Local marriage markets in Great Britain: how diverse?

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Estimates are made of the number of potential marriage partners available for unmarried men and women, by age, in Great Britain in 1991 and how this varies across local districts. The preferences of men and women in relation to partner ages are taken into account in the estimates. Average partner supply declines by age for women and increases with age for men. Marriage markets differ between local areas but the differentiation is not as substantial as in many other aspects of local demography and is a good deal less than the variation that occurs through time. Young women and older men have advantageous marriage markets almost everywhere while young men and older women are at a disadvantage in almost all areas.

Introduction

Do people's chances of marriage depend on where they live? Do local areas differ substantially in the supply of potential marriage partners for either sex? Can it happen that men and women who wish to marry have difficulty in doing so because of a shortage of potential partners in their local area, even though there is no imbalance between the sexes in the country as a whole? This article presents the beginnings of an investigation into these questions in the UK context by looking at how variable marriage markets are at local level. We use the term "marriage market" to refer to the relative numbers of the sexes by age, taking account of the age preferences of each sex. However, our measure of relative numbers takes account neither of preferences for partner characteristics other than age nor of variations by age, sex or locality in the demand for marriage/partnership. It could be, for example, that either or both men and women living in large cities are, at any age or at selected ages, less interested in a formal or informal partnership than those living in smaller towns and rural areas, but our estimates take no account of such variations.

The study has its origins in the finding that in the recent demographic history of England and Wales there is little evidence of what has become known in demography as "marriage squeeze" at national level (Ní Bhrolcháin, 2001). The idea of marriage squeeze has two elements: first that in some demographic conditions partner shortages can occur, and second that such shortages may have the effect of constraining the marriage rates of the sex affected. The marriage squeeze hypothesis as originally stated proposed that sharp swings in annual birth numbers could result in imbalances in the relative numbers of men and women in the cohorts affected. This was thought to occur because both men and women have a preference for partnerships in which the man is a few years older than the woman. As a result, when some birth cohorts are disproportionately large relative to adjacent cohorts, or even when there is a long-run trend in one or other direction, disparities could occur in the relative size of the male and female cohorts thought suitable for each other on age grounds. The marriage squeeze idea dates from the early 1960s in the US (Glick *et al*, 1963) but successive authors have found little systematic evidence of a relationship at national level between the marriage rates of either sex and the supply of potential partners, variously measured (for reviews see Keilman, 1985 and Fortier, 1988). Evidence and arguments are presented in Ní Bhrolcháin (2001) to suggest that, contrary to the marriage squeeze idea, the marriage market operates in a flexible manner, and that, because of this, sharp fluctuations in the annual number of births need not and probably do not usually result in a shortage of partners. The lack of evidence for marriage squeeze in the British context is particularly telling, because several sharp peaks and troughs occurred in twentieth century births series, particularly after the two world wars, that should have given rise to a shortage of partners resulting in lower marriage rates, *if* the marriage squeeze idea were correct.

However, that investigation was based on national-level statistics. It can be argued that if marriage squeeze is not apparent in the aggregate, it could nevertheless be present at small area level. This could occur under four conditions: if men and women tend to marry partners who live in their local area, that the age distribution of individuals' potential marriage partners is influenced by the age-sex distribution of unmarried people in their local area, that there is substantial degree of variability in local age-sex structures and thus in local marriage markets, and that marriage chances are constrained or enhanced by local age-sex structure. The first of these conditions is almost certainly met. Available evidence indicates that marriage partners tend to have lived relatively close to each other prior to marriage (Coleman, 1979; Coleman and Haskey, 1986; Relethford, 1999). There is little or no evidence on the second condition but, pending further investigation, it seems reasonable to suppose that the local age-sex structure is reflected in the social encounters of those eligible for and/or interested in marriage or partnership. The third condition is the focus of the present article. On the fourth, there is little or no British evidence as yet, though the issue has been investigated for other countries, particularly in the US. American studies report that the supply of suitable partners is directly associated with marriage rates in local areas, when suitability is defined either in terms of age or by a combination of age and other characteristics such as educational level and economic circumstances (Lichter *et al*, 1991; Lloyd and South, 1996; Blau *et al* 2001). The estimated effects tend however to be relatively small.

Even if the marriage market does constrain or enhance marriage chances at local level, the phenomenon will be of importance only to the extent that local marriage markets are variable. The present study therefore looks at evidence for the third condition mentioned above, by examining how differentiated local areas in Britain are in their age-sex structures and is the first stage of an investigation into the relationship between partner availability and marriage rates at local level in Britain. If partner supply in localities acts to boost or to place a check on marriage rates, but that national level data tend to conceal this phenomenon, we would expect to find substantial diversity in local age-sex structures. On the other hand, if local-level variation in age-sex structure is not sizeable, then the national age-sex structure is likely to be a reasonable representation of the situation in local areas, and the claim that national-level data misrepresent the local picture would have less justification. Thus, the present study focuses on the following question: how variable are local marriage markets?

