HOMOGAMY AND FERTILITY[0]

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Abstract
This paper attempts an empirical analysis of the effect of homogamy - shared geographic origin within a couple - on fertility. We use the SHIW to examine the fertility of a sample of Italian women and find that those with the same origin as their husbands tend to have more children, even after controlling for several individual, family-level, and area of residence characteristics. We also find that the impact of homogamy on fertility is stronger for less educated women and for those residing in lagging areas.
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1. Introduction

To indicate that fortune in marriage (as well as in business) relies on cultural affinities among the parties involved, an old Italian saying goes "*Mogli e buoi dei paesi tuoi*."[1,2] The saying is not limited to Italy: English and American versions of the same proverb are respectively "Better wed over the mixen than over the moor" and "Stick with your tribe."

Research has shown that newlyweds and married couples resemble each other in many physical, psychological and social characteristics (Johnson, 1980; Mascie-Taylor, 1988, 1995; Kalmijn 1991a, 1991b; Mare, 1991; Blackwell and Lichter, 2000, 2004; Blossfeld and Timm, 2004; Mare and Schwartz, 2006). Assortative mating, or homogamy, seems to be so widespread, general and ubiquitous that Burgess and Wallin (1943) could state: "On no trait except sex is there reliable evidence of predominance in marriage of dissimilars." As the old Italian saying suggests, sharing the same geographical origin can enhance cultural affinities. Bossard (1932) showed that in the 1930s half of the matrimonies in Philadelphia were from mates living each other not farer than 20 blocks. Similarly, Catton and Smirich (1964) calculated that the majority of those who got married in Seattle during the 1950s was residing less than 4.5 kilometers apart. For the same period, Girard (1964) estimated that in France seven out of ten weddings took place between mates sharing geographic origin. The evidence we report below suggests that in Italy at the turn of the XXI century homogamous weddings account for over sixty percent of the matrimonies.

The idea that having a mate with the same geographic origins has important implications for the married life goes beyond popular wisdom. Other than sociology, economics has also speculated a lot about it. Becker (1973 and 1981) shows that in a context of imperfect information participant in marriage markets might marry with erroneous assessments and then (costly) revise their judgment after marriage. In this context, a common geographic origin is a ready-to-assess trait that proxies for a number of desirable traits that are difficult to ascertain in a potential mate. Bisin and Verdier (2000) argue that shared-origin marriages can be explained by the parent's care for the development of cultural traits of the children. Homogamous families enjoy a more efficient transmission technology for they shared traits than families with mixed cultural parents.[3]

In this paper, we explore the hypothesis that homogamous marriages are more stable (perhaps, fortunate), because of the cultural affinities within the couple, and therefore have more children (see Becker

[1] It means "Both wives and cows should be from your same area."
[2] The historical origins of the saying are not undisputed. By doing a Google search we find that the saying might either originate from Sicily, where the emphasis seemed to be on women, or Tuscany, where it was referred mainly to business.
[3] See also Burdett and Coles (1997) and Cole et at (1992).

et al. 1977).[4] Thus, this paper is linked with the recent literature on the cultural determinants of fertility,[5] and, more generally, to the cultural determinants of socio and economic outcomes (see, for instance, Guiso et al. 2006).

We focus on Italy, where the association between homogamy and fertility seems to receive empirical support, at the least at some aggregate level. Figure 1 provides some suggestive time-series evidence. Before the turn of the 70s, the fertility rate of Italian women was as high as 2.5. Subsequently, it went down rapidly reaching 1.2 children per woman in the last half of the 90s (the lowest fertility rate all over the word!). Over the same half a century, homogamy, defined as couples where both mates were born in the same Italian province, also decreased from 72% to 62%. More relevant to our focus, cross-regions evidence indicates a similar positive relation between homogamy and fertility (Fig. 2). In 2001, the regions with relatively high fertility rates were also the areas in which homogamy was more widespread.

Clearly, aggregate time-series or cross-region evidence can only be evocative. Many confounding factors can be at stake. For instance, the increasing trend in education experienced by Italian women in the second half of the XX century might explain why homogamy and fertility are correlated, as skilled women tend to procreate less and at the same time have greater chances to meet someone with different geographic origins. On related grounds, differences in local economic development might be what drives the observed relation, as richer areas are featured by higher female labor market participation, which may depress fertility, and higher domestic and foreign immigration, which may endanger homogamy. To establish a clearer link between homogamy and fertility, this paper controls for many the potential confounding factors. In particular, by using individual-level data we are able to study the reproduction outcomes of Italian women as function of their characteristics (age, education, etc.), the features of their close relatives (husbands and families of origins), and the characteristics of the area in where they live. We find that homogamy matters.

The paper is structured as follows. Next section presents the dataset. Section 3 provides the econometric results. Section 4 offers some concluding remarks.

