Children and Marital Instability in the UK*

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Abstract

There are many good theoretical reasons which suggest that children are a stabilizing factor in marriage. Most empirical research confirms that this is indeed the case. In this paper, we use data from three British surveys to demonstrate that in Britain the effect of children on marital stability has changed from stabilizing to destabilizing in the last two decades. This shift began in the 1980s, and by the 1990s couples with children are at a substantially higher risk of divorce than similar but childless couples. We also explore some concomitants of the change in the children effect, again using multiple data sources. We show that the destabilizing effect of children is most pronounced for low income households.

1 Context and Motivation

In a recent paper, Chan and Halpin (2001) report that children destabilize marriage in the UK. In that paper, they use data from the first eight waves of the British Household Panel Study (BHPS 1991–98) to examine the hazard of divorce for women in their first marriage.[1] Their primary interest is to test the so-called *independence hypothesis*. Although their main result in relation to this hypothesis seems robust, the finding that children destabilize marriage is very puzzling. As we shall elaborate in section 2, this unexpected finding goes against many theoretical arguments and the results obtained in most empirical research.

We have two goals in this paper. First, we seek to demonstrate that children do destabilize marriage in the UK. We shall do so by replicating the finding of Chan and Halpin (2001) with two other British data sets. Our analyses point to a shift over marriage cohorts in how children affect marital stability. This shift began in the 1980s, and by the 1990s couples with children are at a substantially higher risk of divorce than similar but childless couples. Our second goal is to explore the possible reasons for this shift. We shall consider the trends of social attitude towards divorce, the effect of children on the chance of repartnering, and the association between home ownership and divorce. We also explore how the destabilizing effect of children might depend on their own characteristics (e.g. age, sex) or their parents' characteristics. We shall show that household income is a crucial mediating factor.

The rest of this paper is structured as follows. In section 2, we review the theoretical and empirical literature on children and marital stability. Section 3 reports the result of our analysis of the retrospective life history data taken from two British surveys (the Family and Working Lives Survey 1994–95 and the General Household Survey 1991–95).[2] In section 4, we draw on data from the British Social Attitudes Surveys, the Family and Working Lives Survey and the British Household Panel Study to

[1] In this paper, we use the term divorce to refer to divorce or separation.

[2] Technical details of all data sets used in this paper can be found in Appendix A.

explore the children's effect in detail. Finally, in section 5, we summarize our results, suggest some interpretations, and consider potential policy implications.

2 Theories and Empirical Evidence

Why are children (thought to be) a stabilizing factor in marriage? It is likely that the observed association between children and marital stability is partly due to selection, in that couples anticipating divorce will delay or avoid having children. Having said that, there are good reasons to believe that children actually stabilize marriage. The most fundamental reason is that children are a marital-specific investment, and they would become less valuable to the parents should the marriage dissolve (Becker, Landes and Michael 1977). In a straightforward sense, children 'belong' to a couple, not to just one parent. Should the marriage dissolve, the costs and benefits of having children, and the related emotional and social implications would change for both parents.

The argument of marital-specific investment can be elaborated and extended in several ways. First, couples with children often have a higher level of division of labour than childless couples.[3] Following the argument of Becker et al. (1977), more specialization should lead to a higher expected gain from marriage, and therefore greater marital stability. Morgan, Nye and Condran (1988) remind us that the Durkheimian notion of 'organic solidarity' is quite similar to the argument of Becker et al.: parenthood often implies a greater degree of role differentiation between the spouses which increases conjugal solidarity.

Morgan et al. (1988) also point out that children create a web of obligations and attachment between parents and children, between the parents themselves, and also between the nuclear family and the wider kinship group. All these should increase

[3]Research into domestic division of labour repeatedly shows that the presence of children increases the gender gap in housework (South and Spitze 1994, Bianchi et al. 2000). Also, despite the general increase in female labour force participation, mothers are still less likely to work, and if they do work, less likely to work full time, than non-mothers. In contrast, marriage and children increase men's labour supply (Akerlof 1998), though this association might be modified by men's gender role attitudes (Kaufman and Uhlenberg 2000).

marital stability.

Children's effect on marital stability might also work through their anticipated impact on the prospective custodial parent's (usually the mother's) chance of repartnering. Divorced women with (especially young) children might have a strong motivation to find a new partner, partly in order to secure financial support, but also to complete the family. It is well known that women suffer financially from divorce. Divorcees with young children face particularly acute difficulties in having to manage childcare and paid work alone. They might also think that their children need a father. However, as Koo, Suchindran and Griffith (1984:452–453) point out, 'the prospect of assuming the financial and parental responsibilities for a woman's children may deter prospective grooms. Children may also interfere with a woman's ability to engage in social activities that allow her to search for and develop relationships with prospective spouses, by limiting her free time and energy and, in some cases, by actively opposing her dating or re-marrying'.

Most empirical research suggests that the probability of remarriage or cohabitation is lower for divorcees with children (Lampard and Peggs 2000).[4] In this sense, children weaken the custodial parent's position in the repartnering market. It is likely that most prospective custodial parents know this, and if we further assume that most of them would want to find a new partner eventually, children would deter women walking away from an unhappy marriage.[5]

As for the non-custodial parents (usually the fathers), they often lose access to their children or have access to children restricted after divorce. This in itself is likely to be a deterrence against divorce. But a further mechanism might operate via their concern for their children's welfare. Loss of access makes it difficult for the non-custodial par-

[4]Koo et al. (1984) show that in the US this effect is significant only for white women divorcees with 3 or more children.

[5]Huber and Spitze (1980) report that having a child under six reduces the probability of both husbands and wives thinking about divorce, although this effect is significant for husbands only. Also, for couples whose youngest child is between 6 and 11, the thought of divorce *increases* for both husbands and wives, but this effect is significant for wives only. On the basis of the latter finding, they suggest that the presence of children may deter divorce less now than they have in the past.

ents to monitor effectively how (much) resources are spent on the children by their ex-spouse. Weiss and Willis (1985) argue that as children are a public good to the parents, when effective monitoring of resource allocation is difficult, there is a disincentive for the non-custodial parents to transfer resources to their children, even though they care about the children's welfare. This is an instance of the 'free-rider' problem, and it explains why many divorced fathers fail to pay adequate child support. Partly as a result of underinvestment, children with divorced parents tend to do worse than children from intact families over a range of outcome measures, such as educational attainment (McLanahan and Sandefur 1994). Of course, parents (custodial or non-custodial) need not know the Weiss and Willis' argument. As long as they believe that divorce is bad for their children, and that they care about their children's welfare, children will be a deterrence to divorce.

Attitudes towards marriage, family and childbearing have changed drastically in Western industrial societies, both between birth cohorts and within cohort over time (Thornton 1985, 1989). However, despite a shift towards greater acceptance of divorce, normative sanction against divorce is still stronger for couples with children than for childless couples. No doubt this is partly due to concern about the negative effect of divorce on children. We shall use data from the British Social Attitudes Surveys to show that this is still the case in the UK.

