Are those cohabiting more like married or more like single individuals? An Analysis across Europe
(Extended abstract)

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I use the ECHP Survey to analyze changes in hours of work and earnings among individuals in 15 European countries as they move between different marital status (including cohabitation). Married women reduce both hours and earnings but men and women in unions increase work earnings at the time of the transition. Labor division is weaker among European cohabitants than previously found for the US. I explore why controlling by hours closes the gap between married and cohabiting women in only some : selection (Southern Europe); discrimination;tax penalty. Finally it studies when changes in wages and hourly wages happen. Earnings for married women decrease precisely at the time of marriage; while those of cohabitants seem to increase even a bit before they move with their partners. This may be a way to be able to "afford" moving in with the spouse.

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Introduction

Long-term cohabitation is more widespread in Europe than in the US, particularly in Nordic countries. In most previous research married men earn more than single men, while married women earn less than single women. Whether the differences arise from selection (those with more potential earnings are more likely to marry) or from more specialization (within a marriage men specialize in labor market skills) has been long debated in an extensive literature. Are those cohabiting more like married or more like single individuals? An extensive literature notes the larger instability of unions versus marriages. The expectation of a shorter commitment may deter specialization and reduce gender differences among unions as opposed to marriages.

In this paper we analyze comparative data on 15 European countries with different degrees of cohabitation prevalence to understand the changes in individual and household income as men and women transition across different marital status. Overall we find that labor division seems to be weaker among European cohabitants than what Light (2004) finds for the US.

Background

Married men earn more than single men but the reverse holds for women- "marriage premium"- (Korenman and Neumark 1991, 1992, Loh 1996). Still intra-household specialization among married couples in the US may be dwindling (Light 2004).

The number of children accounts for a substantial part of earnings differences across women but not that much across men (Neumark and Korenman (1994), Waldfogel (1998) and Lundberg and Rose (2000) Loh 1996)).

Differences mediated by tax regulations, "marriage penalty" (works by Apps, or by Alm & Whittington) may explain cross-country differences of that intra-household specialization.

As an increasing share of population chooses to cohabit (permanently or just extensively before marriage), it reasonable to study whether they behave more like married or more like single individuals.

Previous papers in the literature point to some preliminary results to this question. Marriage is associated with higher wages than cohabitation among men; see Stratton (2002), Light (2004), in the US and Adsera and Chiswick (2007) in a cross-country of European countries

However in other spheres of time the two arrangements do not seem to look as different. For example, Kalenkoski, Ribar and Stratton (2005) show that time spent with children by married and cohabitant parents similar in UK.

Important differences in the observed behavior of Cohabitants across countries may be related to "how prevalent" cohabitation is in a particular context. Individuals in cohabitant unions are more or less selected and their behavior deviates more or less from the average population depending on what share of the population they constitute in the first place. Previous research shows that unions are more unstable in US but not in Denmark (Svarer 2004). Cross-country analysis by Kiernan (2000), Liefbroer & Dourleijn (2006) show how stability is related to overall prevalence of unions.

Analytical Section (to be completed)

Couples receive consumption-related gains (public goods, pool risk..) and/or engage in intrahousehold specialization that enables more goods to be produced.

Paper objective: To compare men's and women's changes in labor market effort and in work earnings upon entering unions (cohabitant or marriage).

There are differences in earnings across marital status. In general married men have been found to earn more than single men while the opposite is true for women. Given the increasing share of population that is choosing to cohabit (permanently or just extensively before marriage), it is relevant to ask whether those who are cohabiting behave more like married or more like single individuals.

Where the observed differences come from is a matter of discussion. They can be due to different pathways

1. **Selection**

    a. Men with more potential earnings may be more likely to marry (attractive in "marriage market"). To overcome this problem, previous research uses individual fixed effects to account for unobservables.

    b. Unclear how this works for women. Some with more earnings potential may choose to postpone marriage and cohabit first (1) to find a better match; (2) to fully participate in the labor market before marrying, gain experience and attain higher income prospects.

2. **Specialization**

    a. Within a marriage men specialize in labor market skills. This has been long debated in an extensive literature (Causal? Ginther, Sunstrom and Bjorklund 2008)

    b. Smaller male-female difference in hours of housework among cohabitors than among married (South and Spitze 1994) and less intrahousehold specialization (Daniel 1995, Stratton 2002).

    c. An extensive literature notes the larger instability of unions versus marriages. The expectation of a shorter commitment may deter specialization and reduce gender

differences among unions as opposed to marriages. instability of unions deters specialization? (Bumpass and Sweet 1989, Willis and Michael 1994). Light (2004) offers and extensive survey of this.

A couple of great review papers analyze the methodological problems to study behavior of couples (Lundberg 2005; Ribar 2004).

