59 years. In this group divorce rates show greater rates of increase than economic activity rates from 1981, without a later decline in divorce rates as seen in the previous age group.

Figure 7-22 Divorce rates (per married population) and economic activity rates, women aged 60 years and over



Source: 1951-2001 Economic activity rates original Census reports; 2010 LFS SN:6796 Labour Force Survey; all divorce rates Divorces: Sex & age at divorce (rates) 1951-2010, Divorce Statistics Historical Series, ONS

Figure 7-22 shows that among women aged 60 years and over, the two trends follow a very similar trajectory. There is a suggestion of a small rise in economic activity between 1951 and 1961 that appears to precede the rise in divorce from 1961.

Table 7-7 Intercensal percentage change in divorce and economic activity rates for women aged 45–59 years and 60 years and over

Year	45-59 years		60 years and over	
	Divorce rate	Economic Activity rate	Divorce rate	Economic Activity rate
1951-61	-3.4	53.8	0.0	47.2
1961-71	164.3	69.4	700.0	143.4
1971-81	75.7	11.3	-12.5	-19.4
1981-91	23.1	8.3	-14.3	-18.8
1991-2001	20.6	…	8.3	…
2001-10	15.5	18.7*	23.1	171.0*

* Change between 1991-2010

Table 7-7 shows the intercensal change for women aged 45–59 years and 60 years and over. Like all the younger age groups, these women see large increases in divorce in the 1961–1971 intercensal period, however unlike younger women, those aged 60

years and over show similar rates of decrease in both their divorce and economic activity between 1971 and 1991.

7.10.2 Establishing causality between two time trends

There have been a number of criteria proposed in order to establish association or causality between two aggregate time trends, one of the most well-known is that proposed by Hill (1965). These criteria are generally used in epidemiological studies and so not always appropriate for social data. Ni Bhrolchain and Dyson (2007) proposed a ten point criteria that could be used for aggregate social data and is utilised in this section to assess whether an association might exist between divorce and economic activity among married women at the aggregate level.

The first criterion is that the expected temporal order between the two trends should be seen. It would be expected that economic activity rates would rise prior to divorce rates. The second criterion is contiguity, which suggests that the effect (rise in divorce rates) should follow closely behind the cause (rise in economic activity rates). Looking at the rates for all ages it appears that the economic activity rate rises prior to the divorce rate, and when the trends are examined by age group, this continues to hold. In selected age groups, however, divorce rates have shown declines in more recent intercensal periods despite continual increase in economic activity. The 20 year gap in economic activity rates between 1931 and 1951 makes it difficult to state confidently that these two criteria have been met in these data.

Ni Bhrolchain and Dyson's (2007) criteria also suggests that the effect (divorce) must continue to be seen for the entire duration of time that the cause (economic activity) is observed. This is certainly the case in these data, as both divorce and economic activity have existed consistently across the same time period. Arguably, however, if a longer view is taken, then women were engaged in work-based activities prior to the introduction of the 1857 Matrimonial Causes Act as seen in Table 7-3 from Horrell and Humphries (1995) study discussed earlier. So economic activity was arguably available and seen at a time when few people could and did divorce. Ni Bhrolchain and Dyson (2007) also suggest that there should be distinctiveness, that is, that the effect must be too great to result from natural variability and this is arguably true here. The increases in divorce seen from the 1960's are too rapid and consistently upwards to be a result of natural fluctuations in behaviour.

The direction of the association must be consistent with the theorised association. So with these trends, if economic activity rises then divorce should also rise and not decline within the same time period. In these data, this is not consistently seen and the direction of the two trends is not always consistently in the same direction. For example, among women aged between 25 and 34 years, in the intercensal periods of 1951–1961 and 2001–2010, economic activity rates are seen to rise whilst divorce rates declined. Economic activity rates increase whilst divorce declines in the period 2001–2010 for women aged 20–24, 25–34 and 35–44 years, however this may not necessarily disprove an association between the two trends. It may be that if the third hypothesis is true, then rises in economic activity in married women raise their status and alter both the cultural perception and evaluation of women, including married women. This also affects their self-perception and that of their husbands, as well as their individual evaluation of what is appropriate and normal in marriage, and so affects the divorce rates of women in general. So it might be that with greater acceptance, married women's employment will become the norm and so divorce will decrease as a result, an argument also presented by Ross and Sawhill (1975). This idea was discussed more recently in Andersen and Hansen's (2012) interpretation of Becker's model of specialised roles within unions. They suggest that divorce will decrease once women's economic activity rates level off, as whilst the gains from specialised roles may no longer hold, social conditions will remain stable and thus there will be less chance of making a badly matched union. Although they suggest that these predicted declines in divorce rates have not been seen, the analysis in Section 7.7.2 show that there have been such declines in England and Wales.

