ON THE DETERMINANTS OF LIVING ARRANGEMENTS IN WESTERN EUROPE: DOES CULTURAL ORIGIN MATTER?[*]

ABSTRACT

Why are there such large differences in living arrangements across Western European countries? Conventional economic analyses have not been successful in explaining differences in living arrangements and particularly the dramatic increase in the fraction of young adults living with their parents in Mediterranean Europe. This paper offers an explanation for this phenomenon and also shows a number of surprising facts that strongly support that explanation. This paper proposes an interpretation based on the interaction of a cultural identity, reflected in different family types, with an exogenous shock --the sexual revolution. Such an explanation can easily explain both the shift in living arrangements over time and also observed North-South differentials. It receives support from data on the living arrangements of second-generation immigrants in the US. Both in 1970 and 2000, by country of origin, the US living arrangements of second-generation immigrants mimic those in Europe across countries; similarly the changes in the US across time by country of origin mimic the European changes. This duplication of the European pattern in a neutral environment, with the same unemployment benefits, the same welfare code and the same macroeconomic conditions suggests a major role in determining living arrangements for what is common between the immigrants and their mother-country counterpart, i.e. a shock that affected immigrants and their European counterparts similarly.

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I. INTRODUCTION

In Mediterranean Europe the past thirty years have witnessed a dramatic increase in the fraction of young adults living with their parents. In the early 1970s, the fraction living at home was low across all Western European countries. Today, well over half of all young adults in Greece, Italy, Portugal and Spain live with their parents. In contrast, "stay-at-homes" are less than 30 percent in the United Kingdom, France, Germany, the Scandinavian countries, as also in the US.

Why do Mediterranean youth now continue to live with their parents? Why is this pattern peculiar to Southern Europe, but we do not see it in Northern Europe, the US, or in the UK? Some have interpreted the large proportions of Southern European youth at home as tell-tales of unfavorable economic conditions—including both high costs of housing [Giannelli and Monfardini 2000, and Ruis-Castillo and Martinez-Granado 2002], and poor employment possibilities [Ghidoni 2002]. An alternative interpretation relies on high job security. Becker, Bentolila, Fernandes and Ichino [2002] find that children whose father is unemployed are more likely to live independently. Along these lines, in Fogli's model [2000] children remain with their parents to enjoy household consumption (a public good); thereby they avoid the credit constraints they would face if they lived alone and went out to work (this is viable because their parents' jobs are secure due to extensive labor market regulations.) In a different line of research, Manacorda and Moretti [2002] argue that Italian parents enjoy children at home; a rise in their income allows them to offer their children higher consumption in exchange for their presence at home. Although the children prefer to live on their own, they are willing to exchange some independence for extra

consumption. Empirically, Manacorda and Moretti showed that a rise in parents' income significantly raises the probability of living at home.

These theories, however, fail to fully explain several stylized facts. First, a high percentage of people living with their parents are not unemployed. Moreover, within countries, living arrangements fail to vary with regional unemployment rates, as, for example, between Northern and Southern Italy. Finally, there is no reason to believe that parents' income increased in Italy more than in other countries. Some of those living at home also have very good jobs, which should make it more difficult for their parents to bribe them.

In this paper I offer an alternative hypothesis for the contemporary pattern of leaving home in Mediterranean Europe. The increase in the fraction of people living at home in Mediterranean Europe began close to the advent of female contraception for unmarried women and the legalization of abortion.[1] This paper explores the hypothesis that the peculiar living arrangements in Southern European countries could have been caused by differences across cultures in the intergenerational bond between parents and children accompanied by an external shock, such as the sexual revolution. In Northern Europe, where family ties are weak, by choice children continue to live outside of their parents' home. The shock had a negligible impact for this family system. On the contrary, the same shock had a major impact in Southern Europe, where family ties are strong and children now choose to live at home.

The effect of the sexual revolution on economic outcomes is not new in the literature. Akerlof, Yellen and Katz [1996] look at the connection between the increased availability of contraception to unmarried women in the United States to the erosion of the

1. In the early 1980's, all Southern European countries legalized abortion.

custom of shotgun marriage and the consequent increase in out-of-wedlock births. Goldin and Katz [2000, 2002] link the diffusion of the birth control pill to the increase of women in professional occupations.

The fundamental hypothesis of this paper is that preferences for living with parents vary by culture; in addition, realistically, individual utility is affected by the proportion of peers of similar behavior. An exogenous shock to the freedom of young adults within the household, brought about by the sexual revolution, leads to changes in the desirability of living at home that is magnified by the social multiplier effect.

The role of cultural identity can be identified by the differential evolution of living arrangements across countries where the sexual revolution had a different impact. Because "cultural identity" is an unobserved variable, the hypothesis that living arrangements vary for cultural reasons cannot be identified with cross-country aggregate data; such an approach cannot disentangle cultural factors from economic factors, since both of them are combined in a "country effect." Comparison of living arrangements of second-generation Western European immigrants to the US with living arrangements in the home culture offers a window on the question whether culture played a role in the widening European differences in youth habitation. The second-generation immigrants in the United States of different national origins are all observed in the same economic environment. If different cultures responded differentially to the cultural shock of the sexual revolution, we should see the habitation levels in Europe mirrored in the United States by national cultural origin. Thus we should expect to see more Southern European than Northern European second-generation youth in the United States living at home. We should also see the changes,

which include the response to the shock of the sexual revolution, mirrored by country of origin in the United States as in Europe.

Such a test, with data from 1970, just prior to the sexual revolution, and in the late 1990's, after the sexual revolution, is surprisingly supportive of my hypothesis. Both in 1970 and 2000, by country of origin, the US living arrangements of second-generation immigrants mimic those in Europe across countries. Similarly, the changes in the US across time by country of origin also mimic the European changes. This duplication of the European pattern in a neutral environment, with the same unemployment benefits, the same welfare code and the same macroeconomic conditions, suggest a major role for what is common between the immigrants and their mother-country counterpart, i.e. a shock that hits immigrants and their European counterpart similarly. Only 23% of 18 to 33 years old US natives lived with their parents in 1970; this percentage rose only slightly to 27% by 2000. The proportion is also roughly constant for the UK (from 21% to 22%) and Scandinavian immigrant children (from 15% to 18%). For the other European immigrants (Germany, France and the Netherlands) it increases by 10 percentage points (with the highest increase for the French, from 17 to 32 percentage points). In contrast the fraction of Southern European stay-at-homes rose dramatically for all Southern European second-generation immigrants. For the Portuguese it rose from 25% in 1970 to 61% in the late 1990's.

My interpretation could shed light on a puzzling issue of demographic development in Southern Europe: the large drop in the fertility rate of the last twenty years. At the beginning of the 1970's the countries of Southern Europe had the highest total fertility; 2.8 in Spain, 2.2 in Greece, Italy and Portugal compared to 1.8 in Sweden, US and UK. In

1990, just 15 years later, these rates had changed drastically. The countries with the largest increases in the proportion of young adults living at home had the lowest fertility rates. Spain and Italy currently have extremely low fertility rates (1.15 and 1.19) followed by Greece and Portugal (1.32 and 1.46), while the fertility rates of the other countries remained the same or increased, as in the US (2.1). I find a correlation between change in fertility and change in living arrangements across countries, both in Europe and among European immigrants in the United States. In a society where roommates and cohabitation are rare, no other legitimate path to independence exists other than through marriage. If Southern Europeans leave their family of origin and start their own households later than elsewhere, the immediate result would be that Southern Europe would have fewer children per woman. Finally, Southern Europe, with the exception of Portugal, is characterized by a low rate of out-of-wedlock births, demonstrating the close link in Mediterranean Europe between marriage and fertility. The postponement of marriage appears to directly affect fertility.

The rest of the paper is organized as follows. Section II gives an historical perspective on cultural differences in family structure. Section III discusses a simple model. Section IV derives the empirical estimation equation and presents the empirical results. Section V discusses demographic implications in terms of fertility and marriage patterns. Section VI provides further discussion. Section VII concludes.

II. Differences in Family Structures

Differences in family structures across Northern and Southern Europe have been explained by Reher [1998], who has comprehensively compared historical and current family patterns in Europe. In Southern Europe, the influence of Muslims brought about an

increased emphasis on kinship and on the vertical relationship between generations. Under this cultural norm, the prolonged stay of children in their parents' home and children's care of their parents in old age are seen as two sides of the same coin: the behavior of a "strong" family. In the North, Germanic tradition and the Reformation contributed to the development of a "weak" family, in which individuals are more detached from their parents. Parents in these societies are less reliant on their children in old age.

The divergence in the practices of children: leaving their parents' house significantly prior to marriage (as in the UK) or only for marriage (as in Mediterranean Europe) appears to have deep historical roots. In a recent study, Pooley and Turnbull [1997] have estimated that in England between 1850 and 1930, men were most likely to leave home for employment and women for marriage; moreover, men set up their own households earlier than women, and usually between 2.5 and five years before marriage; women did so between one and two years before marriage. English marriage customs contrast with those in Spain, where leaving home before marriage was not only less frequent than in England, but also seldom meant that the ties to the parental household were completely severed. Differences between ethnic groups in such patterns have appeared in other historical contexts. In her study of the family in New York State during the 1920's, Weiler [1986] found that: "The immigrants from Southern Europe stressed the value of children as insurance in old age, whereas Americans and Western Europeans valued individualism and independence between generations." [2]

These historic differences notwithstanding, until the early 1980's, there was at least a superficial resemblance in the typical road to adulthood in all European countries. Youth

2. Regarding more general aspects of family organization, cultural contrasts have appeared in studies such as those of Glasco [1977].

left home early; they married and had their first children in their early twenties, if not before. In both Northern and Southern Europe, the family was traditional; sexual emancipation occurred outside the household. In the span of a few decades this sequence has changed radically—and also with striking national differences. There are now two modes of departure from the parental home [Galland 1986]: in Northern Europe youth leave their family early, sometimes to live alone, sometimes to live in couples; in Southern Europe, the young stay with their parents; they only leave at marriage.

The hypothesis of this paper is that the shock of the sexual revolution affected "strong" and "weak" family systems differently. In Northern Europe, where family ties are weak, children live, as before, by choice out of their parents' home. The shock had a negligible impact. The same shock, in contrast, had a major impact in Southern Europe, where family ties are strong and children by choice now live at home.