Data and measures

Measuring partner supply

To assess the relative numbers of the sexes among the unmarried at each age we use an "availability ratio". Availability ratios, originally proposed by Goldman *et al* (1984), measure for each sex and age the average number of unmarried potential partners of the opposite sex per unmarried man or woman, taking account of the partner age preferences of each sex by age and of the competition among members of each sex for age-suitable partners. The form used here is a weighted version of Lampard's Iterated Availability Ratio, an extension and refinement of that devised by Goldman *et al* (Lampard, 1993). Because women on the whole marry men who are older than themselves and men marry younger women on average, and because this age-matching pattern is rooted in preferences, any measure of the relative numbers for marriage market purposes needs to take account of the age preferences of each sex. Previous studies have achieved this in one of two ways. Matches are defined as suitable either by choosing an arbitrary range of potential partner ages or on the basis of the age difference distributions found in the marriages of a selected year or period, for each age and sex. An arbitrarily defined range is unsatisfactory, since its correspondence with true age preferences is unknown. A difficulty with the second procedure is that the observed distributions of age differences in marriages during a particular year or period result not only from age preferences but also from the age-sex structure of the partners available at and before marriage. The present study overcomes the difficulty of identifying age-matches considered suitable by the participants by using data on the explicitly declared age-preferences of a large sample of men and women who were clients of a British dating agency in 1996. The data are based on a sample of 32,326 male and female dating agency clients and were provided by Dateline, a computer dating agency whose clients are distributed geographically throughout the UK. Since dating agency clients are a specialised group, their preferences may not be representative of those of the unmarried population at large. There are, however, no independent sources against which the preference data can be properly validated. Two features would suggest that these data may reflect the preferences of the wider population. First, the implied preferred age differences by age and sex correspond reasonably well with observed age differences in recent marriages in Britain and sex-differentials in preferences for younger/older partners correspond with findings from a general population survey in France. Section III.3 of Ní Bhrolcháin (2001) gives further details.

From these data, we calculate $\alpha_{i,j}$ the proportion of women aged i who would accept, on age grounds, a man aged j and $ß_{j,i}$, the proportion of men aged j who would accept a woman aged i, for ages 17 to 60 in each case[2]. The $\lambda_{i,j}$ weights used in calculating the availability ratios are the product of the male and female acceptance probabilities for corresponding ages: that is, $\lambda_{i,j} = \alpha_{i,j} ß_{j,i}$ and the $\lambda_{i,j}$ are interpreted as the joint acceptability of women aged i and men aged j. The version of Lampard's Iterated Availability Ratio that we use is as follows:

$$IAR_i = \sum_j \left[\frac{\left(\lambda_{i,j} / IAR_i\right)}{\Sigma_k \ \left(\lambda_{k,j} / IAR_k\right)} \right]$$

where IAR_i is the availability ratio for woman i; the equation is solved by an iterative process. The availability ratio for woman i can be seen as summing over all males what Lampard (1993) describes as woman i's "share" of each available man, her share of man j being represented by her interest in man j (the numerator of the expression within the summation) as a fraction of the total interest in man j on the part of all other women in the marriage market (its denominator). Her interest in

Figure 1 Availability ratios by sex and age, 1991

Great Britain

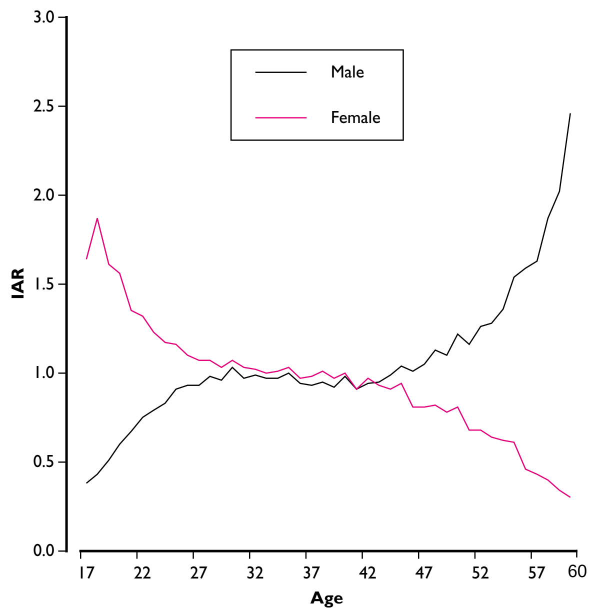
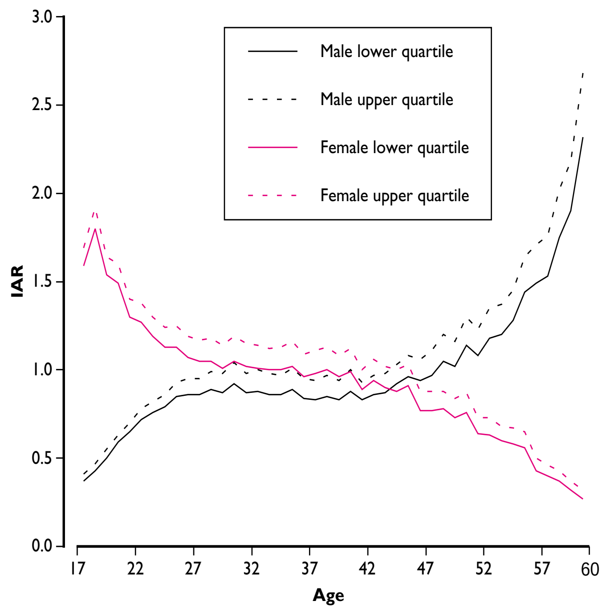


Figure 2 Availability ratios, 1st and 3rd quartiles for each sex, local districts, 1991

Great Britain



man j is proportional to their joint acceptability, and inversely proportional to the number of other men available to her. The availability ratio for man j is written and interpreted correspondingly.