We have considered several reasons as to why children should be associated with greater marital stability. In fact, this association has been confirmed by most empirical research. As readers can see from Table 1, these studies cover a range of industrial countries, including the UK. They all use nationally representative survey data or, in some cases, population register data, and appropriate statistical tools (generally speaking hazard models or cognate techniques). There is no reason to doubt the results reported therein. In short, both theories and empirical evidence weigh against the finding that children destabilize marriage in the UK.

Table 1: Empirical research reporting a positive association between children and marital stability

country	reference	data used and time coverage
Australia	Bracher et al. (1993)	1986 National Survey of the Australian Family
Finland	Jalovaara (2001)	1990 Census linked with Divorce Records
Germany	Diekmann and Engelhardt (1999)	1988 Family Survey of the German Youth Institute
Sweden	Andersson (1997)	Swedish Fertility Register (1961–94)
UK	Berrington and Diamond (1999)	National Child Development Study (1958–91)
US	Morgan and Rindfuss (1985)	June 1980 Current Population Survey
US	Tzeng and Mare (1995)	NLS[a] of Youth (1979–87)
		NLS of Young Men (1966–81)
		NLS of Young Women (1968–85)
US	Weiss and Willis (1997)	NLS of the High School Class of 1972 (1972–86)
US	South (2001)	Panel Study of Income Dynamics (1969–93)[b]

[a] National Longitudinal Survey.
[b] The stabilizing effect reported in this study is not statistically significant.

2.1 Counter-evidence

But is the result of Chan and Halpin (2001) really so implausible? Though few and far between, there are a handful of studies with similar findings. For example, Cherlin (1977) analyzes data from the first four years of the National Longitudinal Survey of Women (1967–71), and reports that although preschool children deter separation and divorce, school children (aged 6 to 17) have no effect on marital stability. This difference, he argues, exists because much more time, energy, money and other resources are needed in the care of preschoolers, which dissuades parents with very young children from divorce.

Similarly, Waite and Lillard (1991) analyze data from the Panel Study of Income Dynamics (1968–85) and show that first-borns stabilize marriage in their preschool years, and other children stabilize marriage only when they are very young. Older children and children born before marriage significantly increases the divorce risk.

More importantly for our purpose, in a recent paper which is also based on the BHPS (1991–97), Böheim and Ermisch (2001) report that the risk of partnership dissolution increases with the number of children. But since Böheim and Ermisch are

primarily interested in the effect of financial surprise on marital stability (Weiss and Willis 1997), they have not investigated the destabilizing effect of children in detail.

Studies reporting such counter-evidence are in the minority. But they are consistent with research on marital satisfaction which shows that children are a stressor in marriage. Couples consistently report lower marital satisfaction with the arrival of children (VanLaningham, Johnson and Amato 2001) and higher marital satisfaction when the children leave the parental home (White and Edwards 1990). In the extreme but not very rare case of children with disability, where children-related stress is likely to be very much greater, there is evidence to suggest that 'at very age, children in poor health are more likely to see their parents divorce. This relationship is strongest for children between six and nine years old' (Mauldon 1992:356).[6]

The results of Cherlin, Waite and Lillard, and Böheim and Ermisch also highlight the need to disentangle the multifaceted ways in which children affect marital stability. The question is not whether children increase or reduce divorce risks, but under what conditions would they do so. We have seen that the children effect might depend on their age and number. Furthermore, the timing of conception and birth (pre-marital vs marital) might be important. Becker et al. (1977:1151) argue that women who became pregnant accidentally have an incentive to get married quickly in order to 'legitimate' their child. This shortens the search for marital partner, leading to a sub-optimal match, a lower gain from marriage, and thus greater marital instability. By a similar argument, children born before marriage might also destabilize marriage.

The sex of the child might also be important. Billed as 'perhaps the most interesting finding of the decade [of the 1980s]' (White 1990), Morgan et al. (1988) report that sons reduce the divorce risk 9% more than daughters. This, they suggest, is because fathers often take a more active role in raising sons than in raising daughters, for example, in teaching sons to play and appreciate sports. In contrast, the raising

[6]Mauldon (1992:353) notes that, in the 1981 National Health Interview Survey, major long-term problems that are not usually congenital (e.g. stammer, stutter, or other speech defect) account for 6.1% of all health problems among children mentioned by the respondent, and major long-term problems that are mainly congenital (e.g. clubfoot, deformed foot or leg) account for another 4.9%.

and socialization of daughters are, to a greater extent, left to mothers. Such a division in childrearing practice is in effect a second tier of role differentiation, which further promotes conjugal organic solidarity and reduces the divorce risks.[7]

Finally, there is growing evidence that parental investment in children and parent-child relationship in general vary by family type—intact families of genetic parents and children on the one hand vs step, adopted or foster families on the other. In the extreme, Daly and Wilson (1988) have documented a higher rate of neglect, abuse, even homicide of children in step families. Less dramatically, but still of great personal and social consequences, Biblarz and Raftery (1999) show that, on average, step, adopted and foster-parents invest less on children than do genetic parents, leading to lower socioeconomic achievement of the child. These findings are amenable to explanations in terms of evolutionary social psychology. But plausible sociological mechanisms also come to mind. For example, there might be more conflict within step families, or perhaps step fathers do not have the 'full license' to discipline their children. For our present purpose, it would be sufficient to note that family dynamics is likely to vary by family type. Thus, genetic children and non-genetic children may have different effects on marital stability. Given the growth of non-conventional families, this could be important in the aggregate.

Given these considerations, we think that a destabilizing effect of children in the UK is at least conceivable. But why is the result of Chan and Halpin (2001) different from most previous research? It seems to us that there are three possibilities: (1) faulty analysis in that paper, (2) deficiency of the BHPS data, and (3) that a real social change has taken place in the UK. We shall argue that (3) is the case. To do so, we now turn to analyze two other British data sets.[8]

[7] But see Andersson and Woldemicael (2000) for negative evidence.

[8] We have endeavoured to purge all mistakes from our analysis. But, by the nature of these things, one can never rule out the possibility of making mistakes. All our program and output files are available to colleagues for examination on request.