In a recent European survey, a prominent reason for not leaving home in Mediterranean Europe was liberal parenting. Thirty-four percent of young Italians responded affirmatively that "these days parents don't impose such strict rules on young people at home as they used to." Only fourteen percent of Swedes [Eurobarometer 47.2 on Young Europeans] gave such a response. The prolonged co-residence with parents has been possible in Southern European countries because new living arrangements guarantee greater autonomy and independence for grown-up children. The process of freeing oneself from parental control does not presuppose and require leaving home, as before the sexual revolution. It occurs while living at home. There has been a profound change in relationships within the family; "the family in which young adults live for such a long time has little in common with the traditional family" [Livi Bacci 1997]. Many of the attitudes

and ways of behaving documented by recent surveys would have been unthinkable only 20 or 30 years ago: young adults living with their parents act with almost complete freedom. There are few restrictions, not even against the nighttime stay of a partner. The responses from several recent Italian surveys are indicative [ISTAT, Indagine Multiscopo 1998]. The main reason given by young adults for continuing to live at home is simply that it suits them. 48.1 percent of respondents agreed: "It suits me, I have my freedom." 30 percent justified their living status because of continuing studies. Only 15.9 percent cited lack of work, and only 15.8 percent lack of a place to live.

III. A Simple Model

The particular interpretation of the change in living arrangements in Western Europe provided in this paper could be derived by a coordination game for living at home, in the spirit of Blume [1993], Blume and Durlauf [2000], Kandori, Mailath and Rob [1993] and Young [1993].

Individuals decide whether or not to stay at home. There are three systematic components to the utility function. First, individuals have income *w* if they stay at home; they have *w* - *h* if they move out. Each individual derives direct utility from such consumption expenditures.

Second, young adults in a strong family system have a benefit of living at home, $C_i f(\delta)$, which depends on the type of family system and is declining with the loss of privacy associated with living with parents. Particularly, C_i is an indicator variable, which is zero with a "weak" individualistic family system, with independence between generations; it is one with a "strong" family system. Stay-at-homes also experience a loss of privacy of δ, which is the same in both strong and weak family systems.

Third, utility also takes into account a social interaction effect. Southern Europeans stay with their parents, in part, because it is socially acceptable. In Southern Europe that is normal behavior; their friends are also at home. To formalize the social interaction effect, lets s_i be +1 if person *i* lives at home and –1 if he/she does not. Let $S = \frac{1}{N}\sum s_i$, where *N* is the population size. The social interaction effect is that *S* matters in the utility function: the higher the fraction of peers at home, the greater is the utility of the individual living with her parents.

With the addition of independent random error terms, then the utility of living at home and going away are respectively:

(1) $$V_H = u(w) + \frac{J}{2}S + C_i f(\delta) + \varepsilon_H$$

(2) $$V_A = u(w-h) - \frac{J}{2}S + \varepsilon_A \,,$$

with $f'(\delta) \le 0$.

The young adult will live at home if and only if $V_H - V_A \ge 0$, that is if and only if $\varepsilon_A - \varepsilon_H \le u(w) - u(w-h) + JS + C_i f(\delta)$. I suppose that the ε_i are independent, with continuous distributions.[3]

The model describes a game of incomplete information. Each individual's strategy depends upon his respective ε's, observable only to her. We shall assume that each individual chooses the strategy that is best for her, given the fraction of peers staying at home, *S*. Strategies matter only through their means.

3. This implies that we do not need to worry about the equality case

If everyone has the same *w*, *h*, *C* and δ, and if all the ε differences are independently drawn from a common distribution, a cut-off rule will determine which ε differences have the young adults staying at home, for a given mean. Specifically,

$$\Pr ob\{s_i = 1\} = F\left(u(w) - u(w-h) + Jm + C_i f(\delta)\right) \tag{3}$$

A Nash equilibrium occurs when the assumed mean *m* equals the actual mean. With the random terms ε independently drawn from the extreme value distribution, it is possible to obtain the following expression for *m*:

$$m = \tanh\left(u(w) - u(w-h) + C_i(\delta) + Jm\right) \tag{4}$$

This right hand side maps [-1, 1] into a smaller interval inside [-1, 1]. The right hand side is increasing in *m*, and *S*-shaped. Define $K = u(w) - u(w-h) + C_i f(\delta)$.

I am interested in knowing how the equilibrium changes when *K* changes. More specifically, I would like to know how a change in the cost, in terms of privacy, of staying at home, interacted with different family ties, will change the equilibrium.

A decline in δ increases *K* in a strong family system, but it does not have any impact in a "weak family" society. Suppose *J=2* and suppose we start from a low equilibrium case. The graph shows the effect of an increase in *K*. The increase in *K* has a multiplier effect, which will lead the "strong family" system to a high-level equilibrium (the equilibrium will move from A to B in Figure I).[4]

4. The possibility of a "triple equilibrium" can also arise. In this case the middle equilibrium is unstable. The qualitative results generalize to a large class of distributions beyond the extreme value distribution.

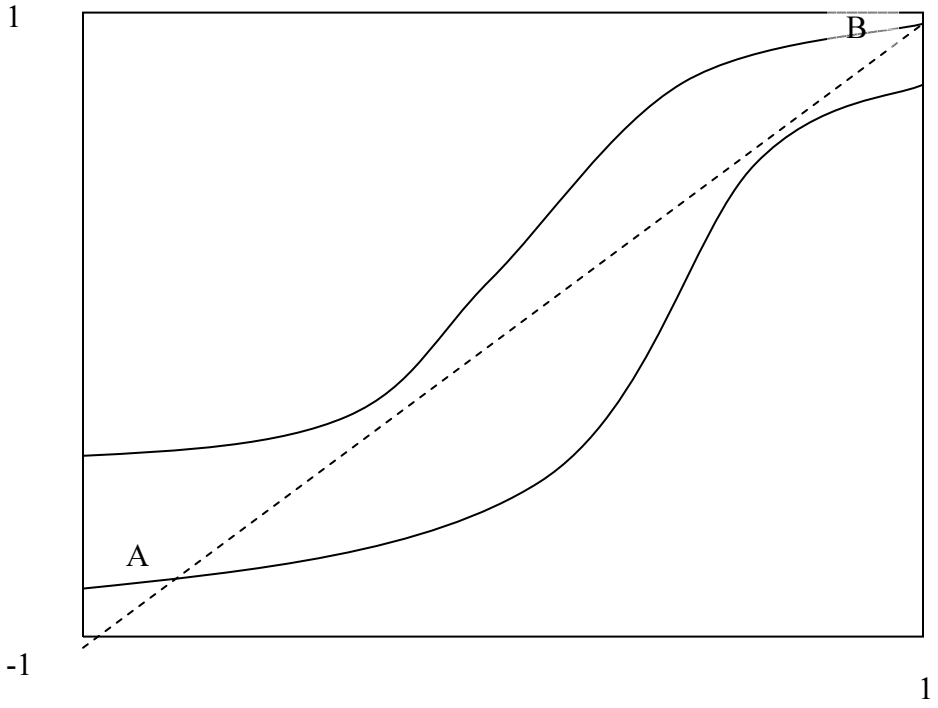

FIGURE I

Effect of an increase in K on the equilibrium
(the equilibrium will move from A to B)

My story is based on the interaction between family ties and a lower cost of privacy (or decreased stigma regarding sexual relations) associated with the sexual revolution. In a strong family system (*C=1*), a decline in δ increases *K*, the decline in privacy did not have any effect for the weak family system; the two societies started from a low equilibrium case, the decreased stigma of sexual relations did not have any impact for the weak family type, but moved the strong family type societies from a low equilibrium to a case in which the majority of people live at home. The shift from a low equilibrium to a high-equilibrium

case could, however, also be caused from other parameter changes, such as an increase in housing prices.

The empirical strategy that follows provides some evidence about the plausibility of my interpretation, compared to the alternatives provided in literature.

IV. EMPIRICAL ANALYSIS

I argued that unfavorable economic conditions could only partly explain the high propensity of young Southern Europeans to live with their parents. The theoretical analysis further suggests that a change in the cost of privacy (due, for example, to decreased stigma regarding sexual relations) might play an important role in determining living arrangements.

The goal of this empirical section is to disentangle how the sexual revolution interacted with the two different family types in determining living arrangements. To identify the role of the two family structures one could look at the differential evolution of living arrangements across countries where the sexual revolution had a different impact. Such an approach fails to disentangle cultural factors from economic factors, since both are combined in a "country effect." To get around this problem and isolate the impact of family type, I look at the living arrangements of second-generation European immigrants in the US at two different points in time: in 1970, the period prior to the sexual revolution, and in the late 1990's, after the sexual revolution had taken place. By doing this I can observe young adults of different national origins in a virtually identical economic environment. The extent to which those from immigrant families differ from natives and from each other might constitute a measure of the importance of cultural differences in shaping living

arrangements. According to my explanation, Southern European countries in the period preceding the sexual revolution should have had a proportion of young adults living at home similar to that of other European countries. In contrast, in the 1990's this share should have grown much more for Southern European immigrants than for immigrants from other countries. As for the other groups of second-generation European immigrants, one should not observe substantial variation over time in their living arrangements, consistent with the behavior of their European counterparts.

Sample selection effects should not be a problem in this case. Immigrants from Southern Europe, for example, may have come to the US in the two different periods for very different reasons and from a very diverse socioeconomic stratum. One problem could be that there could be more variation in living arrangements across different groups within individual countries than there is in average living arrangements across countries. However, both in 1970 and 2000, there is no variation in living arrangements in the original European countries, regardless of family income, parents' education, unemployment rates and so on. Given that the immigration-selection bias should work to prevent me from finding a cultural effect, finding differences in living arrangements by place of origin can be attributed to cultural effects.

IV.A. Data

To identify the effects of the interaction of family types and decreased stigma regarding sexual relations, I focus on second-generation immigrants in the US between 18 and 33 years old, comparing two different periods of time: before (1970) and after (2000) the sexual revolution.

I implement my empirical analysis using data from the 1970 United States Census and from pooled 1994-2000 March Current Population surveys (CPS). The 1970 United States Census five-percent sample collected information on parent's place of birth.[5] After 1994, the March Current Population Survey includes questions on the place of birth of each individual and his or her parents. Because of the relatively small number of observations in the CPS (compared to the Census), I pool the March CPS from 1994 to 2000. I restrict the definition of "second-generation" to native-born individuals with immigrant fathers (this requirement substantially expands the second-generation group relative to the alternative of requiring two immigrant parents).[6] Appendix 1 also reports alternative results where both parents have the same ethnicity (which strengthens the role of family structure, with higher/lower sample means for strong/weak family systems). I do not use this alternative definition of second generation when I run the regressions, since it reduces the number of observations.