Iterated Availability Ratios (IARs) by sex and single years of age, 17 to 60,[3] are calculated here for all 408 local authority districts in Great Britain in 1991, but with 1998 boundaries. Population estimates by sex, marital status and single year of age for each local authority district were required as input and these were obtained by the method set out in Box 1.

Findings

Overall pattern

The profile by age and sex of partner availability for Great Britain as a whole in 1991 is set out in Figure 1. We see that partner availability is strongly related to age, but in opposite ways for the two sexes. Among women, the average number of potential partners reaches a maximum at very young ages (1.9 potential partners per woman at age 18), declines steadily from there to reach a plateau of just over 1 potential partner per woman in the 30s, and then resumes its decline with rising age to reach 0.3 at age 60+. The position for men is the reverse: partner availability is at its lowest at young ages (0.4 potential partners per man at age 17) and rises with increasing male age to reach a peak of 2.5 at age 60+, but, like the female case, remains level at an average of around 1.0 in the 30s. Unmarried men of 58 have, according to these estimates, about as many potential age-suitable partners available as do 18-year old women, and the position improves with rising age to at least age 60. Work to be reported elsewhere shows that the basic pattern of a decline in the average number of partners available with rising female age and of rising availability with older male age is due primarily to the profile of joint preferences by age rather than to relative numbers. Nevertheless, relative numbers can certainly modify that basic picture, as we will see.

District level variability: cumulative distributions

A first perspective on local variability in marriage markets is given by Figure 2 which shows, for each sex, the upper and lower quartiles at each age of the district-level availability ratios. We see that at the prime ages of marriage, the distance between the 25th and 75th percentiles is modest though judgement in this respect is somewhat arbitrary. At ages up to 40, the interquartile range is no higher than 14 potential partners per 100 for women and a maximum of 12 per 100 for men. For the two groups whose absolute levels of partner supply are least favourable – young men and older women – local areas are even more uniform in relation to marriage markets than for the generality. Geography matters even less for them than for other age-sex groups: by and large, wherever they live, marriage market conditions are unfavourable. We saw earlier that partner supply is abundant for older men, and it appears that some local areas are decidedly better than others in this respect. Men in their late 50s living in districts at the 75th percentile had available to them an additional 25 potential partners per 100 compared with those living in districts at the 25th percentile.

Table 1 Proportion of local districts in which the average availability ratio for 10-year age groups was <0.95, 1991

Great Britain | Percentages

Age group	Female	Male
20–29	0.0	98.8
30–39	13.0	64.0
40–49	64.2	30.2
50–59	99.5	0.5

Figure 3a **Cumulative percentile distribution of female availability ratios, by decade of age, local districts, 1991**

Great Britain

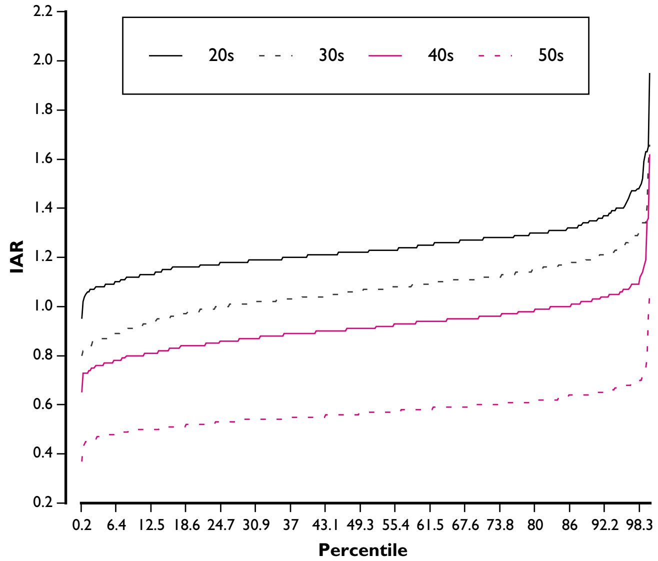
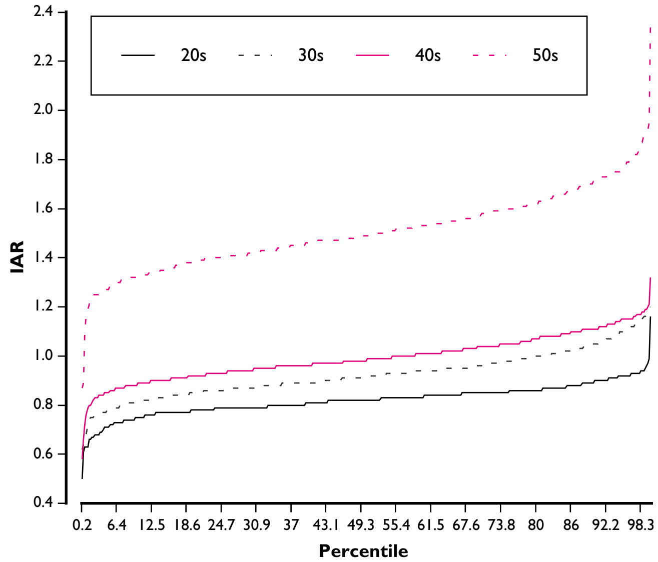


Figure 3b **Cumulative percentile distribution of male availability ratios, by decade of age, local districts, 1991**