Ni Bhrolchain and Dyson (2007) also suggest that the scale of the effect must be proportional to the scale of the cause for this criterion to be met, although proportionality is a very subjective measure. In these trends, across the intercensal periods between 1961 and 1981 the magnitude in divorce increases seems disproportionally high compared with the size of the increases in economic activity. This is likely to be due in part to the backlog in people who had ended their marriages, but who were not able to access formal divorce until the introduction of legislation such as the 1969 Divorce Reform Act (as discussed earlier). Beyond the 1971–1981 period, the relative changes in the two trends seem far more proportional.

Recurrence could be tested by finding a similar association between economic activity and divorce in other societies. This has not been attempted here so no conclusions can

be drawn. A further criterion is that if no cause exists, no effect should be seen. This is difficult to judge objectively in this case as, in the data compiled in this chapter shows, there is not really a period when economic activity among women was not rising. As in the case of recurrence, this could be assessed using a cross-national study to see whether divorce ever rises in the absence of rising female employment.

A plausible mechanism should be hypothesised to explain the association between the two trends and this is possible in this study. This study has suggested and discussed three such mechanisms or hypotheses in Section 2.2, and whilst the individual level analyses in Chapter 5 and the literature review in Chapter 2 found inconsistent evidence for a direct association between economic activity and union dissolution, it did suggest that there may be factors such as child-rearing which influences both economic activity and dissolution. Furthermore, this chapter suggests that more evidence may be found for the hypothesis that economic activity raises women's status and influences cultural and social norms which in turn affects the divorce rates of women. For causality or association to be assessed, Ni Bhrolchain and Dyson (2007) suggest that no alternative explanation should exist. This criterion is not met in this study as there are potential alternative explanations for the rise in divorce across time, such as the potential influence of changes to divorce law which have not been tested in this study.

7.11 Conclusion

This chapter has focused on addressing the final research question and it aimed to establish whether there is an association between time trends in marital dissolution and in married women's economic activity in England and Wales and whether the rise in divorce coincides with, precedes or follows on from the rise in married women's economic activity. The idea is that a rise in the economic activity of women has contributed to wider social change such as a rise in the status of women, increased expectations among women, changing gender roles and social norms and demographic changes, and that this in turn leads to a rise in union dissolution. Data over a long time span has been collated and discussed. As there are insufficient data points available to carry out statistical tests of association, the two time trends have

been directly compared in an attempt to establish whether economic activity among married women rose prior to the upward trend in divorce as would be expected if economic activity were positively associated with divorce at the aggregate level.

In terms of divorce, early rates were extremely low, but this is arguably due more to a lack of accessibility of divorce than a lack of demand. Indeed, historical research seems to suggest that informal means of terminating marriages were commonplace prior to civil divorce first becoming possible in 1857. In terms of age-specific divorce rates, all age groups show some degree of increase since 1950, however although the 60 years and over age group stand out as having consistently low divorce rates, among the other age groups no specific group stands out as having particularly higher rates of increase.

Analysis of divorce rates over time show temporary peaks in age-specific and overall crude rates that seem to occur around the time of key legislation changes, and some legislative changes seem to affect different age groups such as the case of the 1984 Matrimonial and Family Proceedings Act. A review of the literature around the history of divorce suggests that changes in divorce legislation often occur as a result of cultural shifts in thinking or maybe to a lesser degree economic pressures. Large short-lived peaks are also seen in overall crude divorce rates around large-impact events such as WWI and WWII. Unfortunately age-specific data are not published by ONS it is not possible to see whether specific age groups are affected.