[4] Another obvious potential dependent variable to test the effect of cultural affinities on marriages is the divorce rate. Unfortunately, the SHIW does not provide us with data on the duration of the marriages. Nevertheless, aggregate data shows that separations are more frequent for spouses with different birthplaces (Istat, 2007)

[5] The existing literature has focused on the cultural heritage of the woman's country of origin. Guinnane et al (2002) find that Irish immigrants in the US have larger families than native-born population and Gjerde and McCants (1995) study the fertility of Norwegian immigrants to middle west (see also Blau (1992)). Fernandez and Fogli (2006a and 2006b) show that the country-of-origin effect is not limited to case studies, but holds for a wide sample of immigrants of varying origins. Closer to our paper are Mascie-Taylor (1988) and Mare and Schwartz (2006), that analyze the effect of educational assortative mating on fertility.

2. Data set and Variables

To study the effect of homogamy on fertility we use the SHIW. This survey is conduced every two years by the Bank of Italy on a representative sample of about 8,000 households: see Bank of Italy (various years) for details. Among the information on Italian households, the SHIW provides data on fertility behavior that are appropriate for our purposes. Contrary to the Census, which provides only information on the number of woman's children living in the household with the respondent, the SHIW collects also information on the woman's children not living in the household, so to have a reliable figure on fertility.[6]

The confidential version of the SHIW we have access to[7] provides also data on the province of birth of each respondent. We use this data to proxy for common geographic origin within the couple.[8]

To obtain a sizable sample, we use observations from the following waves of the SHIW: 1995, 1998, 2000, and 2002. Prior to 1995 the SHIW did not collect information on the children not living in the household. We construct our sample by including all married women between 29 and 50 years of age. This age group is quite standard in the literature on fertility: see Fernandez and Fogli (2006b). The summary statistics for the sample are presented in Table 1. The women in our sample are on average 40.4 years old and have 1.9 children. Their husbands are on average 4 years older. Women and their husbands have on average less than an high school diploma while their parents on average stopped gaining education at the elementary school level. The homogamy rate in the sample is around 70%.

3. Analysis and Results

We start by presenting our baseline empirical specification and provide a first sensitivity analysis that takes into account characteristics of women' husbands and families of origins. We then present results aimed at lessen the concern that homogamy is capturing something else than cultural similarities within the couple. Finally, we look at the impact of homogamy on fertility by cohorts, skill groups, and areas of residence.

3.1 Baseline estimation and individual-level robustness

We estimate the following model:

[6] We should note however that as for the children non living in the household the SHIW includes only those who were still alive at the time of the survey.
[7] Access to the confidential version of the SHIW is restricted to the staff of the Bank of Italy.
[8] This proxy can underestimate the true extent of proximity among spouses. According to Barbagli et al (2003), 60% among the province-level homogamous couples comprises of mates who shared the municipality as common area of birth.

(1) $$Y_{irt} = \beta_0 + \beta_1 Homogamy_i + X_{irt}\beta_2 + \gamma_t + \varepsilon_{irt}$$

where Y_{irt} is the number of children born to woman *i*, who resides in area *r*, and is interviewed in year t. In X_{irt} we include a set of individual and local characteristics that varies with the specification considered, while γ_t is the year of survey fixed effect. Our variable of interest is $Homogamy_i$, a dummy that takes on the value of one if the woman is married with a man born in the same province (accordingly, all the standard errors we report are corrected for clustering at the province level).

Table 2 provides a first set of results. The regressions all include, beyond year-of-interview fixed effects, a dummy for the women residing in the south. As underscored in the literature on the cultural determinants of socio-economic behavior, southern regions display a set of social values quite different from that of their centre-northern counterparts, while the heterogeneity within the two areas plays a minor role (see: Banfield 1958, Putnam 1993, Ichino and Maggi 2000, Guiso et al. 2004, Tabellini 2005, de Blasio and Nuzzo 2006). Moreover, a south dummy is a sensible inclusion, as this area differs from the remaining regions in many respects beyond culture, such as infrastructure, female participation, immigration etc. Thus, homogamy can pick up differences between the centre and north, on the one hand, and the south, on the other, that just happen to be correlated with it. Note however that controlling for the area of residence amounts to estimate the effect of homogamy within the two areas. Therefore, to the extent that the impact of homogamy on fertility reflect area-common cultural influences, our estimates are downward biased.

The first column in Table 2 reports the results from regressing the number of children born to woman *i* on the proxy for shared territorial origin, controlling by nothing else than year of survey fixed effects and the dummy south. The coefficient on homogamy is positive and statistically significant, indicating that women whose husbands were born in the same province tend to have more children. The south dummy enters with the expected positive sign and high significance.