IV.B. Summary Statistics

Table I shows the living arrangements of several groups of second-generation immigrants (defined on the basis of father's country of origin), which is the focus of this section. Several factors should be noted in Table I. First, during the 1970's the fraction of youth living with their parents was more or less uniform among different immigrants by country; in contrast living arrangements of second-generation immigrants show considerable dispersion in the late 1990's. Comparing the changes for natives and those of Northern European extraction from those of Southern European extraction, 23% of natives

5. Unfortunately this information is not present in the most recent Census datasets.
6 . Defining "second generation" immigrants according to the country of origin of the father is standard in literature (see Card, DiNardo and Estes, 1998)

lived with their parents in both periods; for UK immigrants the change was only 1 percentage point; the change for Scandinavian Europeans was from 15% to 18%, for Germany and Netherlands the change was 10%. Among Northern European countries, only for France, which maybe the exception because it is also partly Mediterranean, was the increase as large as 15 percent, from 17% to 32%. In contrast for every Southern European country the change was of that magnitude, and in some cases much larger: Portugal moved from 25% to 61%, Italy from 24% to 44%, Spain from 20% to 34%, and Greece from 23% to 49%.

The table thus shows that regardless of common economic conditions, there is a significant difference between the behavior of Southern and Northern European descendants and the other immigrants. But in addition, we shall also see that living arrangements among immigrants mirror the changes over time of the country of origin, but here in the United States in a virtually identical environment in terms of economic conditions. This duplication suggests strongly that a common pan-Atlantic shock (such as the sexual revolution) affected the two family types in a different way.[7] It is natural, however, that the proportion of second-generation immigrants in the US living with their parents is lower than in the original country since immigrant culture is an amalgam both of the new and of the old.

7. The sexual revolution, as an exogenous shock that hit different family types in the same way, regardless of their geographical location, could be similar in nature to a worldwide decline in the price of paprika, for example. This shock would imply an increase in the demand of Swedish meatballs not only in Sweden, but also among Swedish immigrants.

TABLE I
YOUNG ADULTS LIVING WITH THEIR PARENTS, 18- TO 33-YEAR-OLDS,
SECOND-GENERATION IMMIGRANTS

MEANS AND STANDARD ERRORS

Sample	**Census 1970**		**CPS 1994-2000**	
Variable	Mean	S. E	Mean	S. E.
Entire sample	. 2289	. 0006	. 2693	. 0009
Portugal	. 2525	. 0309	. 6099	. 0341
Greece	. 2337	. 0215	. 4901	. 0340
Italy	. 2414	. 0076	. 4413	. 0195
Spain	. 2047	. 0359	. 3410	. 0651
Ireland	. 2346	. 0144	. 3383	. 0340
Poland	. 2652	. 0128	. 3231	. 0389
France	. 1773	. 0322	. 3267	. 0552
Germany	. 1739	. 0093	. 2864	. 0215
Netherlands	. 2145	. 0269	. 3095	. 0647
Scandinavian Europe*	. 1501	. 0115	. 1857	. 0475
UK	. 2175	. 0114	. 2267	. 0254
USA	. 2313	. 0006	. 2753	. 0011
Sample size	393141		163076	

*Scandinavian Europe includes Denmark, Finland, Norway and Sweden.

Figure II suggests that there is a very high correlation between the fractions of stay-at-homes in their original countries and among immigrants. This correspondence suggests strongly that there must be some cause other than poor economic conditions for staying with parents that varies by country. If poor employment possibilities are the sole cause for staying at home, the behavior of Mediterranean descendants in the United States should not be so distinctive.

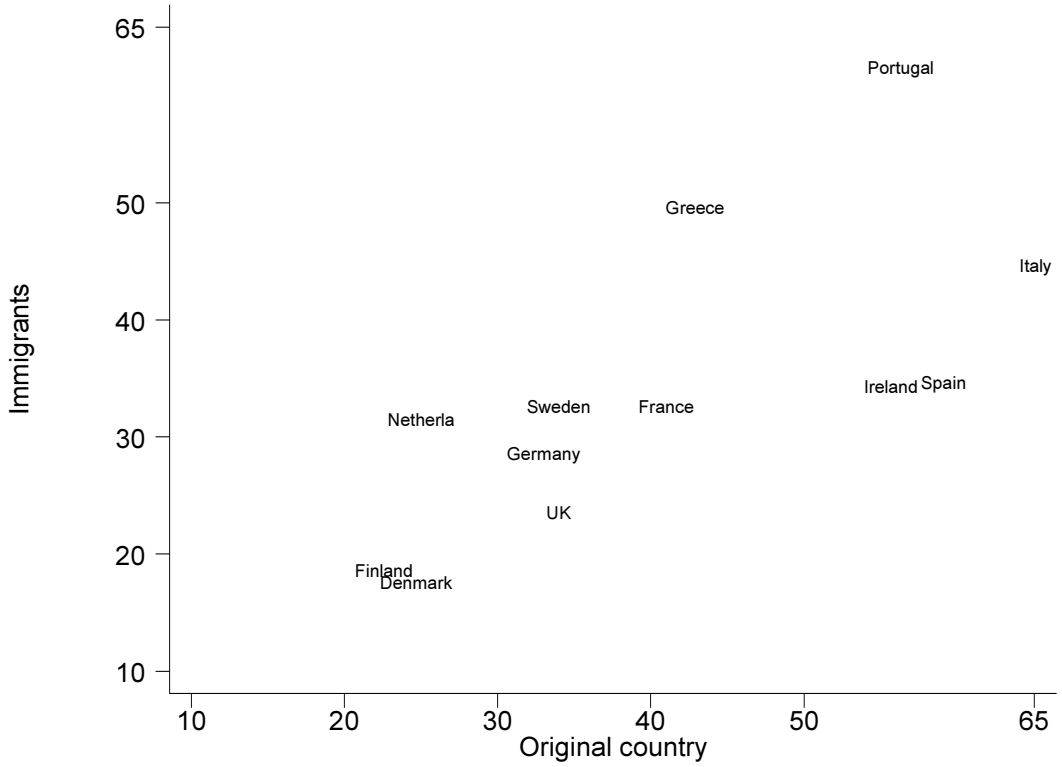

FIGURE II
The Share of People Living at Home among 16- to 30-Year-Olds (1997)
The Correlation between Immigrants and their European Counterparts

IV.C. Statistical Results

The primary source of identification in this empirical section consists of comparing living arrangements among 18-33 years old individuals who live with their parents relative

to those who do not, paying attention to the effects of country of origin on the probability of staying at home. The linear probability model I estimate is:

$$s_i = \alpha + \sum_j \beta_j M_{ij} + \delta X_i + \varepsilon_i \quad (5)$$

where

s_i equals to one if the young adult lives with her/his parents and is zero otherwise.

M_{ij} is equal to one if *i* belongs to immigrant group *j* and is zero otherwise,

and X_i is a set of control variables, to be described later.

In this model the parameter β_j is regarded as country-specific cultural effect. If the β_j's differ significantly across places of origin, then there is evidence for cultural effects. Analogously if all β_j's are equal to zero, there is no evidence of cultural effects on living arrangements. Focusing only on 18-33 year olds, I estimate my basic staying at home regression in Table II (for 2000) and Table III (1970).

TABLE II

YOUNG ADULTS (18- TO 33-YEAR-OLDS) LIVING WITH THEIR PARENTS, SECOND-GENERATION IMMIGRANTS, CPS 1994-2000

DEPENDENT VARIABLE: DUMMY VARIABLE FOR A YOUNG ADULT LIVING AT HOME

Specification	Model 1	Model 2	Model 3	Model 4
Portugal	. 1318***	. 1321***	. 1348***	. 1390***
	(. 0316)	(. 0317)	(. 0317)	(. 0319)
Italy	. 1255***	. 1213***	. 1225***	. 1219***
	(. 0184)	(. 0183)	(. 0183)	(. 0184)
Greece	. 0895**	. 0820**	. 0780*	. 0825**
	(. 0290)	(. 0288)	(. 0287)	(. 0290)
Spain	. 0711	. 0688	. 0643	. 0470
	(. 0635)	(. 0618)	(. 0603)	(. 0613)
Ireland	. 0553**	. 0496*	. 0545*	. 0445
	(. 0293)	(. 0295)	(. 0292)	(. 0296)
Poland	. 0267	. 0212	. 0226	. 0217
	(. 0310)	(0309)	(. 0306)	(. 0316)
France	. 0063	. 0008	. 0030	. 0063
	(. 0424)	(. 0429)	(. 0426)	(. 0411)
Germany	-. 0071	-. 0096	-. 0096	-. 0180
	(. 0210)	(. 0209)	(. 0207)	(. 0207)
Netherlands	. 0138	. 0088	. 0120	. 0122
	(. 0509)	(0506)	(. 0503)	(. 0494)
Scandinavian Europe	. 0069	-. 0014	-. 0088	-0. 281
	(. 0393)	(0. 0389)	(. 0377)	(. 0381)
UK	-0405*	-. 0407	-. 0380	-. 0408*
	(. 0247)	(. 0245)	(. 0243)	(. 0244)
Male	. 1210***	. 1237***	. 1303***	. 1221***
	(. 0021)	(. 0021)	(. 0021)	(. 0022)
Education	No			
Less than B.A.		.0136***	-.0058	.0472***
		(.0052)	(.0052)	(.0057)
B.A.		.0156***	.0076*	.0541***
		(.0043)	(.0040)	(.0047)
Labor-market status	No	No		
Unemployed			.0587***	.0717***
			(.0055)	(.0055)
Out of Labor Force			.0664***	.0788***
			(.0029)	(.0029)
Per-capita family income	No	No	No	.0000***
				(.0000)

a. Scandinavian Europe includes Denmark, Finland, Norway and Sweden.

b. Robust standard errors in parentheses.

c. Sample size is 163076.

d. Other covariates included in the regressions are 50 state indicators, 3 metro indicators (urban, rural and metro), and a quadratic term for age.

e. Per-capita income is defined as the total family income divided by the number of family members. I convert the reported family income data from the seven CPS samples from current dollars into constant-1995 dollars prior to pooling across years.