The data compiled for economic activity among married women show that large increases in economic activity are seen from 1931 in all age groups. Unfortunately due to the large time-intervals between each observation, a great deal of detail is missing. There may be temporary peaks in economic activity occurring between census years (as in case of divorce) that we simply cannot observe but that may be of great interest. This is a weakness of using census data, but as this is the most suitable data source for the purpose of this study, it is unavoidable; it is, however, likely that there will be less distinct policy effects on economic activity rates in terms of peaks in rates as there is not the same ‘backlog’ effect as seen in the case of divorce rates and legislative changes. Also economic activity is not a one-off event so it is likely that the same person will have that same economic activity status at two or more subsequent time points but will have only one divorce event.

A review of the literature surrounding the economic history of women suggests that economic activity among married women has gone through several stages; the third and most recent stage is that of increased participation rates for women in the labour market. The literature suggests that a key factor in the increased participation of women in the labour market were economic pressures around the time of World War II. The economic pressures arising from the war period resulted from labour shortages due to conscription of men, and also due to the need for greater supplies of war-related industries. Again, there is insufficient data available for the period 1931–1951 to establish exactly when the steep increase in economic activity among married women began and whether this was a smooth upward trend or a period of peaks and troughs in participation.

This analysis of aggregate change over time highlights the fact that there is insufficient detail in aggregate data to come to any firm conclusions about whether an association can be seen between divorce and economic activity among married women. Whilst specific groups of married women seem to have shown greater increases in economic activity, these same groups do not show significantly greater increases in divorce. This does not necessarily disprove a relationship between the two trends, but suggests that any direct causal association between economic activity and union dissolution as is hypothesised in the economic literature is not proven. Rather it is hypothesised here that a rise in the economic activity of women has contributed to and is part of wider social changes such as a rise in the status of women, increased expectations among women, changing gender roles and social norms and demographic changes, and that this in turn leads to a rise in union dissolution.

Chapter 8 Discussion

8.1 Key Findings

This study has approached the existing debate around whether a relationship exists between economic activity among women and the risk of union dissolution. This study has added to the existing literature by examining both individual-level and aggregate-level data through addressing the research questions outlined in Section 1.2.1. The first two research questions are designed to test whether an association is found between economic activity and first union dissolution at the individual level and whether any such association might be changing over time, whilst the third research question tests whether what association between economic activity and the dissolution of first unions exists at the aggregate level. It was anticipated that if evidence of associations were to be found in the data, then the direction of the association would contribute to the discussion of which of the economic mechanisms discussed in Section 2.2 were at play. The review of the existing literature in Chapter Two suggested that there are three main mechanisms through which such a relationship could work: the independence effect, the specialisation of roles and the income effect. These studies showed mixed results, with some providing evidence consistent with the independence effect or the specialisation of roles theory whilst others proved more consistent with the income effect.

The first research question asks what the relationship is between the dissolution of first unions and women's economic activity in the UK at the individual level. The analyses in chapters 4 and 5 aimed to address this question using retrospective data from two UK surveys. The results from the different stages of analyses in these chapters are rather inconclusive, with only weak and inconsistent evidence found for any association between economic activity and first union dissolution at the individual level and so there was little evidence that was consistent with the first research question. However some interesting differences were seen between the two samples. In the later 2009 sample, no evidence was found for an association between the economic measures and the risk of dissolution, and in the analysis of the survival proportions among the

hypothetical women few differences were seen between the difference work histories although those with a minimum level of work history saw a smaller proportion of their unions survive. In contrast, in the 1992 sample, being employed in part-time work was found to be associated with a lower risk of dissolution than if working full-time, whilst the survival curves for the hypothetical women showed that women who followed the maximum work history saw far fewer of their unions survive. This would seem to be consistent with the specialisation of roles theory discussed in chapter two which focuses on employment having a disruptive effect on unions. These analyses also showed that in the 1992 sample, differences were seen in the effect of economic activity between the union types. It was also seen that when looking at whether the risk of dissolution is consistent across the duration of the union, the proportion of unions surviving declines consistently across the duration, although once again differences are seen between the union types. It appears in the 1992 sample that in the first ten years of a union, working has less effect on dissolution risk, whilst from the ten year it shows a much greater negative effect on the probability of a union surviving.