Great Britain



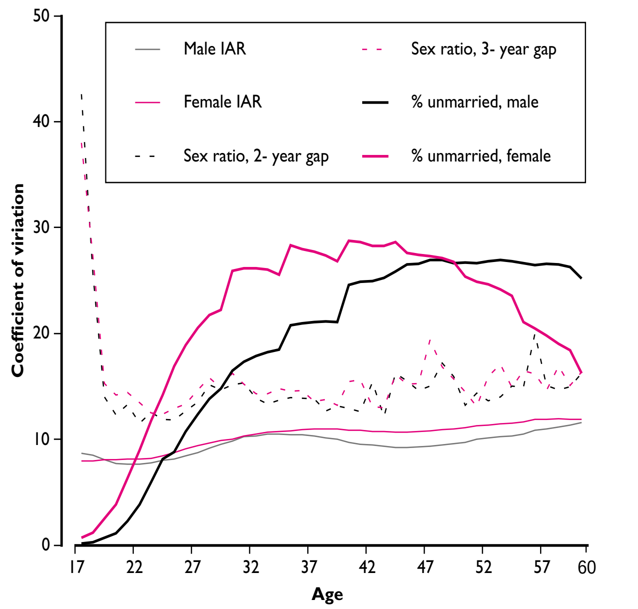
It is noteworthy that at ages up to 40, the male and female quartiles do not overlap: that is, in 1991 partner supply for men in districts at the 75th percentile was, at ages up to 40, less abundant than for women in districts at the 25th percentile of female availability. Indeed, evaluated in the aggregate, the marriage market in 1991 was relatively favourable to British women, considered both in absolute terms and in historical context, and this relatively favourable position appears to have been reflected in local marriage markets around the country. This is evident from Table 1, showing the proportion of local districts in which availability ratios for each sex were below 0.95 and thus unfavourable.[4] Among all 408 local districts there is none in which the average availability ratio for women in their 20s was below 0.95 in 1991, and for women in their 30s, this was true of just 13 per cent of districts. By contrast, in 98.8 per cent and 64 per cent of districts respectively, marriage markets for men in their 20s and 30s were unfavourable (availability ratios of below 0.95). The position reverses at older ages, with unfavourable marriage markets in nearly two-thirds of districts for women in their 40s compared with just under one third of districts for men of this age. Finally, at ages 50+, marriage markets in all but a handful of districts are unfavourable for women and favourable for men. These features are summarised graphically in Figures 3a and 3b.

District level variability: coefficient of variation

Investigations of local marriage markets sometimes use more straightforward measures of relative numbers than the availability ratios calculated here, and so it is of interest to establish how local level variability in the availability ratios compares with that of the more commonly used indicators. A simple sex ratio – the number of men of a given age per 100 women aged 2 or 3 years younger – is often used in marriage market analysis as an approximate measure of partner supply, on the principle that the average age difference tends to be around 2–3 years. The coefficients of variation (the standard deviation expressed as a percentage of the mean) of sex ratios of the unmarried with a 2-year and a 3-year gap have been calculated by age and sex for all 408 districts and these are plotted in Figure 4, along with the coefficients of

Figure 4 **Coefficient of variation in IARs, sex ratios, and percentage unmarried by age and sex, local districts, 1991**

Great Britain



variation of the availability ratios. The sex ratios are a good deal more diverse at district level than are the availability ratios. While there is relatively restricted local variability in availability ratios, with coefficients of variation in the range 7.7–11.9 per cent, the coefficients of variation of the sex ratios are 50–66 per cent higher than those of the availability ratios. Thus, more local variation will be found in marriage markets if sex ratios are used as a measure of supply than if availability indicators are used. The reason for the disparity is that the use of preference weights in calculating the availability ratios smoothes any peaks or troughs in the age distribution and thus damps down sources of variability in local age structures that affect sex ratios. Also shown in Figure 4 is the coefficient of variation of the proportions unmarried in each district, by age and sex. At female ages 22+ and male ages 25+, variability in the proportions unmarried exceeds that of the age-sex specific availability ratios, and this is particularly pronounced for women from the mid-20s and for men from the late 20s. There are, that is, much larger differences between local districts with respect to the proportions unmarried by age and sex than there are with respect to the availability of partners for each sex. This would tend to suggest that although the composition by marital status of local areas is reasonably diverse, the unmarried of both sexes tend to be found in, or gravitate to, the same local areas.

Table 2 **Coefficients of variation across local authority districts in availability ratios and other selected demographic indicators, 1991**

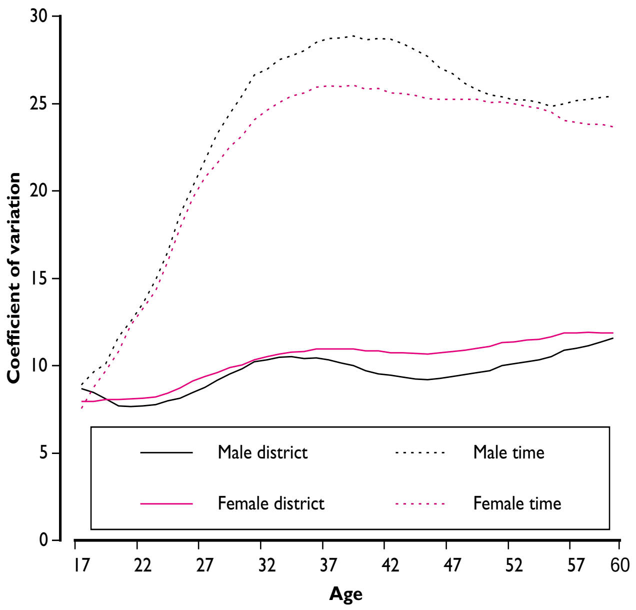
	Percentages
Availability Ratios	*7–12*
Sex ratios (unmarried, 2- or 3-year gap)	*12–43*
Fertility	
Mean age at birth	*4*
Total fertility rate	*8*
Age specific fertility rate, ages 18–19	*40*
Age specific fertility rate, ages 20–24	*25*
Population age structure	
Child dependency ratio	*9*
Elderly dependency ratio	*23*
Mortality	
Age standardised mortality rate	*11–12*
Infant mortality rate	*22*
Age standardised male death rates, all causes, ages 15–44	*22*
Age standardised female death rate, all causes, ages 15–44	*17*
Population density and change	
Population density 1997	*149*
Overall per cent change in population 1991–1997	*156*
Population change due to migration 1991–1997	*254*