There may be many reasons for the positive partial correlation above that have little to do with cultural similarities within the couple. In particular, our measure for homogamy may be picking up other characteristics of the women. Column (2) presents the results obtained by including a set of individual characteristics, in particular the woman's age, age squared, and a series of dummy variables to capture the level of education (none [omitted], elementary school, middle school, high school, bachelor's degree, post-graduate qualification). As expected, more educated women tend to have fewer children and age enters positively with a decreasing effect. The influence of homogamy remains positive and statistically significant, albeit smaller in magnitude. To assess the quantitative impact of cultural affinities, note that having a husband born in the same-province is associated with a 0.17 increase in the number of children. This

represents a non-negligible proportion of the variation in the number of children across women (the sample mean is 1.86 with a standard deviation of 1.01; see Table 1).[9]

Fertility is likely to be influenced not only by woman's features but also by other family characteristics. In particular, wealth and human capital of the woman's parents may play a role. Column (3) includes mother's and father's level of education to proxy for the family background. Interesting, we find (coefficients not reported) that the mother's education has a negative and significant effect on fertility while the father's education has a positive but non significant effect.[10] In all cases, cultural affinities remains positive and significant.

Column (4) explores how the inclusion of the characteristics of a woman's husband affects our analysis. We include the following variables: age, age squared, education and total income. We find that both husband's education and income do not enter significantly. Homogamy appears to play an important role even after controlling for the husband's characteristics.

3.2 Province-level robustness

Table 3 provides additional robustness checks. Recall that our variable of interest is defined as shared province of birth within a couple. Since our concern is that homogamy might be picking up province-specific characteristics that vary within the two regions (centre north and south), we test whether the estimated effect of homogamy is robust to the inclusion of province-specific omitted variable. While the list of potential controls is never complete, we include here some important ones for which we can think of plausible stories that can generate the spurious correlation.

We take the baseline specification (Table 2, Column 2) and start (Table 3, Column 1) by controlling for the 1995 sex ratio (i.e., relative numbers of men and women) that according to Angrist (2002) is associated with increased marital stability and thus more children. Since an increase in the sex ratio increases the likelihood of finding an husband of the same province, areas featured by higher sex ratios might display an higher proportion of homogamous couples for reasons that might have not to do with cultural affinities. We find that the sex ratio enters positively and significantly. The point estimate for homogamy decreases from 0.17 to 0.11, remaining however positive and statistically significant.

In Column 2 we include the 1995 share of population residing in the province but born outside of it. An higher share of extra-province immigrants might decrease the likelihood of finding a husband of the same province. We find that intra-province migration enters significantly with a negative sign. Again, the coefficient on cultural affinities remains positive and significant, albeit its magnitude decreases somehow.

[9] In the following of the paper we take the specification of Column 2 as our baseline.
[10] Fernández and Fogli (2005a) find a similar pattern for the US case.

Next, we include the 1995 density of population (Columns 3). In principle, omitting density could bias our results in both directions. For instance, Costa and Khan (2000) argue that higher education couples (power couples) are over-represented in cities, because cities facilitate the resolution of the co-location problem (see, also, Compton and Pollak 2004). To the extent that power couples are less likely to be homogamous and less likely to procreate, omitting population density from the specification could negatively bias the estimates. On the other hand, densely populated areas might be featured by a more efficient marriage market, which allows good matches more frequently (see: Edlund 2005 and Gautier et al. 2005). Therefore, cities might attract singles form outside. In this case, cities will display an higher proportion of non-endogamous couples in conjunction with higher fertility (better matches are arguably more prolific), and our results would be upwardly biased. Turning to the results, we find that population density does not enter significantly and the coefficient on homogamy remains undisputed.[11]

After that, we control for the local endowments of social capital. The measured used is the average provincial electoral referenda turnout for the six referenda held before the 1990s. As suggested by Putnam (1993), referendum turnout captures well the social norms shared among members of a local community (see Guiso et al 2004 for details on this variable). As explained by Banfield (1958) and Putnam (1993) low-trust communities have social norms supporting a male breadwinner conception, where women are mostly confined to housewife activities. de Blasio and Nuzzo (2006) provide support for the positive association between social capital and female labor market participation. To the extent that social norms in low-trust communities also prevent marriages with non-natives, omitting social capital from our specification could bias our estimates upwardly. In Column 4 we find that the coefficient for social capital enters with a negative sign and statistical significance. The coefficient on homogamy decreases moderately, while remaining significant.

In Column 5 we include female labor market participation. Again, this variable might pick up cultural aspects specific to the area, which we can have erroneously attributed to homogamy. Additionally, women that are active in the labor market might have more chances to find someone who is not born in the same province, than those who stay at home. Somewhat surprising, we find that the area-wide female participation does not seem to be a significant determinants of fertility, while the coefficient on homogamy remains unchanged.

Finally, we include all the province level controls at the same time (Column 6). Basically, all the territorial covariates continue to enter with sign and significance shown in the previous specifications. The only exceptions being the coefficients on female participation, which now enters negatively and displays high significance, and on social capital, which loses magnitude. Crucially, we still find a positive and significant role for homogamy.

[11] This could mean either that density does not matter or that two countervailing effects cancel out each other.

3.3 Movers vs. Stayers

As underscored by many (see: Guiso et al 2006, Fernandez 2007) the main problem faced in the analysis of cultural determinants of socio-economic behavior is to isolate their influence from those due to confounding determinants, for instance purely economic variables. This section tries to provide more convincing evidence in this respect.