The different results seen in chapters 4 and 5 between the 1992 and 2009 samples are consistent with the hypothesis that any association between economic activity and the dissolution of a woman's first union might be changing over time. This idea was the focus of the studies by Muszynska (2008) and Bernardi and Martinez-Pastor (2010) that were discussed in Section 2.10. It has not, however, been widely examined using British data to date and so this study extends existing research by analysing the data using both a period approach and a cohort approach. This hypothesis was tested with the second research question which asked if any individual-level association between the dissolution of first unions and women's economic activity in the UK remained constant over time. This was addressed in the analyses in chapter 6. The results of this study show that there is no conclusive evidence of changes in the influence of economic activity between the two periods of pre-1971 and 1971 onwards, and so there is not a clear trend which would suggest a period-driven change.

On the other hand, clear trends of changes are seen in the cohort-based analyses in Section 6.2. As the cohorts specified in this section include unions formed within different social contexts as discussed in Section 6.2, it is concluded that these differential social contexts inform different behaviours within each cohort. This finding

is inconsistent with the second research question which states that any association between economic activity and union dissolution has remained consistent.

The third and final research question asks whether there is an association between time trends in marital dissolution and in married women's economic activity in England and Wales, and whether the rise in divorce coincides with, precedes or follows on from the rise in married women's economic activity. Chapter 7 examined this final question more directly through its examination of the time trends seen in aggregate divorce rates and economic activity rates among married women. Due to the scarcity of historic data on cohabitations, this chapter focused on divorce specifically. It was hypothesised that if economic activity among married women was in some way a factor in the rising levels of divorce, then rising economic activity rates would precede the rising levels of divorce. This study extends previous research by including a long time span, compiling trends from 1857 to 2011. Due to data limitations, no firm conclusion could be drawn as a result of these analyses. As there is a twenty year gap in economic activity rates between 1931 and 1951, it is not possible to establish whether economic activity started to rise prior to divorce rate rises, so the temporal order is not known. Overall the two time trends do appear to rise at similar times and to follow similar trajectories until 1991; however, from this time divorce rates begin a downward trend but no similar downward trend is seen in economic activity rates. The analysis of age-specific trends also did not show a clear temporal order in the rise in the two time trends. Whilst certain age groups have shown greater rises in economic activity, the same groups do not show the same level of rises in divorce. This does not automatically disprove a relationship between the two time trends, but does suggest that other factors may be at play.

So does the lack of consistent evidence for an association between a woman's economic activity and her risk of seeing her first union end in dissolution mean that economic activity has no impact on dissolution? Many studies have found evidence on such an association, so it may be that there is some link, although it may be operating indirectly. So a hypothesis can be suggested that there is an additional factor at play such as financial status. For example if financial need pushes women into work and if financial need creates stress which has been shown in the literature review leads to a greater risk of dissolution, then economic activity could be associated with dissolution, but the rise in economic activity would not necessarily cause the rise in divorce. However, whilst the earlier study by Halliday et al. (2010) did find that economic strain

had a negative effect on partnership quality, it was still anticipated that economic activity would be associated with dissolution, an idea which is not consistent with the findings of this study. It may also be, as discussed earlier, that the presence of children is another such mediating factor, as the presence of children has some influence on a woman's economic behaviour. These ideas are not tested here, but could be an interesting area of further study.

Overall this study finds more evidence for an aggregate association between economic activity and union dissolution which is the focus of the third research question and the analysis in chapter 7. This question is based upon the hypothesis that, rather than a direct association, a rise in the economic activity of women contributes to and is part of wider social change such as, a rise in the status of women, increased expectations among women, changing gender roles and social norms and demographic changes. This in turn leads to a rise in union dissolution. This makes theoretical sense as the empirical review in Chapter 7 suggests that the legal, social and cultural context within which unions are formed and dissolved and in which women participate in the labour market have changed substantially, so it is reasonable to assume that factors involved in the rise in divorce may also have undergone change. Studies, such as those by Coontz (2004) and Davis (1984) discussed in Chapter 7, suggest that marriages were originally important for a woman's physical and economic survival, with very little opportunity to leave their unions. The emergence of the breadwinner model of marriage meant unions were structured along specific and distinct gender roles with economic activity for women seen to disrupt the division of labour. This is borne out in the cohort analyses in Section 6.3 which found evidence that in early union cohorts economic activity is positively associated with dissolution risk whilst for more recent cohorts economic activity is negatively associated with dissolution risk. So the independence effect or the specialisation of roles arguments would hold for early cohorts, whilst the income effect comes into play for more recent cohorts. This change in mechanism may be due to the changes in the way unions are structured and in the changing role they have in people's lives. Since the 1960's and onwards, rapid and widespread changes have been seen both in terms of a woman's increasing involvement in education and employment, and in terms of their ability to control aspects of their lives such as their fertility.