3 Change in the Children Effect

3.1 Family and Working Lives Survey, 1994–95

The Family and Working Lives Survey (FWLS) provides retrospective life history data in the domains of work, education, housing, family formation and dissolution for a sample of $11,237$ individuals living in Britain. In the analysis reported in this subsection, we select all women who were in their first marriage ($N = 4,430$), and we use the proportional hazards model (Cox 1972) to examine the divorce risks facing these women over the course of their first marriage,

$$\lambda(t) = \lambda_0(t)\, \exp\{\mathbf{x}(\mathbf{t})' \, \beta\},$$

where the dependent variable $\lambda(t)$is the hazard of divorce, $\lambda_0(t)$ is the unspecified baseline hazard rate, $\mathbf{x}(\mathbf{t})$ is the vector of covariates and β the vector of coefficients to be estimated.[9]

Because of the retrospective nature of this survey, the set of covariates available to us is very limited. Specifically, we consider 'age at marriage' and 'marriage cohort' which are time-constant covariates, and 'number of children' which is time-varying. We distinguish five marriage cohorts: 1 = 1950s or before, 2 = 1960s, 3 = 1970s, 4 = 1980s, 5 = 1990s.[10] Since the FWLS allows us to distinguish between different types of children (viz. genetic, step, adopted or fostered), we report two sets of analyses in Table 2. Panel A uses the full sample, while Panel B excludes those marriages with step, adopted or fostered children. Because the results of the two panels are very similar, we will discuss the estimates of Panel A only.

Model 1 shows the expected negative coefficient for age at marriage—women who got married when they were older have more stable marriage. Also in line with expec-

[9] All hazard models in this paper are fitted with TDA, a free software kindly made available by Rohwer and Pötter (2001).

[10] Further descriptive statistics of the FWLS data are provided in Appendix A.1.

Table 2: The hazard of divorce for women in their first marriage, proportional hazards models as applied to FWLS (1994–95) data.

Panel A: All first marriages	model 1		model 2	
age at marriage	-0.046**	(0.008)	-0.044**	(0.008)
marriage cohort	0.844**	(0.034)	0.658**	(0.046)
number of children	0.037	(0.026)	-0.295**	(0.066)
cohort × children			0.122**	(0.022)
Number of divorce	1139		1139	
Log likelihood	-8413.85		-8397.41	
Panel B: First marriages with step, adopted or fostered children excluded				
age at marriage	-0.046**	(0.008)	-0.043**	(0.008)
marriage cohort	0.846**	(0.034)	0.648**	(0.047)
number of children	0.037	(0.026)	-0.319**	(0.067)
cohort × children			0.132**	(0.022)
Number of divorce	1127		1127	
Log likelihood	-8314.28		-8295.96	

Note: Standard errors in parenthesis; ** $p < 1\%$.

tation, we see a higher dissolution rate for more recent marriage cohorts. Controlling for these, children increase the divorce hazard in model 1. This result is consistent with the BHPS, but the effect is not significant by conventional standards.

Adding an interaction term that allows the children effect to vary by marriage cohort (model 2), we see that the main effect of children changes sign. But taking into account both the main effect and the interaction effect, it is clear that the effect of children on marital stability has changed over time: they used to reduce the divorce risks, but this is no longer true. A small numerical example will make this clear.

$$\text{1950s}: \quad -0.295 + 1 \times 0.122 \quad = -0.173.$$

$$\text{1990s}: \quad -0.295 + 5 \times 0.122 \quad = 0.315.$$

For those who got married in the 1950s, each additional child was associated with a 16% ($e^{-0.173} - 1$) reduction in divorce risk. In contrast, for the 1990s marriage cohort, each additional child is associated with a 37% ($e^{0.315} - 1$) increase in divorce risk. This change cannot be explained by the growth of non-conventional families in

recent cohorts, as the results in Panel B, where families with step, adopted or fostered children are dropped from the analysis, are essentially the same.

3.2 Further Test with the General Household Survey, 1991–95

Although the FWLS results in the last subsection are suggestive, our analysis is admittedly rather crude. Family formation behaviour has changed in many ways over time. For example, while premarital cohabitation was quite a rare occurrence in the past, it is now the majority practice in Britain and many western societies (see Table 9, also Ermisch and Francesconi 2000, Murphy 2000). The rise of divorce also means that more first-time brides would be marrying divorcees. Furthermore, the closing of the gender gap in educational attainment might also affect the dynamics of family formation and dissolution. It would be useful to control for these trends in the analysis. With these considerations in mind, we turn to the General Household Survey (GHS).

The GHS is a continuous multi-purpose survey of people living in private households in the UK. It began in 1971, with an achieved sample of about nine thousand households each year. The GHS gives us a set of repeated cross-sectional views of employment, education, health, leisure and various aspects of social life in Britain. Since 1991 the GHS has been collecting full retrospective marriage and fertility histories. We combine the relevant GHS data from 1991 to 1995. This gives us information of 24,157 women in their first marriage, among whom we observe 6,074 cases of divorce. As before, our main concern is how the children effect on marital stability might have changed across cohorts. But the main advantage of using the GHS is that it allows us to include three time-constant covariates in the model: whether the respondent cohabited with her husband before marriage (1 = yes, 0 = no), whether the husband was a divorcee (1 = yes, 0 = no), and the respondent's highest educational attainment, which we distinguish four levels—university, A-levels, O-levels, no qualifications.[11]

[11]The last of these is the reference category for educational attainment. More information about the GHS and some descriptive statistics of the covariates can be found in Appendix A.2.

Also similar to our analysis of the FWLS, we use the proportional hazards model. Here we allow both the baseline hazard and the effect of the covariates to vary by marriage cohorts. This gives the model greater flexibility to fit the data. In practice, we fit the model to each marriage cohort separately,

$$\lambda(t) = \lambda_0^c(t)\, \exp\{\mathbf{x}(\mathbf{t})'\, \beta^{\mathbf{c}}\}.$$

We report our result in Table 3. Panel A refers to all first marriages, and Panel B excludes those marriages with step, adopted or fostered children. There are many interesting changes in the parameter estimates. For example, in the early cohorts, it was the better educated women (those with university degrees, A-levels or O-levels) who faced higher divorce risks. However, among those who got married since the 1980s, women with degrees are significantly less likely to divorce, and those with A-levels or O-levels no longer face higher divorce risk than those with no qualifications.[12]

Panel A of Table 3 also shows that for the earliest marriage cohort, premarital cohabitation was associated with a three-fold increase ($e^{1.204}$) in the divorce risk. The magnitude of this effect declines monotonically over time, and it is statistically insignificant for those who got married in the 1990s.[13] A similar trend can be observed for the estimate of marrying a divorcee. These trends can be understood in terms of the decreasing selectivity of the two variables. When premarital cohabitation was rare, those who did cohabit were probably quite a selected group. Perhaps they have unconventional views about marriage and the family, which are probably associated with high divorce risks. As premarital cohabitation becomes a majority practice, it is no longer a discriminating indicator of underlying attitudes. A similar argument applies to the covariate of marrying a divorcee.

[12] Chan and Halpin (2001) show that once household income and the relative income between the spouses are controlled for, women's educational qualifications do not have a significant effect on divorce in the 1990s.

[13] A cautionary note is in order. The relatively small number of divorces observed for the last marriage cohort makes it difficult to detect statistically significant results. But still the downward trend in magnitude is notable.

Table 3: The harzard of divorce for women in their first marriage, proportional hazards models as applied to the GHS (1991–95) data.