Source: All except marriage market indicators calculated from tables in Griffiths and Fitzpatrick (2001) *Geographic Variations in Health in the United Kingdom*. ONS Series. DS16; online at **www.statistics.gov.uk/downloads/theme_health/DS16/ds16.asp**

How can we gauge the degree of local variability observed here in partner supply? So as to put the degree of differentiation of local marriage markets in context, the coefficients of variability across districts are compared in Table 2 with those of a selection of demographic indicators in the 1990s. On this evaluation, partner supply emerges again as displaying relatively modest differentiation at local level. The only one of the indicators considered that is substantially less differentiated across local areas than partner supply is the mean age at birth which, with a coefficient of variation of just 4 per cent, clearly has a very narrow range of variation at local level. The coefficient of variation of 8 per cent for the district level total fertility rate[5] (TFR) also suggests a fairly narrowly constrained phenomenon, showing the restricted geographical variation in overall fertility that has long been recognised as a distinctive feature of the regional demography of the UK (Coleman, 1993). With coefficients of variation in the range 7 per cent – 12 per cent, partner supply as measured by the availability ratios displays local variability of about the same degree as the TFR. There is much less diversity in local marriage markets than in district level teenage fertility rates (CV of 40 per cent, ages 18–19), elderly

Figure 5 **Coefficient of variation in IARs by district, 1991 and across time 1911–1999, by age and sex**

England and Wales



dependency ratios (CV of 23 per cent), and infant mortality rates (CV of 22 per cent). Looking at aspects of the geography of population known to be highly variable between localities – population density, population change over a six year period and population change due to migration – the coefficients of variation, at between 149 per cent and 254 per cent, differ by an order of magnitude.

Comparison with the scale of variability in partner availability through time also reveals that local marriage markets are, relatively speaking, not strongly differentiated. This is shown in Figure 5 which contrasts the coefficients of variation of the availability ratios by age and sex across local districts in 1991 with those across eight census dates (1911–1931, 1951–1991) and 1999 for England and Wales. For both sexes and at almost all ages, variability is substantially greater in the time series than at areal level, and at ages 30+ is more than double the area level variability. Much of the variance in the time series is due to the contrast between the very strong male/weak female marriage markets of the early decades of the twentieth century in Britain and the more buoyant female/less advantageous male marriage markets of the post war period. Nevertheless, it is shown elsewhere that sizeable shifts through time in the age structure of the unmarried gave rise to little or no marriage squeeze (Ní Bhrolcháin, 2001). Thus, the idea that partner supply variations at local level might constrain marriage opportunities may warrant scepticism on this account.

Variation by area type

Nevertheless, marriage markets are not entirely uniform throughout the country, and some differences are found according to the area type. We look first at the contrasts between marriage markets in areas classified into the seven families of the ONS classification of local and health authorities (Bailey *et al*, 1999). Figures 6a and 6b set out the relative position of area types compared with the national average, in plots of the ratio of average age-specific availability ratios in each area type to the overall level for Great Britain as a whole, for men and women respectively. There are two main features. First, partner availability for men in Inner London aged in the mid-twenties to the late 40s is above

Figure 6a Average female IARs for area types as a ratio of Great Britain values, by age, 1991