TABLE III

YOUNG ADULTS (18- TO 33-YEAR-OLDS) LIVING WITH THEIR PARENTS, SECOND-GENERATION IMMIGRANTS, 1970 CENSUS

DEPENDENT VARIABLE: A DUMMY VARIABLE FOR A YOUNG ADULT LIVING AT HOME

Specification	Model 1	Model 2	Model 3	Model 4
Portugal	. 0475*	. 0414*	. 0437*	. 0422*
	(. 0261)	(. 0261)	(. 0260)	(. 0261)
Italy	. 0467***	. 0462***	. 0472***	. 0480***
	(. 0068)	(. 0068)	(. 0067)	(. 0067)
Greece	. 0346**	. 0404**	. 0391**	. 0402**
	(. 0182)	(. 0182)	(. 0181)	(. 0181)
Spain	. 0212	. 0195	. 0206	. 0171
	(. 0319)	(. 0320)	(. 0320)	(. 0319)
Ireland	. 0391**	. 0399**	. 0402**	. 0391**
	(. 0130)	(. 0130)	(. 0129)	(. 0128)
Poland	. 0490***	. 0558***	. 0575***	. 0600***
	(. 0111)	(. 0111)	(. 0111)	(. 0110)
France	-. 0169	-. 0160	-. 0134	-. 0191
	(. 0294)	(. 0295)	(. 0296)	(. 0295)
Germany	-. 0096	-. 0061	-. 0041	-. 0044
	(. 0085)	(. 0085)	(. 0084)	(. 0084)
Netherlands	. 0085	. 0090	. 0076	. 0056
	(. 0226)	(. 0226)	(. 0227)	(. 0225)
Scandinavian Europe	-. 0008	. 0010	. 0016	. 0031
	(. 0102)	(. 0102)	(. 0102)	(. 0102)
UK	. 0170**	. 0210**	. 0209**	. 0205**
	(. 0102)	(. 0102)	(. 0102)	(. 0102)
Male	. 0557***	. 0586***	. 0460***	. 0431***
	(. 0011)	(. 0012)	(. 0014)	(. 0013)
Education	No			
Up to 12th grade		.0526***	.0513***	.0514***
		(.0027)	(.0028)	(.0027)
Some college (from one		.0212***	.0225***	.0205***
to five years)		(.0028)	(.0028)	(.0028)
Labor-market status	No	No		
Unemployed			.1005***	.1060***
			(.0038)	(.0038)
Out of Labor Force			-.0330***	.0002
			(.0014)	(.0015)
Per-capita family income	No	No	No	-.0002***
				(.0000)

a. Scandinavian Europe includes Denmark, Finland, Norway and Sweden.
b. Robust standard errors in parentheses.
c. Sample size is 393,141.
d. Other covariates included in the regressions are 50 state indicators, 2 metro indicators, and a quadratic term for age. Per-capita income is defined as the total family income divided by the number of family members.

In Tables II and III, I report the coefficients of the basic OLS regression of the children variable on the father's country of origin dummies, and the associated robust standard errors. I include dummies for Italy, Spain, Portugal, Greece, France, Germany, Netherlands, Ireland, Poland, UK and Scandinavian Europe. Native-born Americans are the excluded group. I report the results for four different specifications (models 1 to 4 in Tables II and III). Model 1 controls only for demographic characteristics (a quadratic in age, 50 state indicators and 2 metro indicators), model 2 includes education variables, model 3 includes labor-market-status variables, finally the last specification controls also for per-capita family income, defined as total family income divided by the number of family components.[8] Results in Table II suggest that in the late 1990's, after controlling for several characteristics, the probability of living at home is higher for those of Southern European origin. The estimated β_j coefficients are individually positive and significant for all the Southern European countries, except Spain (there are few number of observation for the Spanish group), indicating significant evidence for a "cultural effect" on living arrangements. The similar regression for the earlier period (1970) (Table III) gives different results; in this case the probability of living with parents is close to constant across ethnicity.

An alternative way of testing the duplication among immigrants to the US of the norm of the original European countries, is to include in the regression, instead of country dummies, the fraction of 18-33 year olds living with their parents of the European country of origin. The coefficient on this fraction is an indication on how the living arrangements of the second-generation immigrants in United State tend to replicate the cultural norm of the

8. For the CPS datasets I converted the reported income information from the seven samples into constant-1995 dollars, prior to pooling the data.

original European countries. The results for this regression are reported in Table IV. Also with this alternative specification the cultural norm is statistically significant at the 1% level. It has the highest coefficient among all the other explanatory variables, including education and labor market status.[9]

TABLE IV
YOUNG ADULTS (18- TO 33-YEAR-OLDS) LIVING WITH THEIR PARENTS,
SECOND-GENERATION IMMIGRANTS, 1994-2000 CPS
DEPENDENT VARIABLE: A DUMMY VARIABLE FOR A YOUNG ADULT LIVING AT HOME

Fraction of young adults living at home in the original European country	.3122*** (.0374)
Male	.1303*** (.0374)
Education	
Less than Diploma	.0159*** (.0016)
Diploma	.0120*** (.0017)
Labor-market status	
Unemployed	.0617*** (.0055)
Out of Labor Force	.0694*** (.0029)
R^2	.323

a. Robust standard errors in parenthesis.
b. Sample size is 162,907.
c. Other covariates included in the regressions are three geographical areas indicators, 2 metro indicators, and a quadratic term for age.

In order to test for a "structural shift" in living arrangements, possibly caused by the sexual revolution, I also run a pooled regression (including both CPS and Census data) in

9. We run the regression also using the cluster option, where the groups are given by the nationality. The coefficients for the ratio of people living at home in the original country is still very significant.

which I include the same variables of the original model and the interaction terms of the ethnicity dummies with a year 2000 dummy.[10] I run the following regression:

$$s_i = \alpha + \sum_j \beta_j M_{ij} + \sum_j \gamma_j M_{ij} I_{2000} + \delta X_i + \varepsilon_i \quad (6)$$

The interaction of the ethnicity dummies and the year 2000 dummy can be regarded as a measure of a structural change in living arrangement across cultures. If the values of the coefficients on the interaction terms, γ_j, are significantly different from zero, I shall claim to have identified a structural shift in living arrangements between 1970 and 2000. The coefficients of the interaction terms, γ_j, are all positive, implying that there was an increase in the fraction of people living with their parents for all countries. The χ^2 tests finds evidence for a structural shift (Table V); the γ_j are jointly different from zero at the 1 percent level of significance for Southern Europe but are not even significant at the 10 percent level for France, Germany, Ireland, Netherlands, Poland, Scandinavian Europe or the UK, indicating the irrelevance of the shock for non-Mediterranean countries.

10. A dummy equal to one for the years 1994-2000 in the CPS dataset.

TABLE V
YOUNG ADULTS (18- TO 33-YEAR-OLDS) LIVING WITH THEIR PARENTS,
SECOND-GENERATION IMMIGRANTS, POOLED REGRESSION
DEPENDENT VARIABLE: A DUMMY VARIABLE FOR A YOUNG ADULT LIVING AT HOME

Dummies for all countries (β)	
Portugal	.0457*
	(.0259)
Italy	.0487***
	(.0067)
Greece	.0294*
	(.0177)
Spain	.0206
	(.0317)
Ireland	.0404***
	(.0128)
Poland	.0514***
	(.0111)
France	-.0208
	(.0288)
Germany	-.0102
	(.0084)
Netherlands	-.0161
	(.0226)
Scandinavian Europe	-.0058
	(.0102)
UK	.0104
	(.0101)
Dummies for all countries interacted with a year-2000 dummy (γ)	
Portugal 2000	.1923***
	(.0388)
Italy 2000	.1174***
	(.0177)
Greece 2000	.1524***
	(.0330)
Spain 2000	.1564***
	(.0673)
Ireland 2000	.0293
	(.0301)
Poland 2000	.0156
	(.0328)

TABLE V
(CONTINUED)

France 2000	.0979*
	(.0537)
Germany 2000	.0349*
	(.0198)
Netherlands 2000	.0339
	(.0525)
Scandinavian Europe	.0672
2000	(.0442)
Male	.0008
	(.0010)
Education	
Diploma	.0159***
	(.0016)
Some College	.0120***
	(.0017)
Labor-market status	
Unemployed	.0662***
	(.0029)
Out of Labor Force	-.0754***
	(.0011)
p-values	
$\gamma_j = 0$	0.0000
Southern European countries=0	0.0000
Ireland, Poland, France, Germany, Netherlands, Scandinavian Europe=0	0.1473
R^2	.245

a. Scandinavian Europe includes Denmark, Finland, Norway and Sweden.
b. Robust standard errors in parentheses.
c. Sample size is 556,224.
d. Other covariates included in the regressions are 50 state indicators, metro indicator, and a quadratic term for age.

IV.D. Robustness check

Living at home in Mediterranean Europe is socially accepted. In the theoretical model there is a spillover effect: the probability of staying at home is higher the greater is the proportion of young adults behaving in the same way in the reference group (ethnicity).

To observe such a correlation, some variation in the density of the reference group is needed. European countries are not very helpful for this, because one does not observe variations either in the density of the reference group (since Southern European countries are homogenous societies) or in the fraction of people living at home inside the same country. In contrast in the US there is variation both in the concentration of immigrants and in living arrangements by geographic area. To see how the variation in the concentration of the ethnic group of reference affects the probability of staying at home, I look at the correlation between the *change* in living arrangements from 1970 to 2000 and the *concentration level* in 2000 for the three ethnic groups (Southern Europe, Western Europe, and Northern Europe and UK) both at the state and PMSA level.[11] The concentration level is defined as the number of immigrants of a specific ethnicity over the PMSA population of young adults between 18 and 33 years old (in the theoretical model I suppose that living arrangements are affected by peer behavior). According to my hypothesis, a Southern European young adult should be more likely to stay at home in those PMSA/states with a higher concentration of Southern European immigrants.[12] I should not observe a similar correlation among other second-generation European immigrants, for whom the norm is not living at home.