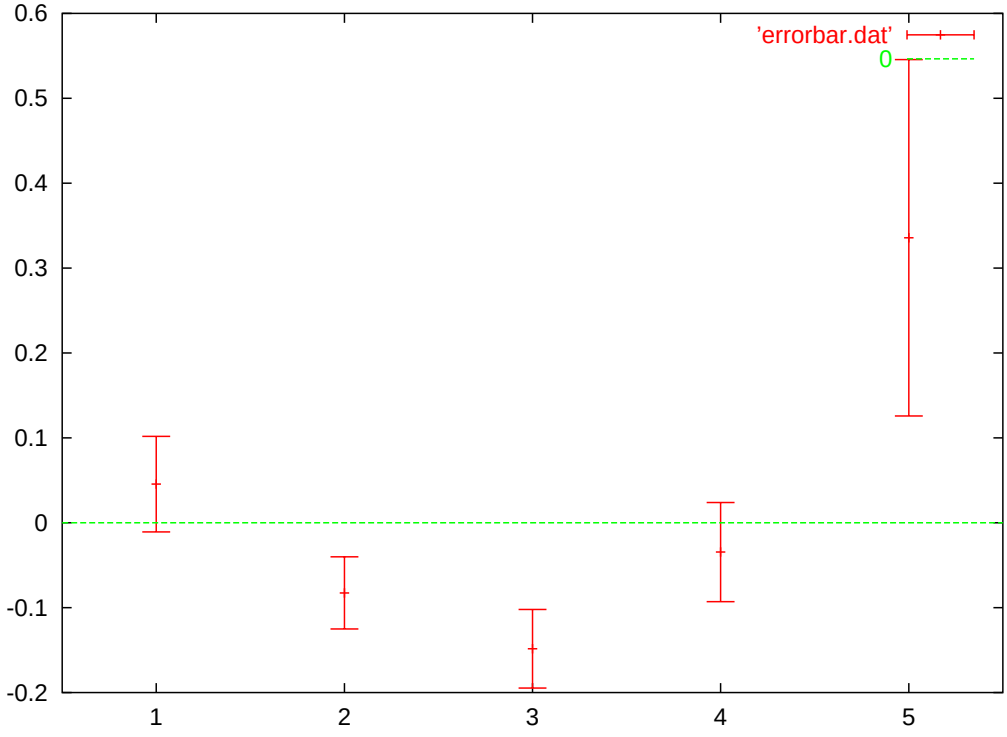
Panel A: All first marriages	1950s or before	1960s	1970s	1980s	1990s
age at marriage	-0.177**	-0.164**	-0.123**	-0.107**	-0.101**
	(0.022)	(0.010)	(0.008)	(0.009)	(0.024)
university[a]	0.418**	0.385**	0.017	-0.296**	-0.829*
	(0.155)	(0.071)	(0.068)	(0.094)	(0.330)
A-levels[a]	0.876**	0.259*	0.148	0.075	-0.337
	(0.217)	(0.113)	(0.081)	(0.096)	(0.299)
O-levels[a]	0.331**	0.109*	0.037	-0.077	-0.270
	(0.100)	(0.054)	(0.051)	(0.068)	(0.222)
premarital cohabitation	1.204**	0.816**	0.531**	0.530**	0.342
	(0.269)	(0.106)	(0.058)	(0.056)	(0.186)
husband was divorcee	0.597*	0.446**	0.333**	0.223**	0.254
	(0.253)	(0.115)	(0.078)	(0.083)	(0.233)
number of children	0.045	-0.076**	-0.143**	-0.037	0.314**
	(0.029)	(0.022)	(0.024)	(0.030)	(0.107)
Number of divorce	592	1855	2087	1392	148
Panel B: First marriages with step, adopted or fostered children excluded					
age at marriage	-0.177**	-0.165**	-0.122**	-0.106**	-0.100**
	(0.022)	(0.010)	(0.008)	(0.009)	(0.024)
university[a]	0.415**	0.385**	0.020	-0.300**	-0.797*
	(0.156)	(0.071)	(0.068)	(0.094)	(0.330)
A-levels[a]	0.887**	0.262*	0.150	0.081	-0.320
	(0.217)	(0.113)	(0.081)	(0.096)	(0.300)
O-levels[a]	0.326**	0.100	0.038	-0.079	-0.235
	(0.101)	(0.054)	(0.051)	(0.068)	(0.222)
premarital cohabitation	1.268**	0.826**	0.529**	0.528**	0.345
	(0.267)	(0.106)	(0.058)	(0.056)	(0.186)
husband was divorcee	0.651**	0.462**	0.337**	0.257**	0.354
	(0.251)	(0.116)	(0.078)	(0.084)	(0.232)
number of children	0.046	-0.083**	-0.148**	-0.035	0.336**
	(0.029)	(0.022)	(0.024)	(0.030)	(0.107)
Number of divorce	590	1847	2081	1388	148

Note: Standard errors in parenthesis; ** $p < 1\%$, * $p < 5\%$;
[a] 'no qualifications' is the reference category.

Coming to the main variable of interest, we note that, with the exception of the earliest cohort, children used to stabilize marriage. But the children effect began to shift in the 1980s, and that by the 1990s, each additional child is associated with a 37% ($e^{0.314} - 1$) increase in the divorce risk. This result is remarkably similar to what we observe for the FWLS.

As before, we have repeated our analysis of the GHS on a restricted sample in which women with step, adopted or fostered children are excluded from the analysis (Panel B). Since the results of the two panels are very similar, we will not discuss them here. Instead, we show, in Figure 1, the ninety-five percent confidence intervals of the effect of genetic children on marital stability by marriage cohorts. Note that the relatively small number of divorces observed for the 1990s cohort implies a much wider confidence interval. The remarkable thing is that, despite this, the confidence interval is still well over the line of no effect.

Figure 1: The ninety-five percent confidence interval of the effect of genetic children on divorce risk, by marriage cohorts, controlling for age at marriage, educational attainment, premarital cohabitation and husband's previous marital status.



4 Why Would Children Destabilize Marriage in the UK?

Having established that the children effect on marital stability has changed over time in the UK, we now turn to explore why this should have happened. As noted above, the relevant question is not whether children destabilize marriage, but under what conditions would they do so? We proceed as follows. First, we provide a short time series of survey evidence to trace how social attitudes towards divorce, especially in relation to children's welfare, have changed over time. Second, we examine whether children weaken a divorced woman's position in the repartnering market, and how that effect might be changing. Third, we test if another form of marital-specific capital (namely, owned home) is losing its stabilizing effect too. Fourth, we examine whether the children effect might depend on their age and sex, as some scholars have argued. Finally, we test if family circumstances, specifically household income, matter.