Our approach exploits the portability of social values. As underscored by Fernandez (2006a), immigrants to the US share by definition the same markets and institutions but they do not necessarily share the same culture. Therefore, to the extent that different immigrant groups exhibit different socio-economic outcomes, there would be scope to argue that culture matters. On the other hand, confronting immigrants with natives could be misleading since the effects of cultural differences between immigrants and natives cannot be distinguished from the effects arising from shocks associated with immigration. In this spirit, we divide our sample of 8,314 couples according to the status of mover or stayer of the mates. A stayer is a person that resides at the time of the survey in the same province where she/he was born, while who dwells in a province that is different for the province of birth is defined as mover. The mover-stayer matrix is reported in Table 4. For most of the couples in our sample (5,395 over 8,314) both mates did not move. On the other side, only 948 couples include mates that are both residing in a province different from that of birth.

Since in our test eterogamy is represented by couples where at least one of the mates moved to a province different from the one of birth, while homogamy is mostly represented by couples where both mates are residents in the same province where they were born, it could be argued that we are misleadingly mixing the effects of eterogamy with the effects of internal migration. Should the homogamy dummy be capturing these latter effects rather than cultural affinities within couples, we would find its impact to be limited to those who never moved. This is not the case. In Table 5 we provide the estimates of the homogamy effect for couples with different degrees of overlap between the area of birth and that of residence. We start (Panel A) by selecting only couples whose province of residence is different from that of birth for both mates. In this case we can completely disentangle migration from eterogamy. The homogamy effect not only survives but is even stronger than in the entire sample (see column 2 in Table 2). Since this sub-sample is quite small, we perform additional experiments with larger (but less clear-cut) sub-samples. In Panel B we define movers only on the basis of the man's lack of coincidence between the province of birth and that of residence. With respect to Panel A in this case eterogamy also comprises couples in which the woman is a stayer and the man moved to the province where the woman was born. Again, homogamy enters significantly in the regression and the effect is almost equal to the one recorded in Panel A. Finally (Panel C) we define movers only on the basis of the woman's province of residence, which has to be different from that of birth (in this case eterogamy comprises couples where the woman moved to the province where the

man was born). We find that the effect of homogamy is smaller in this last case, but it is still significant and close to the one we found for the entire sample.[12]

3.3 Sample-splits by age, education and area of residence

Table 6 provides additional insights by splitting the sample of married women along some interesting dimensions. We investigate age, education and area-of-residence asymmetries. First, we split the sample between younger (<40) and older cohorts (=>40). We find that age differences do not matter for the effect of homogamy on fertility (Column 1). The impact of homogamy found for older women is only marginally higher than that found for younger women. Next, we divide the sample according to the level of education of women (high school, college or more vs. less than high school). In this respect, our results document that education differences are relevant: the effect of cultural affinities on fertility for less educated women is twice that of highly educated women. However, having a husband born in the same province increase the number of children also for more educated women (Column 2). Finally, we estimate the effect of homogamy on the two sub-samples of women residing in the lagging southern areas and the remaining regions, respectively. We find that the effect of homogamy on fertility is stronger for the former.

4. Conclusions

The role of culture in affecting socio economic behavior has increasingly gained a central stage in economics. In this paper we aim to contribute to this literature by demonstrating that homogamy - as embodied in a common area of origin within a couple - plays a role. Using several years of the SHIW, we find that even after controlling for various characteristics of the women, their relatives, and their local area, homogamy matters. Italian women with the same geographic origins as their husbands tend to have more children. Therefore, as for the reproductive behavior of a family, to marry over the mixen is superior to its alternative of marrying over the moor.

Two remarks are, however, in order. Even if the impact found for homogamy is statistically significant, and robust to a number of econometric checks, nevertheless its economic magnitude is of limited relevance to explain the decrease of fertility rate for Italian women. Back-of-the-envelop calculations document this point clearly. In the ‘60s the homogamy rate was equal to 72% and the fertility rate was 2.4,

[12] We can conjecture that for obvious cultural reasons the negative impact on fertility of eterogamy stemming from the migration of a woman to the province of birth of her mate is weaker than the effect which takes place when it is the man who migrates. An indirect evidence can be found by looking at the results for the sub-samples of stayers (in the last column of Table 5). In Panel B eterogamy is represented by couples where the woman moved to the birthplace of her mate, while in Panel C by couples where the man moved to the birthplace of his mate (in both panels homogamy is represented by couples where both mates were born and are still resident in the same province). As can be seen, the (negative) eterogamy effect is weaker in Panel B (man stayer/woman mover) than in the Panel C (man mover/woman stayer). We cannot of course estimate the homogamy effect when both mates are stayers because by construction there is no eterogamy in this sub-sample.

while at the beginning of the year 2000 the two rates went down respectively to 62% and 1.2. That is, over the period the average number of children for 100 women crashed from 240 to 120. Against this background, our coefficient estimate (0.17, see Table 2, Column 2) suggests that the drop in fertility caused by the concomitant decline in homogamy is equal to less than 2 children out of a contraction of 120.[13] Therefore, as for the Italian declining fertility something else must be going on.