Around the same time changes are seen in how unions are formed and structured. Cohabitations begins to increase, both as an early stage in a union prior to it converting to marriage and as a union type in its own right. Studies such as that by Lichter, Qian and Melliot (2006) argue that a trend towards serial cohabitation as a union behaviour is emerging. Along with these new union trajectories, a move towards greater egalitarian roles for both parties might arguably be emerging. Easterlin (1966, 1976) proposes that couples are also raising their aspirations through observing the standard of living enjoyed by their older peers and so are changing their union and fertility behaviour accordingly, so unions formed in this more liberal time would be at less risk from economic activity disrupting gender roles. This seems to be consistent with the apparent reduced risk of dissolution associated with economic activity seen in the most recent union cohorts in Section 6.3. It is possible that the income effect is now at play as greater economic resources are required to fulfil a couple's increased levels of aspiration. In fact it may be the case as suggested by Oppenheimer (1994), that the Breadwinner model might have become more brittle as couples are increasingly unable to afford to maintain their desired standard of living on the solo earnings of the man.

8.2 Limitations of the study

This study has used the retrospective histories data provided in the British Household Panel Survey and Understanding Society. Whilst these data were considered the most appropriate for the purposes of this study, their use has some limitations which are acknowledged here. Firstly, and most importantly, the retrospective employment histories contain only very minimal data on economic activity spells. Many of the studies discussed in the literature review in chapter 2 used a far wider range of economic activity measures which has not been possible in this study and so comparability to existing studies becomes difficult. However, it would not be realistic for the data collectors to have collected more detailed data due to the practical considerations and limitations of managing such large longitudinal studies. Respondents in longitudinal studies participate each year and in these studies each household member participates. Therefore it is important to keep the length of the overall questionnaire to within a certain length of time, to avoid too greater demand being placed on respondents and to fit within the practicalities of interviewer workloads.

It is also unlikely that respondents would be able to accurately remember additional details such as salary for every spell of economic activity, especially for respondents who are older and so may have economic histories stretching over many years.

The BHPS does have panel data covering the period 1991–2009 which could have used and which would have allowed a greater range of information about income or opinions for example; however, the Understanding Society survey is a new survey and at the time of this study only one wave of data was available. Thus using the retrospective histories for both surveys allowed greater comparability between the two surveys. The additional difficulty with the panel data from the BHPS is that there are a relatively small number of transitions in and out of unions across the waves. It is suggested that once more panels of data from Understanding Society are available, that these analysis are repeated using the panel data with more economic activity measures included. The larger sample size would also mean that the number of transitions in and out of unions would be greater and therefore would have more statistical power.

The combination of the two samples is a key strength of this study as it increases the sample size overall and also allows a far longer time period to be examined. Both the panel data and the retrospective data in both studies are designed to be comparable and so to be used in conjunction with each other. However, there were some differences in the categorisation of economic activity, with both full and part time work categories included in the BHPS but not in Understanding Society, so the combining of the two samples into one dataset meant some minor loss of information. There were also differences in the structure of the data files which meant that a different approach was required in manipulating the data into the necessary format. This was most prominent in the employment histories data files and this means that there is some potential for discrepancies between the way the data from the two samples are handled and prepared. Data collectors should be conscious of the need to maintain consistent policies in collecting and preparing data for release where data is longitudinal and where one study is designed to replace another, as in the case here. It was found that, despite information being available for how to combine the two samples, because of the differences in the structure of the released data, the information was not necessarily helpful and good knowledge of data management skills is required to merge the two samples.

Another lesson for data collectors from this study is the difficulties associated with changing data collection policy part way through the data collection period. In Understanding Society, it was found that the collection of complete economic activity histories took far longer and took more resources than anticipated and so collection of these data was abandoned part way through the data collection period. This cessation meant that the majority of the sample had to be dropped from this study. Apart from being disappointing as it barred the use of more detailed ethnic groupings which had been planned, there are also implications for the representativeness of the resulting sample. No discussion or official acknowledgement of this cessation is available through the Understanding Society website. There is also no discussion in the user manuals about the implications of this in terms of the potential bias that might be introduced into these histories or whether this has been taken into account in the creation of the weight variables. This study recommends that, whilst such changes in data collection may be understandable and necessary, data collectors must be more transparent about their decisions and must provide more detail about the potential problems introduced through such changes.