4.1 Social Attitudes Towards Divorce

'Should parents stay together for the sake of their children?' To the best of our knowledge, there are four systematic surveys in the UK which include such a question. Since the first of these surveys was from 1983, they do not cover the entire period of interest to us. Also, the four surveys are not exactly comparable. They are based on samples of different design,[14] and the question wording and the response categories vary between studies. For these reasons, the evidence presented below must be treated with caution. The wording of the questions and the response cateotries are as follows:

- 1983 BSA: 'Parents with unhappy marriages should stay together for the sake of their children'—agree strongly, just agree, neither, just disagree, disagree strongly.

[14] We use two data sources here: the British Social Attitudes Survey Series (BSA) and the BHPS. The population of the BSA are *individuals* aged 18 and above living in private households in Great Britain, whereas that for the BHPS are *households*. We have restricted our analysis in this subsection to respondents aged 20 to 64. See Appendix A.3 for technical details.

- 1988 BSA: 'When a marriage is troubled and unhappy do you think it is generally better for the children if the couple stays together or gets divorced?'—much better to divorce, better to divorce, worse to divorce, much worse to divorce.
- 1994 BSA: 'When there are children in the family, parents should stay together even if they don't get along'—strongly agree, agree, neither, disagree, strongly disagree, can't choose.
- 1998 BHPS: As in 1994 BSA but without the 'can't choose' response category.

Table 4: Social attitudes towards divorce (column percentages). Data taken from 1983, 1988, 1994 British Social Attitudes Surveys and 1998 British Household Panel Study.

Panel A: Should parents stay together for their children?

	1983 BSA	1988 BSA	1994 BSA	1998 BHPS
divorce	59.1	76.4	65.1	59.6
neither	19.3	—	17.4	26.3
stay together	21.6	23.6	17.4	14.1
N	1231	806	746	7802

Panel B: Does the presence of children matter? (1994 BSA)

	couples with kids	couples without kids	marital problems
divorce	65.1	88.2	55.8
neither	17.4	7.6	22.2
stay together	17.4	4.2	22.0
N	746	754	738

Panel C: For whom is divorce better? (1988 BSA)

	children	wife	husband
divorce	76.4	86.9	87.0
stay together	23.6	13.1	13.0
N	806	786	785

Note: Respondents were given four or five response categories in the interview (see text). We have collapsed the responses into two or three, respectively.

Panel A of Table 4 shows that since 1983 less than one quarter of the respondents say that couples should stay together for their children, and that there is a downward trend in the level of support for 'staying together'. When respondents were not given the 'neither' option in 1988, it was the 'pro-divorce' group which grew in size.

Does the presence of children matter? In 1994, the question we considered in Panel A was followed by this statement: 'Even when there are no children, a married couple should stay together even if they don't get along'. Only 4% of the respondents agreed with this statement (see the second column of Panel B; the first column of Panel B is the same as the third column of Panel A). It is therefore quite clear that normative sanction against divorce is stronger for couples with children than for childless couples. While 4% must be seen as a very low level of support for 'staying together', we note that in the 1994 survey, respondents were also asked whether 'Divorce is usually the best solution when a couple can't seem to work out their marriage problems'. The last column of panel B shows that when divorce is mooted as the *best* solution to marriage problems, significantly fewer respondents endorsed the statement.

Three quarters of the respondents of the 1988 survey said that, from the children's point of view, divorce is generally better than a troubled and unhappy marriage (see second column of Panel A). The same survey also asked whether divorce is better or worse for the wife and the husband. We tabulate these responses in Panel C, which shows that while a large majority of the respondents thought that under the conditions specified, divorce is better for all parties concerned, considerably fewer respondents thought that divorce is better for the children (76% as opposed to 87%).[15]

4.2 Children and the Repartnering Market

We have argued that children might contribute to marital stability through an anticipatory mechanism—by weakening the prospective custodial parent's position in the repartnering market. If this is true, the shift in the children effect might in part be due to a parallel shift: that the disadvantage faced by lone mothers in the repartnering market, as compared to childless divorced women, is declining over time. Just as the

[15]There is some recurring structure in the attitudes towards divorce and children. For example, in all four surveys, women are more likely than men to endorse divorce. This gender difference remains after controlling for age, educational qualifications, and marital status. Because social attitudes is not the focus of our research, we shall not discuss these patterns in this paper.

increase in the incidence of premarital cohabitation has been accompanied by a weakening of its association with divorce (see Table 3), the impact of children on divorced women's chance of repartnering might have weakened as lone motherhood becomes more common (Harrop and Plewis 1995).

To test this idea, we return to the FWLS data. We select all women whose first marriage has been dissolved through divorce, separation or widowhood. Among this group of 1,515 women, 584 have repartnered (i.e. remarried or cohabited with a partner) by the time of the interview. We use the proportional hazards model to examine the effects on the chance of repartnering of several covariates: 'respondent's age at dissolution', 'cause of dissolution' (widowhood vs divorce/separation), 'length of first marriage', 'dissolution cohort' (1=before 1970, 2=1970s, 3=1980s, 4=1990s), and 'number of children at dissolution'. Our main interest is the last of these covariates.

Table 5: The hazard of repartnering for women whose first marriage has been dissolved, proportional hazard models as applied to FWLS data.

	model 1		model 2	
age when first marriage dissolved	-0.084**	(0.013)	-0.085**	(0.013)
length of first marriage	0.048**	(0.015)	0.049**	(0.015)
widow (vs div/sep)	-0.671**	(0.149)	-0.689**	(0.150)
dissolution cohort	0.722**	(0.082)	0.813**	(0.097)
number of children	-0.142**	(0.035)	0.010	(0.093)
cohort $\times$ children			-0.065†	(0.038)
Number of repartnering	584		584	
Log likelihood	-3172.37		-3170.90	

Note: Standard errors in parenthesis; ** $p < 1\%$, †$p < 10\%$.

Table 5 shows that women who were older when their first marriage was dissolved, widows (as opposed to divorcees), those from the early dissolution cohorts, as well as those with a relatively short first marriage have a lower probability of repartnering. It also confirms that children weaken a woman's position in the repartnering market. In model 2, we add an interaction term which allows the children effect to vary in a linear fashion by cohort. The deviance between the two models is 2.94 ($-2 \times [(-3172.37) - (-3170.90)]$), which is not significant for 1 degree of freedom. So there is no evidence

of any linear change. The sign of the interaction term suggests that, if anything, the disadvantage faced by divorced women with children has increased across cohorts.[16] On the whole, we see no evidence that the shift in the children effect on marital stability can be attributed to the changing position of lone mothers in the repartnering market.

4.3 Home Ownership and Divorce Risks

As we note in section 2, the most fundamental reason for children to be a marriage-stabilizing factor is that they are a form of marital-specific investment. The shift in the children effect might then suggest that parents are investing less in their children. It is also possible that there is a general decline in the stabilizing effect of all forms of marital-specific capital.