Second, our results do not amount to saying that cultural homogeneity is better than cultural diversity in any normative meaning. A large strand of literature[14] has pointed out the benefits of cultural diversity on productivity. If cultural homogeneity enhances mutual trust and reduces transaction costs, this might come at the cost of restricting economic (and non-economic) relations inside small geographical or cultural areas. Moreover, an extreme degree of homogamy (as in consanguineous marriages) can even bring negative long run effects on fertility, mortality and morbidity.

[13] Cross-region calculations make the same point. If we compare the highest fertile region (Campania, 1.57) with the lowest fertile one (Liguria, 0.94), the difference in homogamy rate (respectively, 78% and 64%) can only explain a difference of less than 3 children out of 63.

[14] See, for instance, Quigley (1998) and Ottaviano and Peri (2005).

References

Angrist J. (2002) "How Do Sex Ratio Affect Marriage and Labor Markets? Evidence from America's Second Generation," *Quarterly Journal of Economics*, 117-3: 997-1038.

Banfield E. G. (1958), *The Moral Basis of a Backward Society*. Free Press. New York.

Bank of Italy (various years), Supplement to the Statistical Bulletin, Sample Surveys, Household Income and Wealth. Bank of Italy, Rome (available at: www.bancaditalia.it)

Bargagli M. Castiglioni M. and Dalla Zuana G. (2003), *Fare famiglia in Italia. Un secolo di cambiamenti*. Il Mulino. Bologna.

Becker G. S. (1973), "A Theory of Marriage: Part 1," *Journal of Political Economy*, 81-4:813-846.

Becker G. S. (1981), *A Treatise on the Family*. Harvard University Press. Cambridge

Becker G. S., Landes E. M., and Michael R T. (1977), "An Economic Analysis of Marital Instability," *Journal of Political Economy*, 85- 6: 1141-1188.

Bisin A. and Verdier T. (2000), "'Beyond the Melting Pot': Cultural Transmission, Marriage, and the Evolution of Ethnic and Religious Traits," *Quarterly Journal of Economics*, 140-3: 955-989.

Blackwell, D. L. and Lichter D. T. (2000), "Mate Selection among Married and Cohabiting Couples." *Journal of Family Issues*, 21: 275-302.

Blackwell, D. L. and Lichter D. T. (2004), "Homogamy among Dating, Cohabiting, and Married Couples." *The Sociological Quarterly*, 45: 719-37.

Blau F. D. (1992), "The Fertility of Immigrant Women: Evidence from High Fertility Source Countries," in: Borjas, G. J., Freeman, R. (Eds.), Immigration and the Workforce: Economic Consequences for the United States and Source Areas. University of Chicago Press. Chicago.

Blossfeld, H. and Andreas T., eds. (2004), Who Marries Whom? Educational Systems as Marriage Markets in Modern Societies. Dordrecht: Kluwer Academic Publishers.

Bossard J. (1932), "Residential Propinquity as a Factor in Marriage Selection," *American Journal of Sociology*, 38: 219-244.

Burdett K. and Coles G. C. (1997), "Marriage and Class," *Quarterly Journal of Economics*, 112-1: 141-168.

Catton W. R. and Smircich R. J. (1964), "A Comparison of Mathematical Models for the Effect of Residential Propinquity on Mate Selection," *American Sociological Review*, 29- 4: 522-529.

Cole H. L., Mailath G. J. and Postlewaite A. (1992), "Social Norms, Saving Behaviour and Growth," *Journal of Political Economy*, 100 -6: 1092-1125.

Compton J. and Pollak R. (2004), "Why are Power Couples Increasingly Concentrated in Large Metropolitan Areas?" NBER Working Paper #10918.

Costa D. and Kahn M. (2000), "Power Couples: Changes in the Locational Choice of the College Educated, 1940-1990", *Quarterly Journal of Economics*, 115-4: 1287-1315.

de Blasio G. and Nuzzo G. (2006), "The Legacy of History for economic Development: The Case of Putnam's Social Capital," Bank of Italy Discussion Papers #571.

Edlund L. (2005), "Sex and the City," *Scandinavian Journal of Economics* 107-1: 25–44.

Fernandez R. (2007), "Alfred Marshall Lecture: Women, Work, and Culture," *Journal of the European Economic Association*, 5(2-3): 305-332.

Fernandez R. and Fogli A. (2006a), "Culture: An Empirical Investigation of Beliefs, Work, and Fertility," NBER Working Paper #11268.

Fernandez R. and Fogli A. (2006b), "Fertility: The Role of Culture and Family Experience," *Journal of the European Economic Association*, 4(2)

Gautier P., Svarer M., and Teulings C. (2005), "Marriage and the City," mimeo, University of Amsterdam and University of Aarhus.