Great Britain districts

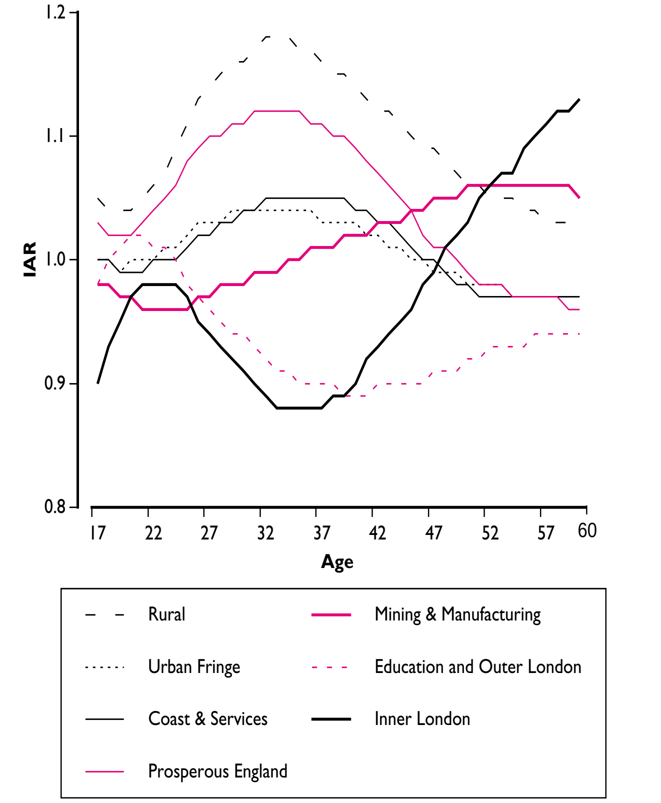
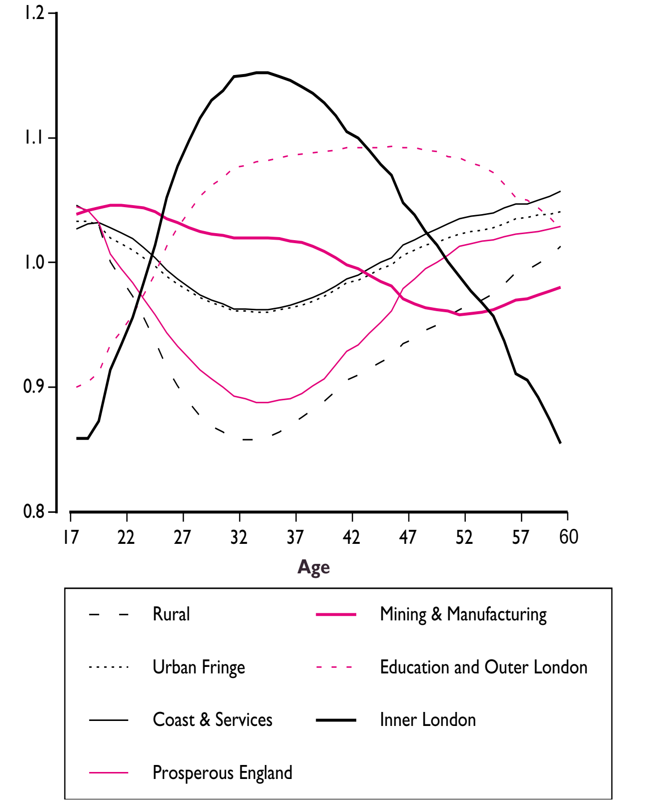


Figure 6b Average male IARs for area types as a ratio of Great Britain values, by age, 1991

Great Britain districts



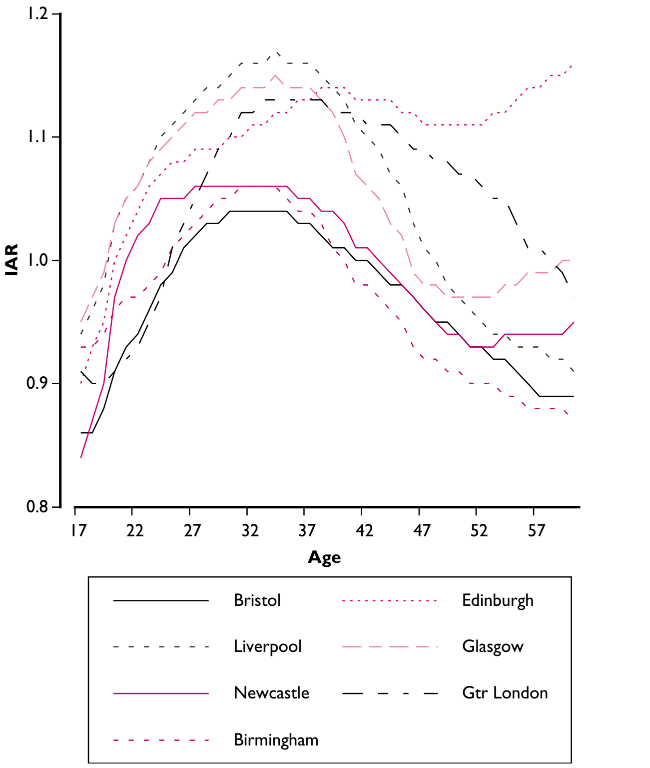
the national average, as it is for men aged in their mid-20s and above living in outer London or in areas classified as educational (this grouping consists of Outer London boroughs together with Aberdeen, Brighton, Cambridge, Edinburgh and Oxford). Note however that partner supply for young men (under 25) and for those over 50 in Inner London is below the national average. Since the position of the sexes is approximately inverse, the reverse is true of women in these areas. On the other hand, partner supply for women is above the national average in rural areas and in localities designated in the area classification as "Prosperous England" – such towns as Chelmsford, Sevenoaks, St. Albans, Winchester and the prosperous shires of the south midlands and south-east.

Large cities

Figure 7 again shows local variation relative to the national average, presenting the state of partner availability for men in selected large cities, expressed as the ratio of the age-specific availability ratios to the overall figures for Great Britain. Leeds and Manchester are not shown, as male availability ratios there are fairly close to national values. The general pattern in large cities is that male availability ratios are lower than average for the youngest men (teens/early twenties), above average between the early to mid-twenties and the early to late 40s, and then drop down below average again at later ages. Greater London and Edinburgh depart somewhat from this pattern, in that the advantageous marriage market position of city-dwelling older men relative to the national picture is maintained to later ages than in the other large cities shown here. The reason is that in both cases, but especially in Edinburgh, sex ratios at older ages are decidedly lower than in Britain as a whole.