We explore the latter possibility by testing the effect on divorce of home ownership. A house is obviously not comparable to one's children, as a divorcing couple can always sell the house they own and split the proceeds. But compared to other joint assets, owned home often embodies not just monetary investment, but also lifestyle choice in terms of neighbourhood and decoration, as well as local social networks which are not portable. In this sense, owned home can be considered as a form of marital-specific investment. Of course, as with children, the association between home ownership and marital stability may in part be due to self-selection, in that couples anticipating marital difficulties might avoid or delay buying a house. Practically speaking, we examine the effect of home-ownership because it is a readily available measure.

The analysis for the rest of this paper is based on data taken from British Household Panel Study (BHPS). The BHPS is an annual panel which began in 1991. Its sample, which is representative of the British population, covers 10,264 respondents from 5,511 households in 1991. From the first eight waves of the BHPS (i.e. 1991–98), we have constructed a data set with up to seven wave-on-wave transitions for each

[16] We have tested several specifications of the children variable, namely by counting the number of children under age 2, under age 6 and under age 18 when first marriaged was dissolved. The results are very similar as those reported here.

respondent. This allows us to track their marital status at discrete yearly interval. We focus on women who were in their first marriage. They remain in the risk set until their marriage is dissolved (divorce or separation) or our observation is censored. Our strategy is to use covariates at time t to predict their marital status at $t+1$, using the discrete-time logistic regression model:

$$\log\left(\frac{p_{t+1}}{1-p_{t+1}}\right) = \mathbf{x}(\mathbf{t})'\,\beta,$$

where p_{t+1} is the probability of divorce at $t+1$ given that the respondent was married at t, $\mathbf{x}(\mathbf{t})$ is a vector of covariates, and β is the vector of parameters to be estimated.

Table 6 provides the basic descriptive statistics of the covariates. The value of all covariates are updated each year. So in terms of measurement, they are all time-varying, though some, such as age at marriage, are time-constant by nature. Since the meaning of most covariates is fairly self-explanatory, we highlight just two derived variables here. The variable 'pay comparison' compares the monthly wages of husband and wife (Sørensen and McLanahan 1987), calculated as follows:

$$\text{pay comparison} = \frac{\text{wife}'\text{s pay} - \text{husband}'\text{s pay}}{\text{wife}'\text{s pay} + \text{husband}'\text{s pay}}.$$

This variable ranges from -1 (indicating a situation where all labour income comes from the husband, and thus denoting a low degree of economic independence of the woman) to 1 (where the opposite is true).[17] The variable 'household income' refers to total annual income from all household members, adjusted by household size.

We reproduce the main result of Chan and Halpin (2001) in the first column of Table 7. Most notably, the estimates for the two children dummies are positive, and their magnitudes are substantial. For example, the odds of divorce for couples with one child is six times higher ($e^{1.860}$) than that facing similar but childless couples. These effects might seem implausibly large, though as we shall see, the children effect is

[17] In cases where a spouse does not work, we impute the value zero for his or her wage.

Table 6: Descriptive statistics of the BHPS data

variable name	range	mean	s.d.
duration (years)	1–64	24.69	14.45
duration-squared[a]	0.01–40.96	8.19	8.06
year of marriage	30–97	70.08	14.40
age at marriage (years)	16–60	23.08	4.19
household income	0.45–3.89	1.32	0.37
pay comparison	-1–1	-0.18	0.61
		proportion	
home-owners		75.7%	
renters[b]		24.3%	
1 child		14.8%	
2+ children		27.0%	
none[b]		58.3%	
degree		7.5%	
A-level		27.3%	
O-level		30.3%	
no qualifications[b]		34.9%	

Notes: The unit in this tabulation is person-year in the event history data file;
[a] duration $\times$ duration / 100; [b] reference category.

modified significantly by household circumstances.

Adding the covariate of home ownership in model 2, we see that home owners are about half as less likely to divorce as renters ($e^{-0.568}$). To the extent that home owners have greater investment in their marriage, we see no evidence of a general decline in the stabilizing effect of marital-specific capital.

Table 7: The hazard of divorce for women in their first marriage, discrete-time logistic regression model as applied to BHPS data, 1991–98.

	(1)	(2)	(3)	(4)	(5)	(6)
constant	-0.907	0.549	0.110	0.779	-1.167	-1.158
	(4.892)	(4.893)	(4.922)	(4.904)	(5.053)	(5.069)
pre-1991	-0.871*	-0.858*	-0.115	-0.883*	-0.826*	-0.351
	(0.387)	(0.385)	(0.398)	(0.392)	(0.392)	(0.404)
duration	0.275**	0.293**	0.144*	0.279**	0.263**	0.129*
	(0.060)	(0.061)	(0.062)	(0.060)	(0.062)	(0.063)
duration-squared	-0.573**	-0.603**	-0.309**	-0.580**	-0.543**	-0.250*
	(0.106)	(0.107)	(0.104)	(0.106)	(0.109)	(0.104)
year of marriage	0.102†	0.106*	0.122*	0.104*	0.095†	0.112*
	(0.052)	(0.052)	(0.052)	(0.052)	(0.053)	(0.054)
age at marriage	-0.195**	-0.188**	-0.188**	-0.196**	-0.194**	-0.184**
	(0.033)	(0.032)	(0.032)	(0.033)	(0.034)	(0.034)
degree	-0.732	-0.583	-0.932*	-0.745†	-0.633	-0.787†
	(0.453)	(0.459)	(0.465)	(0.448)	(0.456)	(0.466)
A-level	-0.327	-0.197	-0.411	-0.344	-0.324	-0.351
	(0.271)	(0.277)	(0.276)	(0.273)	(0.280)	(0.287)
O-level	-0.198	-0.092	-0.234	-0.167	-0.155	-0.178
	(0.262)	(0.266)	(0.265)	(0.262)	(0.272)	(0.277)
pay comparison	0.487**	0.469**	0.426**	0.506**	0.522**	0.488**
	(0.150)	(0.150)	(0.153)	(0.150)	(0.153)	(0.157)
household income	-9.993**	-9.953**	-10.299**	-10.046**	-7.170**	-8.182**
	(0.497)	(0.497)	(0.527)	(0.503)	(0.757)	(0.658)
home owner		-0.568**				
		(0.215)				
1 child	1.860**	1.843**			5.115**	
	(0.336)	(0.337)			(1.568)	
1 child × income					-3.395*	
					(1.448)	
2+ children	4.069**	4.031**			10.320**	
	(0.333)	(0.333)			(1.377)	
2+ children × income					-5.618**	
					(1.166)	
child (0–2)			0.994**			2.148
			(0.292)			(1.689)
child (0–2) × income						-1.055

Table 7: The hazard of divorce for women in their first marriage, discrete-time logistic regression model as applied to BHPS data, 1991–98.