Girard A. (1964), *La choix du conjoint. Un enquête psychosociologique en France*, Parigi, Ined

Guinnane T., Morhling C., and Grada C.O. (2002), The Fertility of the Irish in America in 1910", mimeo Yale University.

Guiso, L, Sapienza P. and Zingales L. (2004), "The Role of Social Capital in Financial Development", *American Economic Review*, 94-3: 526-556.

Guiso, L, Sapienza P. and Zingales L. (2006), "Does Culture Affect Economic Outcomes," *Journal of Economic Perspectives* 20-2: 23-48.

Gjerde J. and McCants A. (1995), "Fertility, Marriage, and Culture: Demographic Processes Among Norwegian Immigrants to the Rural Middle West," *Journal of Economic History*, 55-4: 860-888.

Ichino A.and Maggi G. (2000), "Work Environment and Individual Background: Explaining Regional Shirking Differentials in a Large Italian Firm", *Quarterly Journal of Economics*, 115:-3:1057-1090.

Istat (2007), Separazioni e divorzi in Italia, Rome.

Johnson, R. A. (1980), Religious Assortative Mating in the United States. New York: Academic Press.

Kalmijn, M. (1991a), "Shifting Boundaries: Trends in Religious and Educational Homogamy," *American Sociological Review*, 56(6):786-800.

Kalmijn, M. (1991b), "Status Homogamy in the United States," *American Journal of Sociology*, 97(2):496-523.

Mare, R. D. (1991), "Five Decades of Educational Assortative Mating," *American Sociological Review* 56(1):15-32.

Mare, R. D. and Schwartz C.R. (2006), "Educational Assortative Mating and the Family background of the Next Generation," California Center for Population Research, On-Line Working Paper Series, 012, 06.

Mascie-Taylor, C. G. N. (1988), Assortative mating for psychometric characters. In Human mating patterns (ed. C. G. N. Mascie-Taylor & A. J. Boyce), pp. 61–82. Cambridge University Press.

Mascie-Taylor, C. G. N. (1995), Human assortative mating: evidence and genetic implications. In Human populations: diversity and adaptations (ed. A. J. Boyce & V. Reynolds), pp. 86–105. Oxford University Press.

Ottaviano I. P.and Peri G. (2005), "Cities and Cultures," *Journal of Urban Economics*, 58:304-337

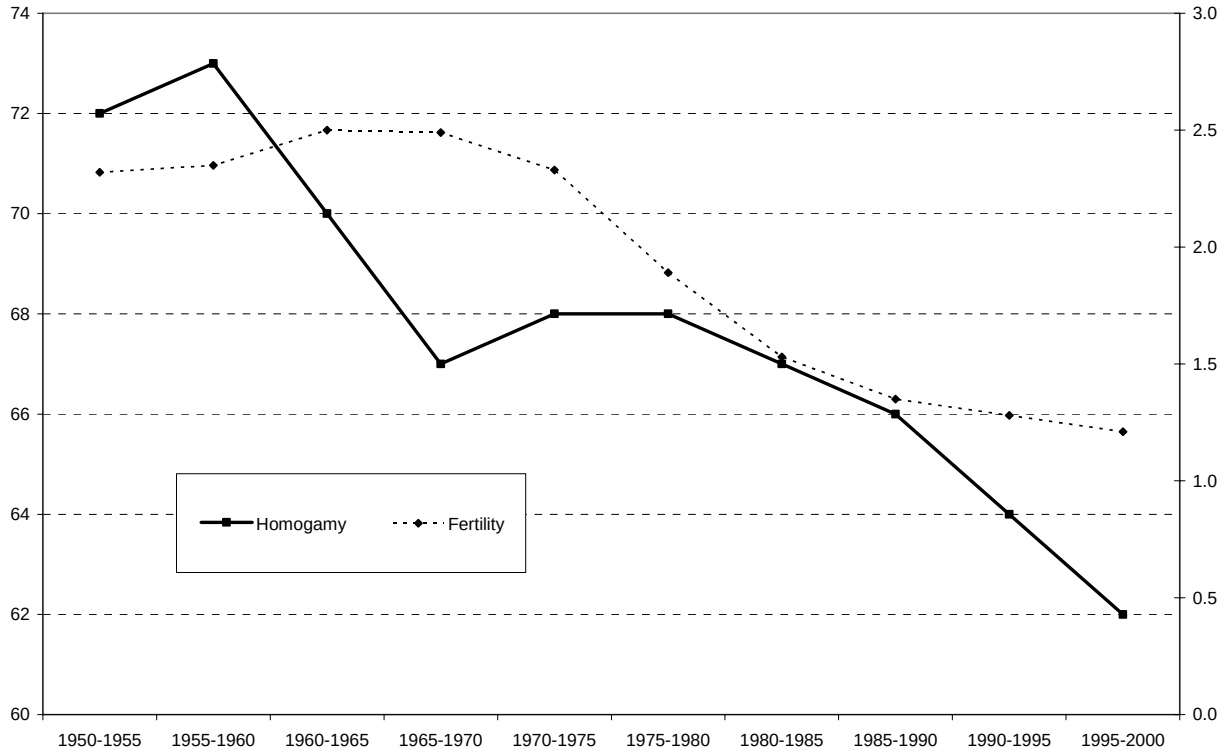
Putnam, R. (1993), *Making Democracy Work: Civic Tradition in Modern Italy*. Princeton University Press. Princeton.