The results support this hypothesis. There is a positive correlation between the fraction of Southern Europeans living at home and their concentration by PMSA (and by state). I do not observe the same phenomenon for the other two groups.[13] Figures III, IV and V in Appendix 2 represent these correlations and show that PMSA's with the highest

11. Roughly the same states that had high concentrations in 1970 also had them in 2000.
12. I define concentration as the number of second-generation immigrants, 18-33 years old, living in a given state divided by the state population of the same age group.
13. The other two groups include Western Europeans (France, Germany and the Netherlands), and Northern Europeans (Scandinavian nations and the UK).

concentration of Southern Europeans had the biggest increase in the fraction living at home for the same ethnic group.[14] The same positive correlation does not exist among the other groups, as expected.[15]

Finally, I need to rule out the possibility that these results are driven by the fact that Southern Europeans self-select to live in metropolitan areas (or states) in which it is very common to live with one's parents far into adulthood. That is, I need to ensure that I am not picking up a metropolitan/state effect rather than an ethnicity characteristic. To this end I look at the correlation between changes in living arrangements for *natives* and the concentration of Southern Europeans. If the metropolitan/state effect interpretation is correct, I should see the same increase in the fraction of young adults living at home for natives as for Southern Europeans. The evidence allows me to rule out the possibility of picking up some secular characteristics about the PMSA areas/states in which Southern Europeans live. Figure VI in Appendix 2 shows the correlation between the change in the fraction of natives living at home and the concentration of Southern European immigrants by PMSA. There is no correlation between the change over time of native living arrangements and the Southern European immigrant concentration level, meaning that Southern Europeans do not live at home for some peculiar characteristics of the areas in which they are located. The same exercise is repeated for Western and Northern European immigrants (Figures VII and VIII). There is no correlation as well between the variation over time in the fraction of natives living at home and the concentration at the PMSA and state level of the other two groups of immigrants. Overall the three exercises allow me to

14. The results of the analysis at the state level are available from the author
15. I calculate the same kind of correlations (2000, 1970 and change) for Cubans, among the biggest immigrants groups in the US, to show that the "living at home" phenomenon is not an enclave effect. Despite the much higher concentration by state, those groups do not exhibit a pattern in living arrangements similar to Southern Europeans.

conclude that differences in living arrangements are most likely driven by ethnicity and not by economical characteristics of the areas in which different immigrant groups live.

IV.E. Remarks

I have used data from the 1970 Census and from the 1994-2000 March Current Population Survey to test the importance of the interaction between the sexual revolution and family structure in determining living arrangements among second-generation immigrants. My main findings are easy to summarize. First, Southern European second-generation immigrants in the late 1990's tend to stay home longer compared to natives and second-generation immigrants of other European countries. This pattern was not present in 1970, which was just at the beginning of the sexual revolution.[16] Second, the pattern over time of second-generation immigrants in the US mimics exactly the European experience.

The US evidence suggests that differences in living arrangements among countries are rather complex, reflecting on the one hand institutional and economic factors, but also long-lasting path dependency and cultural factors. It appears that long-term continuities, with different strength of intergenerational ties by ethnicity, play a role in the determination of living arrangements among young people. The duplication over time of the European pattern indicates a major role for a shock that affected Northern European countries, with their weak family ties, and Southern European countries, with their strong family ties, differently. A leading candidate for that shock would be the sexual revolution, which was common both to the United States and to Europe.

V. IMPLICATIONS: IMPACT ON FERTILITY AND MARRIAGE PATTERNS

16. For a timing of the sexual revolution, see Akerlof , Yellen and Katz [1996] and Goldin and Katz [2000].

What is the impact of this peculiar new trend? My fundamental hypothesis is that Mediterranean youth tend to postpone all the stages of adult life (including getting married and having children), because home now provides what they could only obtain in the old days by marriage. Since out-of-wedlock fertility is extremely low in Mediterranean Europe, one would expect an especially large decline in fertility for the countries that experienced especially dramatic changes in living arrangements over time. Changes in marital status and fertility rates should then be linked to living arrangements. And, especially, immigrant group-specific changes in marital status and fertility rates should mirror those in the country of origin, if living arrangements are not solely explained by economic conditions.

Figure IX shows a correlation between the change in fertility from 1975 to 1997 and the fraction living at home in 1997 by country.[17] The graph also distinguishes two groups of countries. One group is characterized by only a small decline in fertility with a low fraction of young adults living at home. The other group (Southern Europeans and the Irish), which experienced a large drop in fertility, is characterized by a high fraction of young adults living at home. The increase in the proportion of people living at home offers a good explanation for the huge decline in fertility in Southern European countries.[18]

---

17. I plot levels for living arrangements and not changes because I do not have complete data on living arrangements for the 1970's. The data are available for the fraction of people living at home in Northern European countries and the UK (the fraction is higher or equal to 1997). As for Southern European countries, it is possible to deduce from other characteristics (age at first marriage, percentage of married people) that the fraction was much smaller than today and very likely comparable to Northern European countries.

18. According to Teitler [2002], there is a big difference in the decline in fertility among Southern European and Anglo countries. While the decline in teen fertility was spectacular in all non-Anglo countries (in Greece for example the fertility rate of 15 to 19 year old women dropped by about 80% in two decades), Anglo countries experienced no dramatic change. To better understand the differential trends in teen fertility he compares teen fertility trends with more general fertility trends. He finds that total fertility decreased in all countries with a noticeable convergence between countries. The fact that total fertility rates have converged while teen birth rates have diverged means that the manner in which teen fertility behaviors relate to adult fertility varies across countries. The relationship between adult and teen fertility trends and changes in the family in recent years provides some insights. In the US and the UK there is a close correlation between teen fertility and overall fertility. Teen fertility in these countries declined since the 1970's but only and in parallel with the decline among all women. Teenagers were and continue to be very close in age to modal ages at first

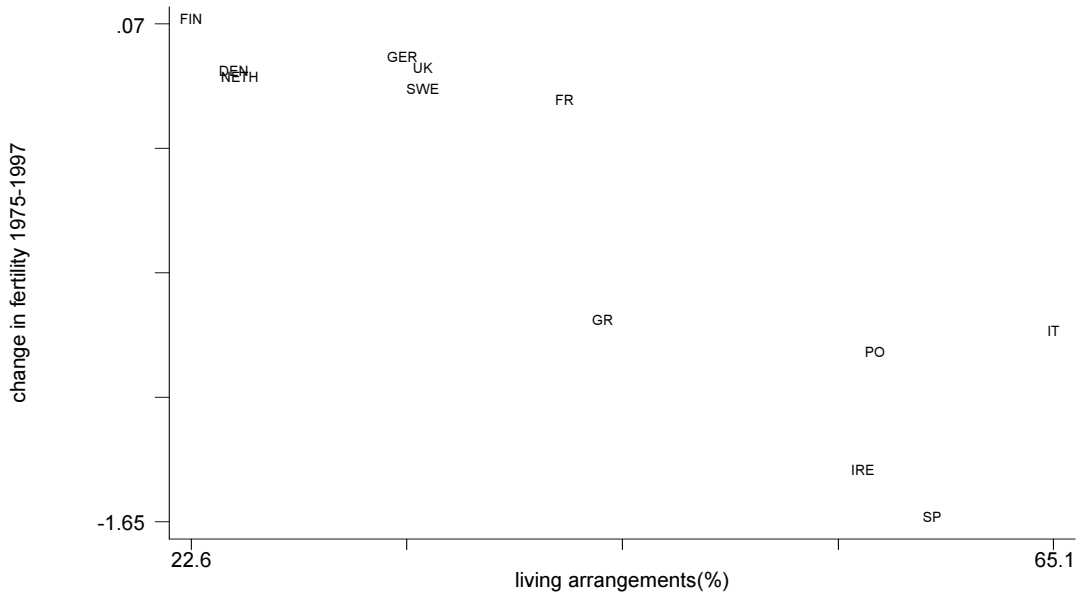

FIGURE IX
The Correlation between Changes in Fertility and in Living Arrangements for Selected European Countries

In the US and the UK, first marriages typically occurred in the early 20's among women until the mid 70's. Starting in the early 70's, for those countries the typical age at marriage for both men and women rose, but with increasing births outside of wedlock and outside of cohabitation, especially among teenagers. On the contrary, for Southern European countries, first marriage traditionally occurred at younger ages than in the northern countries but then increased after the 1970's, to a median close to 24 to 25 by 1990, which is similar to the UK and US age of first marriage. Mediterranean countries are different from the Anglo-countries because of their very low rates of out-of-wedlock birth (Table VI). With the exception of Portugal, all Mediterranean countries have a very low

births and, not being constrained to have babies within the context of stable unions, their fertility behavior is very likely to mirror the behavior of slightly older women, irrespective of trends in marriage and cohabitation. Since Anglo countries do not differ from other Western countries in the timing of sexual initiation, their higher fertility cannot be explained by differential exposure to the risk of pregnancy either [Bozon and Kontula 1998].

fraction of out-of-wedlock births (from 3 to 11%). In contrast, in Scandinavia it is close to 50%, and in the US and UK in the mid 30's (32 and 37% respectively). Fertility and marriage in Mediterranean Europe continue to be closely tied. Since it is not yet common for births to occur outside of marriage, the rise in the age of marriage, which in turn depends on the length of time youth stay at home with their parents, had much greater impact on the fertility rates of teen-agers in Mediterranean Europe than in Anglo countries. These simple observations are consistent with the main hypothesis of this paper. Since the fraction of adult youth living at home is much higher today than in the 1970's and women are having their first child in Southern Europe very late compared to developed countries elsewhere (the median age is 30 compared to 26 in the UK) then fertility has considerably declined.

TABLE VI
BIRTHS OUT OF WEDLOCK (AS A % OF ALL BIRTHS)

Country	**Births out of wedlock**
Iceland	65
Sweden	54
Norway	49
Denmark	46
France	39
Britain	37
Finland	37
US	32
Austria	29
Ireland	27
Portugal	20
Netherlands	19
Germany	18

Belgium	15
Spain	**11**
Italy	**8**
Greece	**3**

Source: Eurostat Yearbook, 1999.

If leaving home late is such an important reason behind the decline in fertility in Southern European countries, one should also observe the same pattern among second-generation Mediterranean immigrants in the US. Since Mediterranean second-generation immigrants live at home for a long period of their life and postpone marriage, they should have experienced a higher drop in fertility compared to the other immigrant groups. In Figure X, I plot the correlation between the change in fertility and the change in living arrangements for second-generation European immigrants in 1998.[19] With the exception of France and Netherlands, which experienced a very high increase in fertility compared to the original country, the decline in fertility is associated with an increase in the proportion of people living at home, reflecting almost exactly the same pattern as in the respective countries of origin.