The retrospective histories do not allow a couples approach to be used as no partner or income data are available in these data, and the first union of the woman may have occurred prior to the time she entered the panel and so may have involved a different partner. A couples approach would have enabled information on partners' employment or indeed unemployment to be controlled for which may prove interesting when considering the idea of financial strain as a destabilising influence (as discussed in studies such as Kalmijn and Poortman (2006)) or as a disruption to specialised or distinct gender roles (as argued by Becker (1981)). This additional information would have been interesting to consider as studies such as Greenstein (1990), Kalmijn, Loeve and Manting (2007) and Jalovaara (2003) among others suggest that the income ratio between partners might be an important economic factor in dissolution risk.

Another key limitation of this study is the use of census data for the compilation of divorce and economic activity trends. The implications of using data collected at ten year intervals are discussed more fully in Chapter 7, but one of the primary limitations is that an accurate assessment of temporal order, which is of key importance in assessing whether the rise in economic activity among married women preceded the rise in divorce, has not been entirely possible in this study.

A more general limitation of this study is that it is problematic to establish causality in social behaviour. Rose (1985) defines risk at the individual level as the relative risk between individuals who have and have not been exposed to a particular risk. He considers that the "hardest cause to identify is the one that is universally present…for then it has no influence on the distribution of the disease" (Rose, 1985: 33). Although Rose (1985) was writing about physical disease, the same is also true for studies into the causes of union dissolution. All those who enter into a union, regardless of whether it is a marriage or cohabitation, are then exposed to the risk of dissolution. Thus, establishing causality between economic activity and union dissolution, as would provide evidence for the first hypothesis in particular, is not possible.

8.3 Further research avenues

These analyses have brought more new questions to light and so this study provides a platform from which new avenues of inquiry can be launched. Earlier it was hypothesised that an additional factor such as financial need might be at play as a mediating factor. It is recommended that a combined dataset of panel data from the British Household Panel Survey and Understanding Society survey will be an invaluable resource once Understanding Society has been running for a longer period and more waves of data become available. There are a couple of questions in the Understanding Society questionnaire which are asked each year about the respondents' perception of their financial situation and prospects and these data would be useful in testing this idea. It would also be worthwhile to investigate the role of childbearing both in a woman's decision to work and in her risk of union dissolution, and the use of the panel data of the two studies contains a great deal of data on her fertility behaviours, although it would be useful to have data about how she makes her economic activity decisions. This approach would also allow data from both partners to be included, which would broaden the range of economic measures that can be included and would also allow examination of how couples within unions respond to financial surprises such as the redundancy of one partner.

It is recommended that further research into changes in the association between economic activity and dissolution in the UK context is warranted. This study does find

some evidence that the influence of economic activity in a couple's propensity to dissolve their unions has changed over time. It also has suggested these changes might be cohort-driven rather than period-driven, although further investigation needs to be undertaken before firm conclusions can be drawn on this. In particular more attention is needed to the influence of uncertain economic times, where the rising cost of living and increased aspirations in terms of material and social wealth have all contributed to different sets of circumstances within which couples make their life decisions. Is it now not a simple case of whether a woman should stay at home once she enters a union or enters motherhood, or is it now a decision of whether the couple can maintain their desired standard of living if she does. Once again, a combined dataset including the panel data from both the BHPS and Understanding Society would be useful here. Existing information in the panel data that would be useful would be the subjective measures of financial security mentioned previously. It would be useful to be able to include some measure of respondents' aspirations and expectations about their standard of living, which is not currently available. It would also be interesting to have some aggregate measure within each panel of the economic climate at that time. Such measures could include, for example, inflation rates and unemployment rates. Measures which are already measured and so could be imputed into the data by the researcher.