	(1)	(2)	(3)	(4)	(5)	(6)
						(1.450)
child (3–4)			1.305**			7.021**
			(0.281)			(1.728)
child (3–4) × income						-4.750**
						(1.445)
child (5–11)			2.707**			7.183**
			(0.265)			(1.457)
child (5–11) × income						-3.592**
						(1.167)
child (12–15)			3.005**			4.377*
			(0.338)			(2.231)
child (12–15) × income						-1.121
						(1.655)
child (16–18)			2.493**			0.074
			(0.626)			(3.113)
child (16–18) × income						1.554
						(2.283)
1 boy				1.999**		
				(0.414)		
1 girl				1.603**		
				(0.410)		
2+ boys				3.134**		
				(0.476)		
2+ girls				3.888**		
				(0.451)		
2+ boys and girls				4.347**		
				(0.351)		
Number of divorce	160	160	160	160	160	160
Log likelihood	-487.71	-484.34	-474.33	-484.04	-474.61	-457.95

Note: Standard errors in parenthesis; ** $p < 1\%$, * $p < 5\%$, †$p < 10\%$.

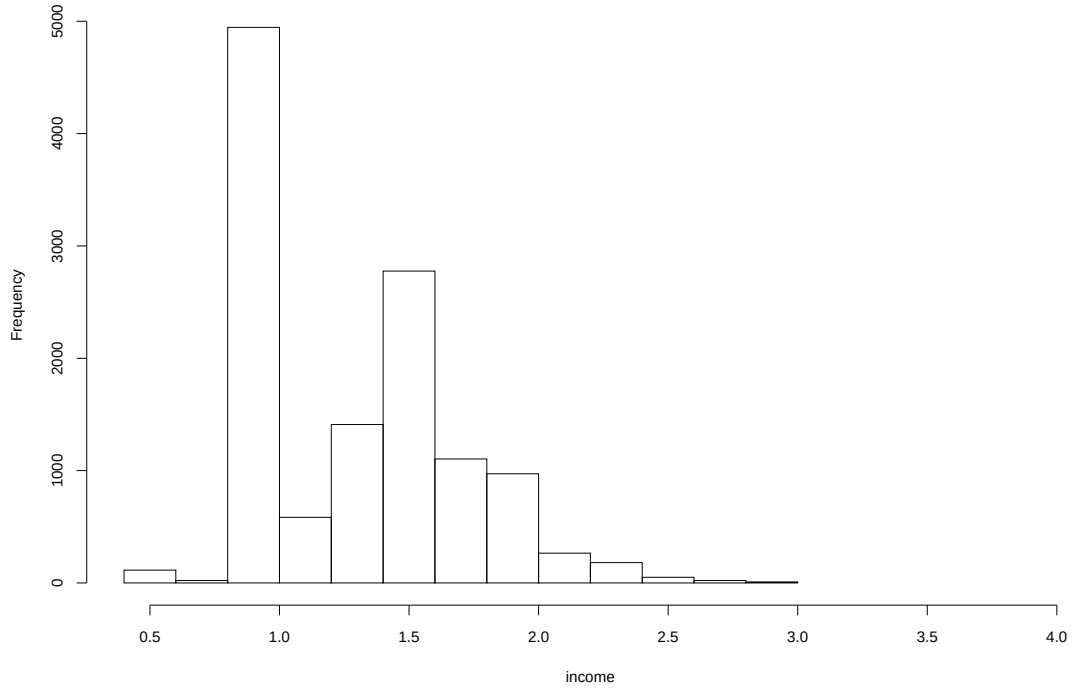
4.4 Children's and Couple's Characteristics

Does the children effect depend on their age and sex? In model 3, we use separate dummy variables to capture the effect of having at least one child in the five age brackets of 0–2, 3–4, 5–11, 12–15, and 16–18. Such a specification does not substantially

modify other parameter estimates.[18] But it now becomes clear that in the UK even very young children destabilize marriage. This finding is stronger than those reported by Cherlin (1977) and Waite and Lillard (1991). However, with the exception of the last age bracket, we do see an age gradient in the magnitude of the effect: the older the child, the stronger the destabilizing effect.

We test the hypothesis of gender difference proposed by Morgan et al. (1988) in model 4. All parameter estimates are positive and statistically significant. At parity 1, the difference in the effect of boy and girl is only 0.396 (1.999 – 1.603), which is well within the range of sampling variation, given the standard errors of both parameters is about 0.4. The same is true for couples with at least two children. In other words, there is no evidence of any gender difference.

Figure 2: Histogram of equivalised household income



In model 5, we add two interaction terms which allow the children effect to vary by household income. Here we see that the children effect on marital stability is crucially

[18]The exception is the dummy which distinguishes marriages which began during the panel period for which we have complete information and those which began before 1991.

modified by household income. While children destabilize marriage in low income families, they have no effect or even a stabilizing effect in middle or high income families. Again, let us illustrate this point with a small numerical example. As readers can see in Figure 2, the distribution of the equivalised household income variable is bimodal, with a spike just under 1 and another mode at around 1.5. Using the parameter estimates of model 5, the effect of having one child for three households with equivalised income at 1, 1.5 and 2 are:

$$\begin{aligned} 5.115 + 1 \times (-3.395) &= 1.720. \\ 5.115 + 1.5 \times (-3.395) &= 0.023. \\ 5.115 + 2 \times (-3.395) &= -1.675. \end{aligned}$$

In model 6, we test the interaction effects using the various age bracket dummies. Again, we see evidence of the mediating role of household income, although some parameters become statistically insignifcant. In particular, children under 2 no longer have a significant destabilizing effect.

5 Summary, Interpretations and Possible Implications

In this paper, we use data from three British sources to demonstrate that in the UK the effect of children on marital stability has changed over time. Children used to be a stabilizing factor in marriage, but they are now associated with greater marital instability. This shift began in the 1980s, and by the 1990s couples with children are at a substantially higher risk of divorce than similar but childless couples. This shift is still evident after we have excluded non-conventional families (those with step, adopted or fostered children) from the analysis.

Why has this happened? We do not have a good answer to this question. But we show that since the early 1980s at most one quarter of the respondents think that an

unhappy marriage is better than divorce for husband, wife and children. Having said that, we note that the normative sanction against divorce is still stronger for couples with children. We also show that children are still a 'liability' for divorced women in the repartnering market. Thus, the shift in the children effect cannot be attributed to a convergence in the repartnering rate of childless divorcees and divorcees with children. Also, home owners are still less inclined to divorce than renters. So there is no evidence of a general decline in the stabilizing effect of marital-specific investment.

There is an age gradient in the children effect—the older the child, the stronger the destabilizing effect. This gradient is partially consistent with the results of Cherlin (1977) and Waite and Lillard (1991). But the striking thing is that in the UK even very young children are associated with marital instability. Contrary to the finding of Morgan et al. (1988), we detect no gender difference in the association between children and marital stability.

We see very clear evidence that in the 1990s the children effect are crucially modified by household income. Perhaps the resources that are available to middle and high income households make it easier for them to cope with the stress and high costs that are associated with raising children. If this is the case, one might argue that a high level of income inequality is bad for marital stability. Income inequality did increase very rapidly in the UK since the 1980s (Atkinson 1997, Jenkins 1996). Some conservative political opinion is in favour of both a greater degree of income inequality and stable families. One interpretation of our results is that, to put it bluntly, you can't have both.