19. Due to the few numbers of observations available, I use as a proxy for the total fertility rate the average number of children per women 18-33 year olds. Mean and standard deviations for the average number of children per women are reported in Appendix 4. Appendix 4 shows a change in fertility across immigrants of different ethnicity qualitatively very similar to the decline in fertility in the original countries.

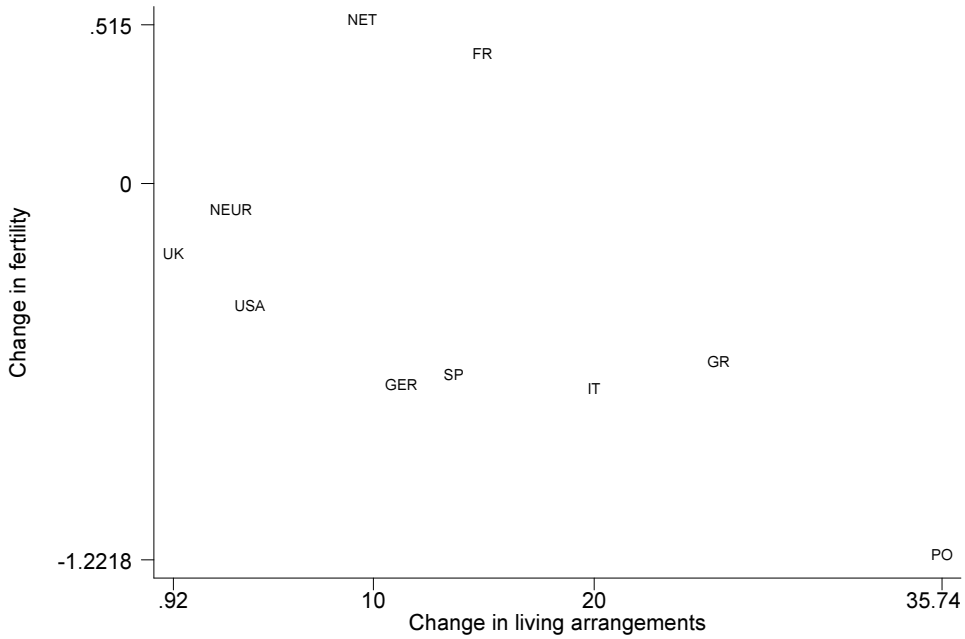

FIGURE X
The Correlation between Changes in Fertility and in Living Arrangements for Second-Generation Immigrants

I finally look at marital status among second-generation European immigrants. In the US, as in the original country, the fraction of married young people declined substantially only among Southern European second-generation immigrants (Table VII). The fraction of never-married young adults (belonging to the age group of 18-33 years old) was constant around 30% across immigrants in the 1970; it increased for all immigrant groups (going from 38% for the Netherlands, to a maximum of 65% for Poland), but especially for Mediterranean Europe (58% for Italy, 71% and 73% for Greece and Portugal, and 80% for Spain.)

TABLE VII
PERCENTAGE OF NEVER-MARRIED YOUNG ADULTS, 18- TO 33-YEAR-OLDS, SECOND-GENERATION IMMIGRANTS

	CENSUS 1970	CPS 1994-2000
US	34. 95	52. 85
Portugal	30. 30	72. 68
Greece	34. 55	70. 83
Italy	31. 38	58. 95
Spain	29. 13	79. 63
Ireland	37. 46	56. 19
Poland	38. 18	64. 83
France	34. 04	60. 27
Germany	31. 29	55. 68
Netherlands	31. 76	38. 46
Scandinavian Europe *	25. 55	55. 88
UK	33. 82	48. 90
Sample size	393141	163076

*Scandinavian Europe includes Denmark, Finland, Norway and Sweden.

I looked at living arrangements, marriage behavior and fertility patterns among second-generation European immigrants. Changes in the US across time in living arrangements, fertility and marriage behavior by country of origin mimic the European changes. This surprising duplication of the European pattern in the US is inconsistent with the explanations given so far in the literature and relying only on economic interpretations such

as high housing costs and labor market conditions. In contrast, the alternative hypothesis proposed in the paper is consistent with all these stylized facts.

VI. Discussion

This paper points to a mechanism that could link the increase in the fraction of people living at home in Mediterranean Europe to an exogenous shock, such as the sexual revolution. The particular trend among European immigrants observed in the US could be due, however, to alternative causes. In this section, I analyze some possible alternative explanations.

Female labor participation. The high fraction of adults living at home has been associated with low female labor participation. The presence of mother at home has been taken as an important reason for why children do not move out. The theoretical model of Diaz and Guillo [2000] stresses the mother's housework as a public good, which induces young adults to stay home. According to Diaz and Guillo, Southern Europeans are living at home because in Mediterranean Europe, female labor participation is very low. We should then observe a correlation between female labor status and living arrangements. I look at the differences in female labor participation among immigrant groups in 2000 and I do not find any systematic relationship between those two variables. Appendix 3 reports the labor market status of the mothers of young adults staying at home. For Southern Europe the fraction of mothers employed goes from 55.38% for Italy to 81.29% for Portugal (Portugal has the highest fraction of young adults living at home among Southern European countries, so we should observe a lower percentage of employed women if Diaz-Guillo's hypothesis is correct). As for the other immigrants living at home, for the group including

Western Europe, Ireland and Poland, the fraction of employed mothers goes from 41.26%-Netherlands, to 100% -France- (also in this group there is no systematic relationship between mother's occupation and living arrangements; France, for example, has the highest fraction of mothers employed and the highest fraction of children living at home.)

*Fathers' occupation and parents' age***.** Another possible alternative interpretation for the long stay of young adults at home is that immigrants have particular occupations, such as family oriented business, which requires the presence of children at home. In Appendix 3, for each immigrant group I look at the three major (in percentage terms) occupations and the three major types of industry in which fathers of children staying at home are working. Southern European fathers are not involved in particular occupations or are not working in particular industries that require the presence of their children at home; there is no systematic relationship between father's occupation and living arrangements. Finally it could be that Southern European parents are older than other immigrant groups, so that children are staying at home to take care of them. I look at the average age of parents of children living at home for different immigrant groups and I find that there is no substantial variation in the average age of parents across different groups of immigrants.[20] Parents' age is constant across different ethnicities.

VII. CONCLUSION

20. I cannot include in the regression variables relative to female labor participation, type of occupation of heads of family and parents' education because this information is not available for young adults living out of their parents' place.

Over the last 25 years the family structure has changed substantially in Southern Europe. Mediterranean youth tend to stay at home for a very long time, postponing later stages of adult life, such as getting married and having children. This increase in the fraction of people living at home in Mediterranean Europe occurred at the same time as the advent of female contraception for unmarried women and the legalization of abortion. It is important to understand why these changes in family structure have occurred. Several stylized facts suggest that the economic explanations given so far are not sufficient to interpret the phenomenon. There is, in consequence, need for another hypothesis. That other hypothesis, which has also been suggested by sociologists and historians [Galland 1986, Livi Bacci 1997], centers on the notion that youth are now living with their parents because of a change in attitudes (including changed attitudes towards sexual behavior) so that co-residence became socially acceptable. This paper proposes that the increase in the fraction of people living at home is due to an exogenous shock (the sexual revolution) that hit different cultural types in different ways. For Mediterranean youth, for whom the social norm was to live with their parents until marriage, it implied a reduction in the cost, in terms of privacy, of living at home, with a consequent postponement in marriage and decline in fertility. For Northern European youth, who were used to leave their parents' home at a young age regardless of marriage, it implied different forms of living arrangements such as cohabitation and an increase in out-of-wedlock birth.

Such an explanation receives support from data on the living arrangements of second-generation immigrants in the US. A strong correlation between change in fertility and change in living arrangements is found in Europe. The same correlation is finally observed among second-generation US immigrants, suggesting that the increase in the

fraction of youth living at home could help to understand the huge decline in fertility in Southern Europe.

APPENDIX 1: YOUNG ADULTS LIVING WITH THEIR PARENTS, 18 TO 33 YEAR OLDS, SECOND-GENERATION IMMIGRANTS (BOTH PARENTS WITH THE SAME ETHNICITY)

MEANS AND STANDARD ERRORS

Sample	**Census 1970**		**CPS 1994-2000**	
Variable	Mean	S. E	Mean	S. E.
All sample	. 2289	. 0006	. 2693	. 0009
Portugal	. 3043	. 0557	. 6742	. 0382
Greece	. 2236	. 0329	. 5996	. 0433
Italy	. 2235	. 0119	. 4635	. 0272
Spain	. 1914	. 0580	…	…
Ireland	. 2196	. 0176	. 3732	. 0441
Poland	. 2481	. 0184	. 3561	. 0585
France	. 1666	. 0582	. 2490	. 1441
Germany	. 1544	. 0134	. 2594	. 0395
Netherlands	. 2784	. 0507	. 1998	. 0585
Scandinavian Europe*	. 1518	. 0218	…	…
UK	. 2339	. 0210	. 1698	. 0436
USA	. 2313	. 0006	. 2740	. 0011
Sample size	393141		163076	

*Scandinavian Europe includes Denmark, Finland, Norway and Sweden

APPENDIX 2

SOUTHERN EUROPE

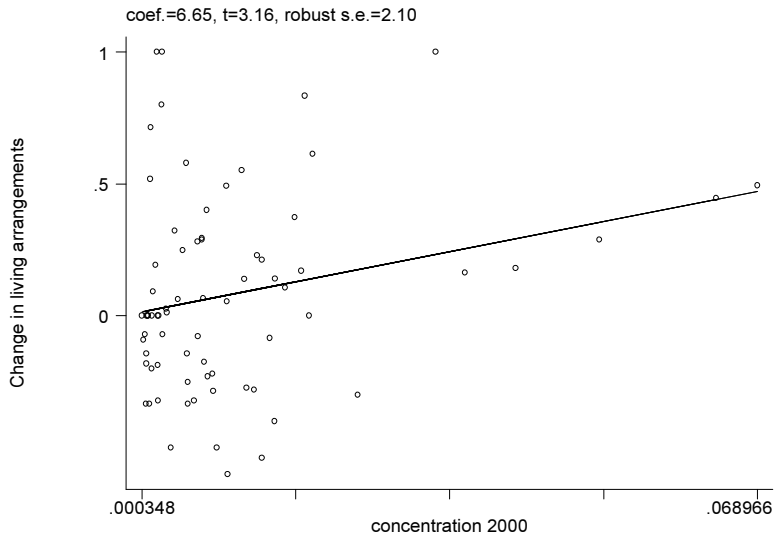

FIGURE III
Correlation between the Change in the Fraction of Young Adults Living at Home from 1970 to 2000 and the Concentration Level of Immigrants (2000) at the PMSA Level for Southern European Second Generation Immigrants, 18-33 Years Old