It was hypothesised earlier in section 7.11 that rather than a direct association, a rise in the economic activity of women contributes to wider social change such as, a rise in the status of women, increased expectations among women, changing gender roles and social norms and demographic changes. This in turn leads to a rise in union dissolution, whilst making theoretical sense, would be extremely difficult to directly test using a statistical approach. It is a hypothesis that is arguably more suited to a more qualitative or sociological approach. This study certainly highlights the many changes seen in the social and legal context within which unions are formed and dissolved. It also identifies the underlying issue of the changing status and changing lives of women in the UK. Our roles within unions and within society are no longer so clearly defined, and social life has become more complex and more varied in recent decades. It has also been suggested that family structures have become more complex, and that examining the family as a "single discrete household [has become] wholly misleading" (Simpson, 1994: 835). Certainly some further examination of the breadwinner model is warranted to establish whether it is still relevant in today's social structures. A recent briefing paper by Connolly, et al. (2013) found that among co-resident unions that had

children present, just 22% followed the ‘traditional’ breadwinner model of the male working full-time and the female remaining at home. And yet despite the changes in roles within unions, are so-called ‘traditional’ family structures still supported by the State and if so, is the pressure to balance economic needs with the social norm of the breadwinner model a source of tension? Lyngstad and Jalovaara (2010) suggest that couples with more egalitarian views about gender roles are more likely to see their unions’ breakdown. They found that in countries where State policy supports the breadwinner model, the economic activity of the women is more likely to disrupt the union, as is the man’s higher participation in domestic chores.

It is also the case that whilst some of the studies discussed in Chapter Two have found that economic arguments offer explanations of the mechanism by which the formalisation of the end of a union is facilitated, these arguments cannot necessarily be said to explain why couples would decide to end their union or why they were unhappy. For example, Schoen, et al. (2002) found that economic activity was only associated with a higher risk of dissolution if one or both partners were unhappy. So a further avenue of research would be to investigate the reasons couples decide to end their union and what reasons they give for being unhappy within the union. In particular, this study has also discussed the changing meaning of unions for individuals. It is now perhaps time to reinvestigate and to gain a better understanding of the meaning and function that unions have for couples in Britain today. What role do our unions play in our lives today? It appears that unions are no longer about physical survival but about emotional fulfilment. With these differing ‘needs’ are differing causes of tension and disruption at play? If so, what are they? An argument is made here for further research into what individuals see as their roles within unions and their expectations about what needs their unions should fulfil.

Appendices

Appendix 1

Economic activity and employment questions from Census schedules 1921-2001

Census Year	Economic activity/employment questions	Options available on census schedule
1921	Personal occupation: write here the precise branch of Profession, Trade, Manufacture, Service, etc. Notes: For a member of a private household (such as householder's wife) who is mainly occupied in unpaid domestic duties at home, write "Home Duties" For a member of the household who is chiefly occupied in giving unpaid help in a business carried on by the head of the household or other relative, state the occupation in column h as if it were a paid occupation	
1931	Personal occupation: State occupation or calling followed. If out of work or wholly retired, add "Out of work" or "Retired" as the case may be, after the statement of occupation. Notes: Columns K and L relate only to persons aged 14 years and over and who follow some occupation or calling for payment or profit or have retired from such an occupation. No entry may be made in these columns for wives or other relatives chiefly occupied in unpaid domestic duties at home.	
1951	Personal occupation: If occupied for payment or profit, state at (a) Precise Occupation or Calling. If out of work or wholly retired, add "Out of work" or "Retired" as the case may be, after the statement of occupation. Notes: For anyone chiefly occupied in unpaid domestic duties at home, write "Home Duties" in column P. For a member of a household who is chiefly occupied in giving unpaid help (i.e. without receiving a definite wage or share of the profits) in a business carried on by the head of the household or other relative, state the occupation in column P, adding "Unpaid"	
1961	For persons who in the week ending 22nd April 1961, were in employment at any time (including any part-time or casual employment), whether or not actually at work, fill in this section (R) in respect of that employment. If the person became unemployed or retired during the week, do complete this section but fill in section S. For persons who, at the end of the week ending 22nd April 1961, were not in employment but	