We hasten to add that our results need to be explored much further. If family resources are key to whether children stabilize or destabilize marriage, one might ask: what type of resources is relevant? Is it just income? Or perhaps other types of resources such as informal support networks also play a role.

It is also possible that the shift in the children effect can partly be explained by some selection process into marriage and parenthood. Let us consider a simple hypothetical scenario. Suppose there are two latent classes of people. Those in the first class

get married because they want to have children, and those in the second get married for its own sake. If, for whatever reason, the relative proportion of the two latent classes changes over time in favour of the second class, one would expect the stabilizing effect of children to decline.

Still another possibility is that the fertility rates of the various income groups have changed over time. Since household income is positively associated with marital stability. If fertility rate declines more rapidly among high income families than among low income families, there would be a higher proportion of families that are proned to divorce in the married population.

Our research also suggests the possbility of that parental investment in children might be declining. There is a need to investigate personal interaction pattern within household and parent-child relationship in general. The BHPS contains some useful data in this regard. We plan to examine these data very soon.

A Data Sets

All data sets used in this paper are in the public domain, obtainable from the UK data archive, based at the University of Essex, Wivenhoe Park, Colchester CO4 3SQ, United Kingdom (`http://www.data-archive.ac.uk/`).

A.1 Family and Working Lives Survey (FWLS)

The population of the Family and Working Lives Survey (FWLS) are adults aged 16–69 years living in Britain. This survey was commissioned by the UK Department for Education and Employment and was designed to replicate and extend the 1980 Women and Employment Survey. The main sample of the FWLS was achieved through a two stage process. First, a stratified random sample of Census Enumeration Districts were selected with probability proportional to their size. Then within each Census Enumeration District, addresses were drawn randomly from the Postcode Address File.

The fieldwork was done through face-to-face interview, and was carried out between July 1994 and May 1995. The FWLS provides retrospective life history data for the main respondent and his/her partner over a wide range of areas. We use the full sample in this paper, consisting of the main sample ($N = 9,139$), and a booster sample for ethnic minorities ($N = 2,098$). The overall response rate of the FWLS is a little disappointing—only 53.5%. Table 8 reports the descriptive statistics of the FWLS data used in this paper.

Table 8: Descriptive statistics—FWLS data.

	marriage cohort					
Variables	1950s	1960s	1970s	1980s	1990s	all
	mean and standard deviation					
age at marriage (years)	21.18	21.71	21.49	22.59	24.23	22.05
	(2.83)	(4.27)	(4.47)	(4.64)	(5.97)	(4.47)
max number of children	2.36	2.00	1.60	1.26	0.46	1.62
(all)	(1.52)	(1.37)	(1.33)	(1.08)	(0.86)	(1.40)
max number of children	2.33	1.98	1.59	1.25	0.45	1.61
(genetic)	(1.52)	(1.36)	(1.33)	(1.07)	(0.83)	(1.39)
N	952	812	1017	1176	473	4430
	21.49%	18.33%	22.96%	26.55%	10.68%	

Note: The unit in this tabulation is the individual.

A.2 General Household Surveys (GHS)

The General Household Survey (GHS) is an annual survey which has been running almost continuously since 1971. It is conducted by the Office for National Statistics on behalf of a number of government departments. The aim is to provide information on housing, employment, education, health, and the family for planning and policy purposes. The population of the GHS are private, non-institutional households in the UK. The achieved sample of each year, which is nationally representative, is about 9000 households. The response rate of the GHS is around 70%. Fieldwork is done through face-to-face interview.

Table 9: Descriptive statistics—GHS data.

	marriage cohort					
Variables	1950s	1960s	1970s	1980s	1990s	all
	proportion					
university	7.69	14.14	19.08	20.31	21.77	17.10
A-levels	2.45	4.21	8.35	11.71	15.32	8.05
O-levels	21.81	31.07	37.82	47.58	49.32	37.79
no qualifications[a]	68.05	50.58	34.76	20.40	13.60	37.07
premarital cohabitation	1.05	3.30	15.14	41.64	66.31	21.46
husband was divorcee	1.53	3.91	8.66	12.42	16.08	8.21
	mean and standard deviation					
age at marriage (years)	20.40	21.48	22.10	23.50	25.74	22.41
	(1.98)	(2.88)	(3.80)	(4.30)	(5.07)	(3.94)
max number of children	2.58	2.19	1.89	1.54	0.63	1.85
(all)	(1.57)	(1.21)	(1.17)	(1.07)	(0.77)	(1.27)
max number of children	2.57	2.17	1.88	1.53	0.62	1.84
(genetic)	(1.57)	(1.22)	(1.18)	(1.06)	(0.76)	(1.27)
N	2485	6572	6914	6215	1971	24157
	10.29%	27.21%	28.62%	25.73%	8.16%	

Note: The unit in this tabulation is the individual;
[a] reference category for educational qualifications.

A.3 British Social Attitudes (BSA)

The BSA survey series began in 1983, and has been running almost yearly ever since. This survey series is conducted by the National Centre for Social Research (formerly Social and Community Planning Research), and it covers a wide range of issues over the years, including attitudes towards religion, inequality, work, and the welfare state. Since 1985, the BSA also includes a module of the International Social Survey Programme (ISSP) in its self-completion questionnaire. The 1988 and 1994 data we use in this paper are part of the ISSP.

The population of the BSA is adults aged 18 or over living in the UK. Until 1991, the BSA samples were drawn from the Electoral Register. Since 1993, the sampling frame of the BSA has been the Postcode Address File, which is a list of addresses compiled by the Post Office. The BSA sample is nationally representative. The achieved sample size for each year is between 3,300 and 3,600. But since the BSA has a mod-

ular structure, respondents are asked a different set of questions according to which module they belong to. That is why the *N*s of Table 4 are considerably smaller.

A.4 British Household Panel Study (BHPS)

The BHPS is conducted by the Institute for Social and Economic Research, University of Essex. When it began in 1991, its sample contained 5,511 households. These households were selected through a two-stage clustered probability sampling procedure, using the Postcode Address File. This sampling design is roughly equvalent to the current sampling method of the GHS.

All adults (aged 16 or over) of the original households were interviewed ($N = 10,264$ in 1991). The same individuals have been re-interviewed in successive waves and, should they leave their original household, all adult members of their new households would also be interviewed. Thus, the sample is broadly representative of the population of Britain as it changes through the 1990s. Additional sub-samples were added to the BHPS in 1997 and 1999. Data is collected through face-to-face interviews. Sample attrition of the BHPS is modest: 87.7% of wave one respondents were re-interviewed in wave two. Subsequent wave-on-wave recontact rate is at least 90%. Online information and documentation are available at:

`http://www.irc.essex.ac.uk/bhps/index.php`

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