Quigley J. (1998), "Urban Diversity and Economic Growth," *Journal of Economic Perspectives*, 12: 127-138.

Tabellini G. (2005), "Culture and Institutions: Economic Development in the Regions of Europe", CESifo Working Paper # 1492.

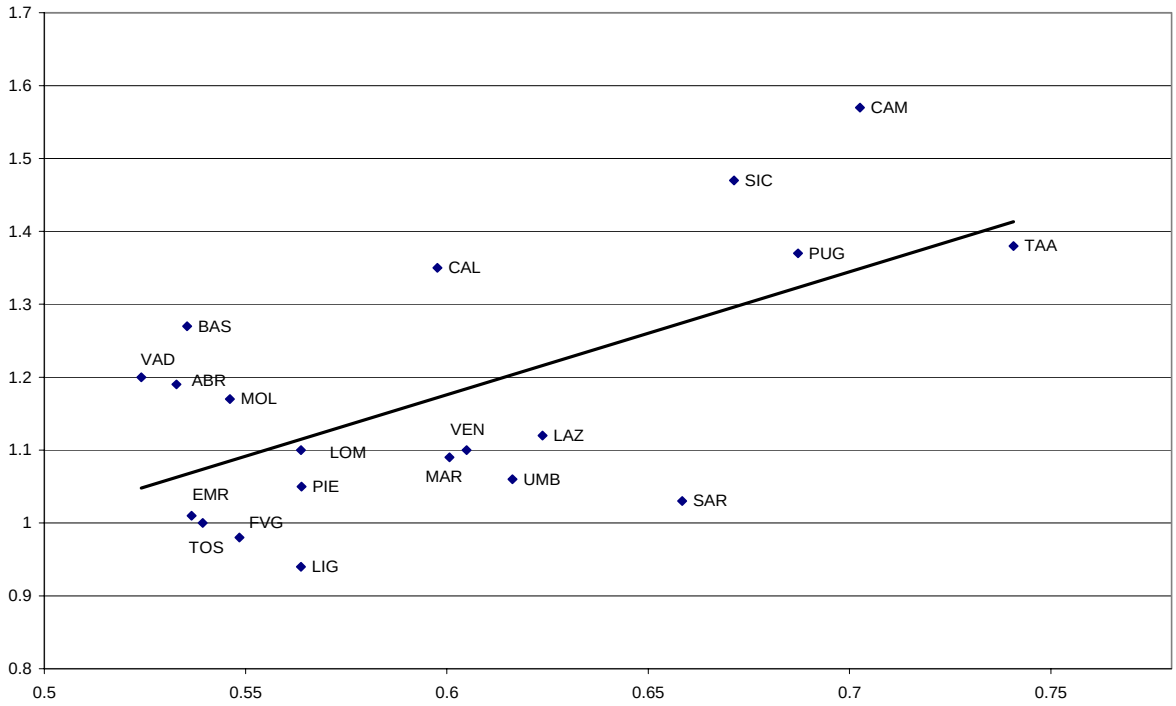
United Nations (2003), *World Population Prospects*. The 2002 Revision. New York.

Figure 1. Homogamy and Fertility in Italy, since 1950



Notes. Homogamy (left scale) is taken from Barbagli et al (2003). Fertility (right scale) is taken from United Nations (2003).

Figure 2. Homogamy and Fertility in Italy, cross-regions pattern



Notes. Homogamy (x-axis) is taken from Istat (200X). Fertility (y-axis) is taken from Istat (2002). Data refers to 2001.

Table 1. SUMMARY STATISTICS

Variable	Mean	Std Dev.	Min	Max
Children	1.865	1.007	0	10
Homogamy	0.695	0.460	0	1
South	0.387	0.487	0	1
Age	40.360	5.588	29	50
Schooling	3.379	0.926	1	6
Mother's Education	2.053	0.890	1	6
Father's Education	2.231	1.010	1	6
Husband's Age	44.042	3.429	25	72
Husband's Education	3.429	0.915	1	6
Husband's Total Income	38,613.7	30,387.28	-114.460	754,177.1
Sex Ratio	94.348	1.796	87.959	98.248
Share of Non-native Pop	0.148	5.796	-15.352	15.880
Population Density	480.822	708.314	36.379	2645.647
Social Capital	0.756	0.071	0.62	0.92
Female LMP	48.691	5.910	35.797	61.164

There are 8,314 women in our sample. The sample with parental education has 7,605 observation. The sample with husband's covariates has 7,592 observations. Data are from the SHIW 1995, 1998, 2000, 2002. The sample consists of married women age 29-50. Education is a categorical variable that records the qualifications as follows: 1 none; 2 elementary school; 3 middle school, 4 high school, 5 bachelor's degree, 6 post-graduate qualification.