	intending to get work or wholly retired, fill in this section (S) in respect of the last full-time employment. For other persons: Write “Housewife”, “Home duties”, “at school”, “student”, etc as appropriate.	
1966	Q10 Has the person had any job at any time during the twelve months ended 23rd April 1966? Write “yes” or “no” Q11 Has the person had any job at any time during the week ended 23rd April 1966? Write “yes” or “no” Notes: as well as people who attended work pay or profit in the week before the census, the following people also count as having ‘had a job’ during the week ended 23rd April 1966: • People away from work on holiday if their job is waiting for them on their return • People away from work because of an illness or injury if their job is waiting for them on their return • People away from work because of a strike or other industrial dispute • People temporarily laid off work by their employer for that week	
1971	Did the person have a job last week (the week ended 24th April 1971)? Tick box 1 if the person had a job even if it was only part time or if this person was temporarily away from work, on holiday, sick, on strike, or laid off. If the person did not have a job tick whichever of boxes 2, 3, 4 or 5 is appropriate.	• Yes – in a job at some time during the week • No – seeking work or waiting to take up job • No – intending to seek work but sick • No – wholly retired • No – not seeking work for some other reason, namely…
1981	Q10 Whether working, retired, housewife etc last week. Please tick all boxes appropriate to the person’s activity last week A job (box 1 and box 2) means any type of work for pay or profit but not unpaid work. It includes: • Casual or temporary work • Work on a person’s own account • Work in a family business • Part-time work even if only for a few hours A part-time job (box 2) is a job in which the hours worked, excluding any overtime, are usually 30 hours or less per week. Tick box 1 and 2, as appropriate, if the person had a job but was not at work for all or part of the week because he or she was: • On holiday • Temporarily laid off • On strike	• In a full-time job at any time last week • In a part-time job at any time last week • Waiting to take up a job already accepted • Seeking work • Prevented by temporary sickness from seeking work • Permanently sick or disabled • Housewife • Wholly retired from employment • At school or full-time student at an educational establishment not provided by employer • Other, please specify

	• Sick	
1991	Q13: Whether working, retired, looking after the home etc last week. Which of these things was the person doing last week? Please read carefully right through the list and tick all that apply	• Was working for an employer full time (more than 30 hours a week) • Was working for an employer part time (one or more hour a week) • Was self-employed, employing other people • Was self-employed, not employing other people • Was on a government employment or training scheme • Was waiting to start a job he/she had already accepted • Was unemployed and looking for a job • Was at school or in other full time education • Was unable to work because of long term sickness or disability • Was retired from unpaid work • Was looking after the home or family • Other (please specify)
2001	Q18 Last week, were you doing any work: • As an employee, or on a government sponsored training scheme • As self-employed/freelance, or in your own/family business 'Yes' if away from work ill, on maternity leave, on holiday or temporarily laid off 'Yes' for any paid work, including casual or temporary work, even if only for one hour 'Yes' if you worked, paid or unpaid, in your own/family business Yes – go to Q24 No – go to Q19	Q24 Answer the remaining questions for the main job you were doing last week, or if not working last week, your last main job Q25 Do (did) you work as an employee or are (were) you self-employed? Q19 Were you actively looking for any kind of paid work during the last 4 weeks? Q20 If a job had been available last week, could you have started it within 2 weeks? Q21 Last week, were you waiting to start a job already obtained? Q22 Last week, were you any of the following:

		• Retired • Student • Looking after family/home • Permanently sick/disabled • None of the above Q23 Have you ever worked? If yes please write the year you last worked

Appendix 2

Marital status classification in the Census schedules 1991-2001

Census Year	Marital Status
1911	
1921	For persons aged 15 and over write “Single”, “Married”, “Widowed”, or if marriage absolved by divorce write “D”
1931	
1951	
1961	
1966	Write ‘SINGLE’, ‘MARRIED’, ‘WIDOWED’ or ‘DIVORCED’ as appropriate. If separated and not divorced, write ‘MARRIED’
1971	Write ‘SINGLE’, ‘MARRIED’, ‘WIDOWED’ or ‘DIVORCED’ as appropriate. If separated and not divorced, write ‘MARRIED’
1981	Please tick the box showing the present marital status. If separated but not divorced, please tick ‘Married (1st marriage) or ‘Re-married’ as appropriate • Single • Married (1st marriage) • Re-married • Divorced • Widowed
1991	On the 21st April what is the person’s marital status? If separated but not divorced, please tick ‘Married (1st marriage) or ‘Re-married’ as appropriate • Single (never married) • Married (first marriage) • Re-married • Divorced (decree absolute) • Widowed
2001	What is your marital status (on 29 April 2001)? • Single (never married) • Married (first marriage) • Re-married • Separated (but still legally married) • Divorced • Widowed

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