Figure 7 Ratio of male IARs for selected large cities to Great Britain values, by age, 1991

Great Britain



Note however that although the marriage market position of older men in most of the cities appearing in Figure 7 is worse than the national average, the absolute level of partner supply for men of this age is extremely advantageous almost everywhere. There are, as we saw in Table 1, only a handful of areas where men of 50+ are disadvantaged in the marriage market.

London

London is an interesting case since there are sufficient differences in population structure to generate sizeable differences between the apparent partner supply for people living in different parts of London. Here we consider female availability ratios in London boroughs – the position is essentially the opposite in male marriage markets. For women of 25 and under, all areas of London have a reasonably plentiful supply of potential male partners, with availability ratios of 1.06 per woman and above. Nevertheless, there is some geographical variation, primarily between inner and outer London boroughs. Partner supply for unmarried women in Inner London is less plentiful from the late 20s on than in most of the outer boroughs – and the position for men is, correspondingly, inverse. By age 30 female availability ratios in almost all inner boroughs had dipped below 1.0, and this was true as early as age 26 in Hammersmith and Fulham. In the majority of outer boroughs, female availability ratios remained above 1 into the early 30s, and in Hillingdon and Richmond upon Thames to age 35. The geography of partner availability does not, nevertheless, follow an exact split between inner and outer boroughs. Availability ratios become unfavourable to women in the late 20s in Barnet, Brent, Ealing, Greenwich, Lewisham and Waltham Forest, all outer boroughs, whereas they remain favourable into the early 30s in Newham and Tower Hamlets, both inner boroughs. In Kingston upon Thames, women in their 20s had on average 1.27 potential partners available in contrast to 1.11 for women living in Camden. For women in their 30s, average partner supply stood at 1.01 in Kingston upon Thames by comparison with 0.83 in Wandsworth – a difference of 18 potential partners per 100 women. Among older women – those in their 50s – all four of the best boroughs are in inner London, but there is not, in general, a great deal of geographical differentiation at these older ages where, as in the case of the youngest men, potential partners are in decidedly short supply.

Discussion

In the 1990s, marriage markets were, in historical context, fairly buoyant for British women and less advantageous for British men. Nationally, the supply of age-appropriate potential partners for women was at and above parity to the late 30s/early 40s. Marriage markets vary between local districts but the degree of variability is not striking. The interquartile range between ages 20 and 40 is 0.1–0.14 (female) and 0.05–0.12 (male). At older male ages however there is greater differentiation between local areas – essentially varying degrees of advantage in the marriage market. The coefficients of variation of availability ratios across local districts by age and sex are in the range 7 per cent–12 per cent, making marriage markets slightly more variable geographically than the total fertility rate but much less so than other demographic indicators such as the infant mortality rate and less variable by an order of magnitude than aspects of population geography known to be highly differentiated locally, such as population density and the proportion of population change in an area that is due to migration. Local level variation in marriage markets is of course primarily determined by areal variation in age-sex structure, which in turn is influenced predominantly by migration patterns by age and sex.

Whether areal variations in partner availability of the kind we have found operate to constrain or boost marriage chances is not addressed here. We are investigating the subject in further research. Little is known, as yet, about the geography of marriage and there is no sound basis at present for evaluating how much of a difference between geographical areas in partner supply would make a material difference to marriage opportunities and rates. Information is lacking also on what geographical areas could properly be considered local marriage markets. Local authority district boundaries are defined for administrative reasons and it would therefore be surprising if they corresponded precisely to the geography of social interaction, though we might expect that geography will place some constraints in this respect. Nevertheless, the opportunities available in a modern society for frequent travel outside of one's area of residence for social and leisure purposes may well mean that the geographical range of marriage markets is enlarging. an issue on which, again, systematic information is lacking. Administrative boundaries are likely to be even less accurate markers of social interaction in large conurbations than in general. It seems unlikely that in a large city such as London social contacts and opportunities to meet potential partners are greatly influenced by people's borough of residence and more likely that, insofar as geography matters, London is a single marriage market. Data on place of residence at the time of first encounter are not currently available but such information would allow a start to be made on delineating the geography of partnership and marriage.[6]

Some American studies of local marriage markets have used labour market areas as geographical units (Lichter *et al* 1991, 1995; Lloyd and South, 1996) which seems a sensible choice, because of the likely importance of the workplace as a source of social contacts, particularly for younger unmarried people (Bozon and Heran, 1989; Kalmijn and Flap, 2001). American studies have also attempted to measure the supply of suitable partners by reference not only to age but also to socio-economic characteristics such as education and employment (Qian and Preston, 1993; Lichter *et al*, 1995, Blau *et al*, 2000, Lewis and Oppenheimer, 2000). If suitability were to be refined so that only the employed were considered suitable partners, then areal variability might increase substantially. It can be argued that a comprehensive treatment of potential partner availability would include such characteristics, but a prior question is the state of the marriage market in pure demographic terms – numbers by age – and that is the aspect we have considered in this article.

Box one

How the mid-1991 local authority population estimates by marital status were produced

Mid-1991 population estimates by sex, single years of age 0–84 and 85+, and marital status were produced for the local government areas of Great Britain based on the boundaries of 1st April 1998. These statistics were estimated by a computer program which made use of the following data:

(i) mid-1991 population estimates by sex, single years of age and marital status for England and Wales, and Scotland,
(ii) mid-1991 population estimates by sex and single years of age for local authority areas in Great Britain (1998 boundaries),
(iii) 1991 Census populations adjusted for higher education students by sex, (mostly) quinary age group and marital status for local authority areas in Great Britain (1998 boundaries), and
(iv) 1991 Census England and Wales marital status adjustment factors.