WESTERN EUROPE

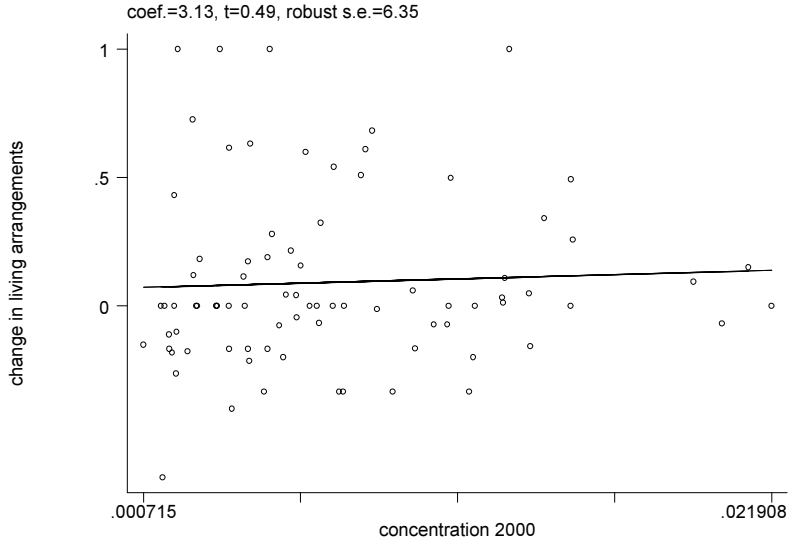

FIGURE IV
Correlation between the Change in the Fraction of Young Adults Living at Home from 1970 to 2000 and the Concentration Level of Immigrants (2000) at the PMSA Level for Western European Second Generation Immigrants, 18-33 Years Old

NORTHERN EUROPE

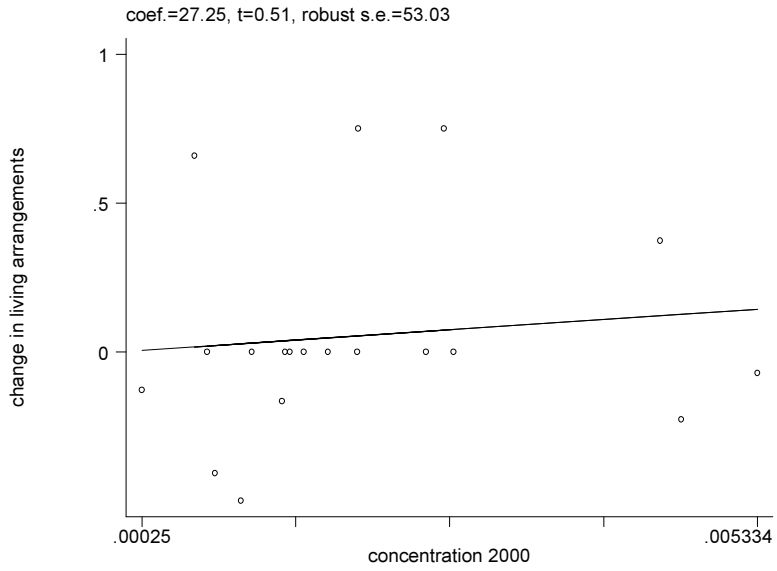

FIGURE V
Correlation between the Change in the Fraction of Young Adults Living at Home from 1970 to 2000 and the Concentration Level of Immigrants (2000) at the PMSA Level for Northern European Second Generation Immigrants, 18-33 Years Old

NATIVES VERSUS SOUTHERN EUROPEAN IMMIGRANT CONCENTRATION IN 2000

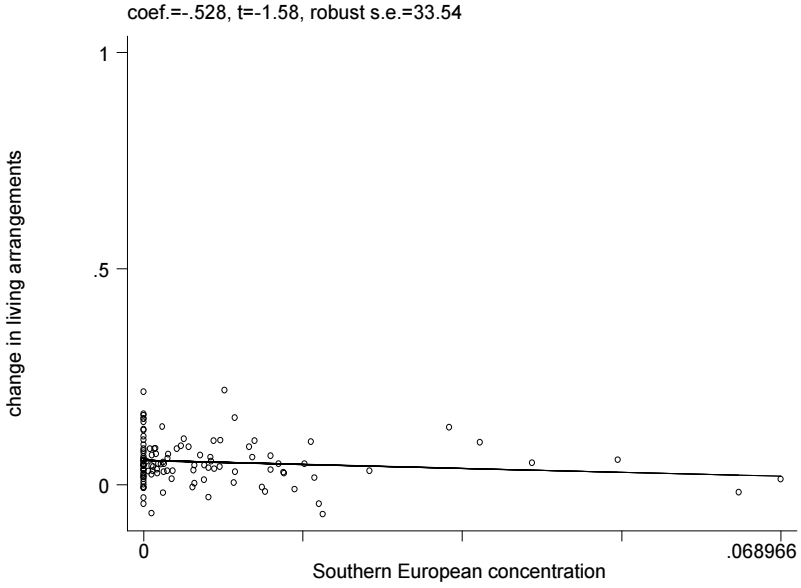

FIGURE VI
Correlation between the Change in the Fraction of Natives Living at Home from 1970 to 2000 and the Concentration of Southern European Immigrants at the PMSA Level in 2000

NATIVES VERSUS WESTERN EUROPEAN IMMIGRANT CONCENTRATION IN 2000

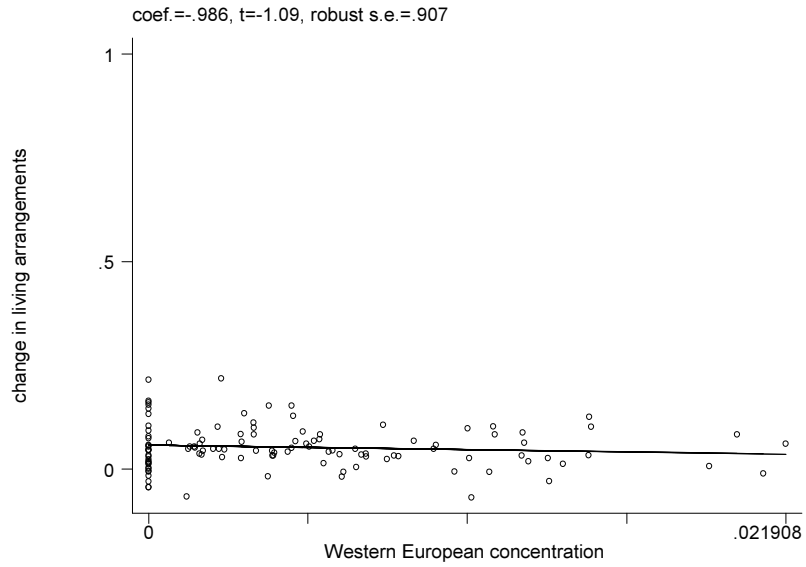

FIGURE VII
Correlation between the Change in the Fraction of Natives Living at Home from 1970 to 2000 and the Concentration of Southern European Immigrants at the PMSA Level in 2000

NATIVES VERSUS NORTHERN EUROPEAN IMMIGRANT CONCENTRATION IN 2000

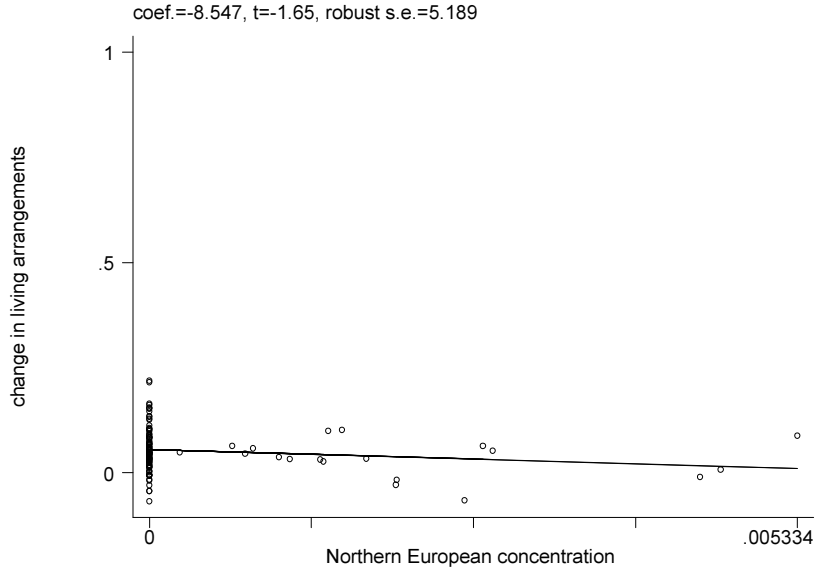

FIGURE VIII
Correlation between the Change in the Fraction of Natives Living at Home from 1970 to 2000 and the Concentration of Southern European Immigrants at the PMSA Level in 2000

APPENDIX 3: SUMMARY STATISTICS
PARENTS OF YOUNG ADULTS LIVING AT HOME BY IMMIGRANT GROUP
CPS 1994-2000

	SOUTHERN EUROPE			
	ITALY	PORTUGAL	GREECE	SPAIN
Mothers				
Labor market status				
Employed	55.38	81.29	70.20	80.60
Unemployed	2.76	0	2.21	0.19
Out of Labor Force	41.86	18.71	27.59	19.22
Age	49.45	49.13	44.25	53.16
Fathers				
Labor market status				
Employed	74.18	73.06	76.67	52.97
Unemployed	4.63	8.02	8.22	5.04
Out of Labor Force	21.2	18.92	15.11	41.99
Age	54.15	51.62	51.44	57.06
Industry				
	Construction 17.75	Construction 24.52	Retail Trade 39.35	Educational Services 24.50
	Manufacturing-Durable Goods 14.86	Manufacturing-Durable Goods 20.91	Construction 18.83	Finance, Insurance and Real Estate 18.18
	Retail Trade 14.02	Manufacturing-Non-Durable Goods 18.84	Educational Services 9.13	Retail Trade 10.18
Occupation				
	Precision Prod., Craft & Repair 25.97	Precision Prod., Craft & Repair 26.90	Executive, Admin, & Managerial 42.47	Professional Specialty 24.50
	Executive, Admin, & Managerial Occs 9.37	Machine Opers, Assemblers & Inspectors 22.53	Precision Prod., Craft & Repair 18.57	Sales 17.74
	Service Occs, Exc. Protective & Hhld 9.32	Handlers, equip Cleaners, helpers 12.63	Service, Exc. Protective & Hhld 6.81	Executives, Admin & Managerial 10.62