Table 2. BASELINE AND INDIVIDUAL-LEVEL ROBUSTNESS

	(1)	(2)	(3)	(4)
Homogamy	0.198***	0.167***	0.143***	0.134***
	(0.050)	*(0.037)*	*(0.038)*	*(0.037)*
Dummy for South	0.594***	0.573***	0.560***	0.521***
	(0.050)	*(0.053)*	*(0.061)*	*(0.058)*
Age		0.326***	0.303***	0.187***
		(0.031)	*(0.030)*	*(0.047)*
Age sq		-0.004***	-0.003***	-0.002***
		(0.000)	*(0.000)*	*(0.001)*
Elementary School		-0.619***	-0.491***	-0.447**
		(0.169)	*(0.169)*	*(0.177)*
Middle School		-0.938***	-0.775***	-0.677***
		(0.168)	*(0.165)*	*(0.169)*
High School		-1.114***	-0.909***	-0.772***
		(0.178)	*(0.169)*	*(0.174)*
Bachelor's degree		-1.304***	-1.088***	-0.954***
		(0.176)	*(0.170)*	*(0.176)*
Post-graduate qualification		-1.951***	-1.742***	1.600***
		(0.348)	*(0.351)*	*(0.324)*
P-value for Mother's Education			[0.0004]	[0.0004]
P-value for Father's Education			[0.4238]	[0.6031]
Husband's Age				0.115***
				(0.036)
Husband's Age sq				-0.001**
				(0.000)
P-value for Husband's Education				[0.0100]
Husband's Total Income(*1,000)				-0.486
				(0.609)
Obs.	8,314	8,314	7,605	7,592
R-sq	0.01	0.11	0.12	0.13

Dependent variable is children. * significant at 10%; ** significant at 5%; ***significant at 1%. Robust standard errors in parentheses account for clustering at the province level. Year of survey fixed effects in all specifications.

Table 3. PROVINCE-LEVEL ROBUSTNESS

	(1)	(2)	(3)	(4)	(5)	(6)
Homogamy	0.114***	0.109***	0.164***	0.137***	0.167***	0.066***
	(0.038)	*(0.029)*	*(0.034)*	*(0.034)*	*(0.036)*	*(0.028)*
Sex Ratio	0.086***					0.072***
	(0.012)					*(0.013)*
Share of Non-native Pop		-0.032***				-0.031***
		(0.005)				*(0.005)*
Population Density (*100)			0.006			0.004
			(0.007)			*(0.004)*
Social Capital				-0.445*		-0.090
				(0.230)		*(0.210)*
Female LMP (*100)					0.025	-0.733*
					(0.621)	*(0.422)*
Obs.	8,314	8,314	8,314	8,314	8,314	8,314
R-sq	0.14	0.14	0.12	0.13	0.11	0.16

Dependent variable is children. * significant at 10%; ** significant at 5%; ***significant at 1%. Robust standard errors in parentheses account for clustering at the province level. All specifications include age, age squared, dummies for education, year of survey fixed effects and south dummy.

Table 4. MOVER-STAYER MATRIX

		Men		
		Movers	Stayers	
Women	Movers	948	953	1,901
	Stayers	1,018	5,395	6,413
		1,966	6,348	8,314

A stayer (mover) is defined as a person that resides (does not reside) in the same province where she/he was born .

Table 5. MOVERS AND STAYERS

	Movers	Stayers
	A. Both mates residence	
Homogamy	0.208***	
	(0.074)	
Obs.	948	
R-sq	0.11	
	B. Man residence	
Homogamy	0.198***	0.107**
	(0.058)	*(0.046)*
Obs.	1,966	6,348
R-sq	0.08	0.12
	C. Woman residence	
Homogamy	0.158**	0.172***
	(0.066)	*(0.046)*
Obs.	1,901	6,413
R-sq	0.12	0.11

Dependent variable is children. * significant at 10%; ** significant at 5%; ***significant at 1%. Robust standard errors in parentheses account for clustering at the province level. All specifications include age, age squared, dummies for education, year of survey fixed effects and south dummy. The specification is the same as in column (2) in Table 2.

Table 6. SAMPLE SPLITS

	(1)		(2)		(3)	
	Young	Old	High education	Low education	Centre North	South
Homogamy	0.157***	0.169***	0.115***	0.215***	0.155***	0.202***
	(0.048)	*(0.045)*	*(0.038)*	*(0.052)*	*(0.040)*	*(0.051)*
Obs.	3,643	4,671	3,952	4,362	5,097	3,217
R-sq	0.14	0.07	0.08	0.09	0.12	0.10

Dependent variable is children * significant at 10%; ** significant at 5%; ***significant at 1%. Robust standard errors in parentheses account for clustering at the province level. Area and year of survey fixed effects in all specifications. All specifications include age, age squared, dummies for education, year of survey fixed effects and south dummy (except (3)).