The estimation process consisted of a number of steps.

Step 1: 1991 Census data extraction

A SASPAC command file was used to extract 1991 Census statistics on the populations of local authorities by sex, (mostly) quinary age group and marital status. These data come from Table 2 of the Local Base Statistics (LBS). Using LBS Tables 58 and 37, adjustments were made to the 18–19 and 20–24 age groups to 'move' higher education students from their term-time to their vacation addresses – needed for consistency with the official population estimates. The SASPAC command file included an embedded look-up table so that the extracted data were based on the new local government geography of 1998. The bulk of this SASPAC file was produced for an earlier piece of work on look-up tables reported in Wilson and Rees (1998).

Step 2: marital status data adjusted

Adjustments were made to these figures to compensate for the mis-statement of marital status in the 1991 Census using adjustment factors taken from the Census Validation Survey (Table B of Morris, 1997).

Step 3: initial estimates produced

Initial estimates of the local authority estimates by sex, (mostly) quinary age group, marital status and local authority area were produced. The proportion of the local authority population by sex and age group in each marital status category was calculated from the adjusted 1991 Census figures (from step 2). These proportions were then used to disaggregate the local authority population estimates by sex and single years of age. For these initial figures the proportions for each age group were used for all relevant single year age groups within them.

Step 4: constrained estimates produced

The required local authority marital status population estimates had to meet two sets of constraints. First they had to sum across all local authorities and be consistent with the England and Wales and Scotland national marital status estimates by sex and age. Second, they had to sum across all marital status categories to be consistent with the local authority population estimates by sex and age. This can be conceptualised as requiring the three-dimensional data 'cube' of population estimates to sum correctly to the two 'faces' of local authority area population estimates and the national marital status population estimates – as shown in Figure 1 below. The consistency was achieved by an iterative proportional fitting routine operationalised in a Fortran program.

Notes

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1. Correspondence to: Dr Máire Ní Bhrolcháin, Department of Social Statistics, University of Southampton, Southampton SO17 1BJ.
2. The dating agency information relates to clients aged 18–60+, ages and age preferences of 60+ being top coded . Dating agency clients are aged 18 and above but some men specified 17 as the lower limit of their preferred partner age range. Since reciprocal preferences are required in the calculation, preferences were attributed to 17 year old men and women by assuming that their preferences were the same as those of 18 year olds, lagged by one year. That is, where $\alpha_{i,j}$ is the proportion of women aged i who would accept a man aged j and $ß_{j,i}$ is the proportion of men aged j who would accept a woman aged i, the $\alpha_{17,j}$ were set equal to $\alpha_{18,j+1}$ and the $ß_{17,i}$ were set equal to $ß_{18,i+1}$.
3. Partner availability for women in their 50s is likely to be underestimated somewhat since sizeable proportions of such women express an interest in men of 60+, but since preference information is not available at ages over 60, men over 60 are not counted as potential partners. Women over 60 are excluded also but this will have much less impact on male availability ratios, since men in their 50s are considerably less interested in partners of 60+. Availability estimates for men in their 50s will be biased upwards somewhat by the omission of competition with older men for women in their 50s.
4. The figure of 0.95 is chosen arbitrarily as a limit below which marriage markets might be considered unfavourable. It seems reasonable to suppose that there are ranges of availability within which differing levels of partner supply are either imperceptible to the participants or of little practical significance. Our indicator is also subject to errors of measurement of various kinds.
5. The total fertility rate is the mean number of children born per woman, at the rates obtaining in the year in question, and is obtained by summing the age specific fertility rates across the reproductive age range.
6. Haskey (2002) estimates that in 8 per cent of all civil marriages in 1998 the bride and groom had addresses in different registration districts. However, since over 4 in 5 couples marrying in a civil ceremony had identical addresses at marriage, implying that they were cohabiting, the figures cannot be used to assess propinquity at the time the couple first met.

Key findings

- The average number of potential partners available is at a maximum for women at young ages and for men at older ages. In 1991, the marriage market was particularly advantageous for women under 30, and, correspondingly, disadvantageous for men of this age. Partner supply remained marginally favourable to women up to the late 30s and somewhat disadvantageous to men up to the mid 40s. These figures allow for the partner age preferences of each sex and for the numbers unmarried by age and sex, but take no account of economic and social characteristics of potential partners.

- Estimates of partner supply for local districts reveal that while unmarried people encounter a decided shortage of potential partners in some districts, local marriage markets in 1991 were not all that heterogeneous. Local districts are less differentiated in their marriage markets than they are with respect to teenage fertility rates, elderly dependency ratios and infant mortality rates. District level variability at a point in time is substantially less than variability through time in partner supply by age and sex.

- Partner supply for young men and older women varies least by area of residence, potential partners being in short supply for these groups regardless of where they live. Local variability is greater for young women and older men, but for them the differentiation is essentially between varying levels of marriage market advantage.

- For men in their mid 20s and older, partner supply is above the national average in London and in centres of education; marriage market conditions for women are, correspondingly, below the national average in these areas. Women living in rural areas and the prosperous towns and counties of the south-east, excluding London, have better than average marriage markets.

- Men of 25 to 45 or so who live in large cities enjoy particularly favourable marriage markets.

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