APPENDIX 3
(CONTINUED)

WESTERN EUROPE AND IRELAND

	GERMANY	FRANCE	NETHERLANDS	IRELAND
Mothers				
Labor market status				
Employed	70.21	100	41.26	53.39
Unemployed	2.36	0	0	0.07
Out of Labor Force	27.42	0	58.75	47.54
Age	47.87	49.67	55	51.56
Fathers				
Labor market status				
Employed	89.18	100	69.79	76.86
Unemployed	0		0	1.18
Out of Labor Force	10.82		30.21	21.96
Age	51.55	52.23	57.85	55.67
Industry				
	Retail Trade 15.99	Public Administration 38.03	Retail Trade 25.90	Construction 17.65
	Public Administ. 12.85	Social Services 17.55	Manufacturing Durable 24.59	Transportation 17.29
	Construction 7.76	Retail Trade 12.70	Educational Services 11.07	Manufacturing Durable Goods 13.28
Occupation				
	Executive, Admin & Managerial 35.32	Precision Prod., Craft and Repair 24.82	Sales 17.98	Precision Prod., Craft and Repair 24.78
	Precision Prod., Craft & Repair 15.80	Technicians and Related Support 20.18	Mach. Opers, Assemb. and Insps. 15.44	Admin. Support, Incl. Clerical 17.42
	Professional Specialty Occs 12.54	Executive, Admin, & Managerial 19.69	Executive, Admin & Managerial 11.07	Executive, Admin & Managerial 15.24

APPENDIX 3
(CONTINUED)

SCANDINAVIAN EUROPE, UK, NATIVES AND POLAND

	SCANDINAVIAN EUROPE	UK	NATIVES	POLAND
Mothers				
Labor market status				
Employed	58.38	58.81	70.83	53.53
Unemployed	0	0	1.71	0
Out of Labor Force	41.62	41.19	27.46	46.47
Age	57.49	50.51	47.79	49.94
Fathers				
Labor market status				
Employed	74.17	75.06	83.69	62.63
Unemployed	0	5.77	2.57	0
Out of Labor Force	25.83	19.18	13.75	37.37
Age	60.34	52.66	50.06	54.04
Industry				
	Manufacturing-Non-Durable G. 21.84	Manufacturing-Durable Goods 15.06	Manufacturing-Durable Goods 13.41	Manufacturing-Durable Goods 19.74
	Manufacturing-Durable Goods 21.69	Retail Trade 11.19	Construction 8.99	Wholesale Trade 9.55
	Business, Auto and Repair Services 13.31	Other Professional Services 9.05	Retail Trade 7.98	Adm. Support, Incl. Clerical 8.95
Occupation				
	Executive, Admin, & Managerial 48.16	Executive, Admin, & Managerial 26.50	Precision Production, Craft and Repair 17.82	Precision Production, Craft and Repair 17.47
	Professional Specialty 14.59	Professional Specialty 19.13	Executive, Admin, & Managerial 16.70	Sales 11.68
	Transportation and Material Moving 8.67	Sales 14.43	Professional Specialty 11.65	Mach. Opers, Assemb. & Inspect. 11.11

APPENDIX 4: AVERAGE NUMBER OF CHILDREN AMONG 18-33 YEAR OLDS WOMEN, SECOND GENERATION IMMIGRANTS

MEANS AND STANDARD ERRORS

Sample	**Census 1970**		**CPS 1995, 1998 and 2000**	
Variable	Mean	S. E	Mean	S. E.
All sample	1. 339	. 0032	. 9414	. 0056
Portugal	1. 840	. 1739	. 6182	. 1451
Greece	1. 117	. 0938	. 5219	. 1108
Italy	1. 407	. 0368	. 7228	. 0835
Spain	1. 350	. 1660	. 7124	. 2319
France	1. 142	. 1471	1. 548	. 3401
Germany	1. 390	. 0519	. 7197	. 0922
Netherlands	1. 317	. 1217	1. 832	. 3575
Scandinavian Europe*	1. 561	. 0730	. 5428	. 0589
UK	1. 380	. 0574	1. 134	. 1574
USA	1. 337	. 0034	. 9221	. 0061
Sample size	224261		41931	

*Scandinavian Europe includes Denmark, Finland, Norway and Sweden

REFERENCES

Akerlof, George A., Janet L. Yellen, and Michael L. Katz, "An Analysis of Out-of-Wedlock Childbearing in the United States", *Quarterly Journal of Economics,* CXI (1996), 277-317.

Bentolila, Samuel, and Andrea Ichino, "Unemployment and Consumption: Are Job Losses Less Painful Near the Mediterranean?" IUE, July 2001, mimeo.

Becker, Sasha O., Samuel Bentolila, Ana Fernandes, and Andrea Ichino, "Parental Job Insecurity and Children's Emancipation: The Italian Puzzle", IUE, July 2002, mimeo.

Blume, Lawrence E., "The Statistical Mechanics of Strategic Interaction," *Games and Economic Behavior*, V (1993), 387-424.

Blume, Lawrence E., and Steven N. Durlauf, "The Interactions-Based Approach to Socioeonomic Behavior" in *Social Dynamics. Economics Learning and Social Evolution*, Durlauf Steven N. and Peyton H. Young, eds. (Washington, D.C.: Brooking Institution Press; Cambridge and London: MIT Press, 2001)

Bonifazi, Corrado, Adele Minniti, Maura Misiti, and Rossella Palomba, "Giovani che non Lasciano il Nido: Atteggiamenti, Speranze, Condizioni all'Uscita da Casa", Institute for Population Research, Working Paper WP/01/99, April 1999.

Bozon, Michel, and Osmo Kontula, "Sexual Initiation and Gender: A Cross-Cultural Analysis of Trends in the 20th Century" in *Sexual Behavior and HIV/AIDS in Europe: Comparisons of National Surveys,* Hubert, Michel, Natalie Bajos and Theo Sandford, eds. (London: UCL Press, 1998).

Card, David, DiNardo John and Eugena Estes, "The More Things Change: Immigrants and the Children of Immigrants in the 1940s, the 1970s, the 1990s", NBER Working Paper 6519, April 1998.

Carroll, Christopher D., Byung-Kun Rhee, and Changyong Rhee, "Are There Cultural Effects on Saving? Some Cross-Sectional Evidence," *Quarterly Journal of Economics*, CIX (1994), 685-699.

Cavalli, Alessandro, and Antonio de Lillo, *Giovani anni 90. Terzo Rapporto Iard sulla Condizione Giovanile in Italia* (Bologna: Il Mulino, 1993).

Diaz, Antonia and Maria Dolores Guillo, "Family Ties and Unemployment", Instituto Valenciano de Investigaciones Economicas, Working Paper WP-AD 2000-07, March 2000.

Fogli, Alessandra, "Endogenous Market Rigidities and Family Ties", New York University, September 2000, mimeo.

Galland, Olivier, "Precarietà e Modi di Entrata nella Vita Adulta", in *Eta' e Corso della Vita*, Saraceno Claudia, eds. (Bologna: Il Mulino, 1986).

Ghidoni, Michele, "Determinants of Young Europeans' Decisions to Leave Parental Household", University College of London, February 2001, mimeo.

Giannelli, Gianna Claudia, and Chiara Monfardini "Joint Decisions on Household Membership and Human Capital Accumulation of Youths: The Role of Expected Earnings and Labor Market Rationing", *Journal of Population Economics*, XVI (2003), 265-285.

Glasco, Laurence "The Life Cycle and Household Structure of American Ethnic Groups: Irish, Germans and Native-Born Whites in Buffalo, New York, 1855", in *Family and Kin in Urban Communities, 1700-1930*, Hareven Tamara, eds. (New York and London: New Viewpoints, 1976)

Goldin, Claudia, and Lawrence F. Katz, "Career and Marriage in the Age of the Pill", *American Economic Review,* XC (2000), 461-465.

-----, "The Power of the Pill: Oral Contraceptives and Women's Career and Marriage Decisions", *Journal of Political Economy,* CX (2002), 730-770.

Kandori, Michihiro, George J. Mailath, and Rafael Rob, "Learning, Mutation, and Long Run Equilibria in Games", *Econometrica,* LXI (1993), 29-56.

Istat, *Indagine Multiscopo "Famiglia, Soggetti Sociali e Condizione dell'Infanzia",* (Roma: ISTAT, 1998)

Livi Bacci, Massimo, *Abbondanza e Scarsità. Le Popolazioni d'Italia e d'Europa al Passaggio del Millennio* (Bologna: Il Mulino, 1997).

Manacorda, Marco, and Enrico Moretti, "Intergenerational Transfers and Household Structure: Why Do Most Italian Youths Live with their Parents?", London School of Economics, January 2002, mimeo.

Martinez-Granado, Maite, and Javier Ruiz-Castillo, "The Decisions of Spanish Youth: A Cross-Section Study", *Journal of Population Economics,* XV (2002), 305-330.

Pooley, Colin, and Jean Turnbull, "Leaving Home: The Experience of Migration from the Parental Household in Britain since c. 1770", *Journal of Family History,* XXII (1997), 290-424.

Reher, David Sven, "Family Ties in Western Europe: Persistent Contrasts", *Population and Development Review,* XXIV (1998), 203-234.

Teitler, Julien O., "Trends in Sexual Initiation and Fertility in Developed Countries: 1960-1995", *The Annals of the Academy of Political and Social Science*, DLXXX (2002), 134-152.

Vogel, Joachim, *Living Condition and Inequality in the European Union* (Luxembourg: Eurostat, Population and Social Conditions E/1997-3, 1997).

Young, Peiton H., "The Evolution of Conventions", *Econometrica,* LXI (1993), 57-84.

Weiler, Sue N., "Family Security or Social Security? The Family and the Elderly in New York State during the 1920s", *Journal of Family History,* XI (1986), 77-96.