Data and Methodology

This study uses the 1994-2001 waves of the European Community Household Panel (ECHP) that presents comparable micro-level (person/households) data for households across the old 15 European Union states. The dataset also includes observations from the German socioeconomic household panel (SOEP), from the household panel from Luxembourg (PSELL), and from the British household panel (BHPS). Interviews in the ECHP were conducted simultaneously across all countries and data from national household panels were structured to mimic the rest of the ECHP. [1] Thus, the European Community Household Panel (ECHP) is the first household survey that provides the data necessary for a comparative analysis of the adjustment of immigrants not only across broad geographic areas of origin, but also across the major European destination countries.

The sample used in this paper includes individuals 20-50 yrs. I do not use people beyond that age because I assume that large adjustment in the labor market may be more difficult. Individuals should be single or in their "observed" first union or marriage. I do not include widow, divorce or separated (after that event occurs).

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[1] Some countries were not included in the first wave but were added later (Austria in wave 2, Finland in wave 3 and Sweden in wave 4).

There are a few shortcomings to the data. In the first place, since this is annual data it misses very short cohabitation/marriage spells. This would make results unrepresentative for the whole population if the relationship between marital status and income varied systematically with duration.

Also the month of union/marriage is not known. I have experimented with t-1 and t-2 to see dimension of changes in income (i.e., marriage in January and December of same year may result in very different observed changes in annual family income).

Table 1 presents that percentage of adults in each country that belong to each marital status in the sample employed in the paper. Not surprisingly, the Nordic countries show the highest prevalence, with 16.7% and 22.9% of all individuals in the sample in Finland and Denmark respectively. Similarly, the lowest percentages are found in more traditional countries of Southern Europe such as Greece (only 1.4%), Italy (1.2%), Portugal (2.1%) and Spain (2.1%) or a highly Catholic country such as Ireland (2.2%). Still recent data shows that those trends are also rapidly changing in these countries.

To study difference in earnings across household arrangements I undertake two types of analysis: (1) analyze differences on hours of work and (2) on work earnings across marital status among working population both in levels (OLS) and in changes (fixed-effects) for marital status transitions for the whole population. In the OLS analysis to account for the presence of multiple observations per person errors are clustered by individual using the procedure in Stata 10. The fixed effect models exploit the panel dimension of the data to control for unobservables thought individual dummies. To correct for price changes and other time specific influences, the models include time fixed effects for years when individuals were interviewed. Those interviewed in the year 2000 are the benchmark. The following models are estimated in the paper:

1) Log Levels: OLS and Individual Fixed Effects.

Log Yit =α+ βcCit + βmMit + B Ageit +∑C Xit +Ri + eit

Yit income measure, Cit cohabit, Mit married; Xit individual characteristics

2) Differences in log levels: OLS on changes in marital status (transitions).

Δ Log Yit = βc Δ Cit + βm Δ Mit + B Δ Ageit +∑C Δ Xi+ Δ eit

These model has an important shortcoming. It assumes a "one-time change" in the earnings path resulting from marital status changes. Future analysis will incorporate different growth path for each marital status (ie, Stratton 2002, Light 2004). The problem is that no information available on time union formed, only on marriages. The model that will be estimated follows:

3) With duration:

Log Yit =α+ βcCit + βmMit +βtcTCit + βtmTMit +βtsTSit + B Ageit +∑C Xit +Ri + eit

TCit time cohabit, TMit time married; TSit time single (since age 20)

The following explanatory variables are included in the analyses:

1. *Marital Status* is measured by including two variables, one for those currently married (Married=1) and another for those in informal unions (Cohabiting=1); those single and not cohabiting is the omitted category. Marriage is expected to be associated with lower earnings for women and moderately higher earnings for men to the extent that a division of labor in the household has had a different effect by gender on current and past labor supply and work effort.

2. *Number of Children.* The number of children present in the household is also included in the estimates. Due to the effect of children on current and past labor supply and work effort, this variable is expected to be associated with lower earnings for women and (slightly) higher earnings for men.

3. *Education.* The completed schooling level or the enrollment status of the individual at the time of each interview is available. The educational categories are less than upper secondary (Less than Secondary=1), upper secondary (the omitted category) and at least some tertiary education (Tertiary Education =1). Unfortunately, a continuous measure of education, such as years of schooling, is not available.

4. *Experience* (Yrs. Experience & Yrs. Experience Squared). The survey reports the year when the individual worked for the first time. However, data are not available for Sweden, and, in addition, many of the reported answers are inconsistent with responses to other questions in the survey. To create a more systematic and perhaps less error-prone measure of experience, information on completed levels of education is used as follows: Potential experience is constructed as the age of the individual minus 14, 18 or 23 years depending on the highest level of schooling (i.e. Age minus years of schooling minus six years). This measure of experience and its square are used in this study.[2]

5. *Foreign Birth* (Foreign=1)*.* A variable is included to denote that an individual was foreign born. The ECHP includes several pieces of information on the migration trajectory of each person surveyed. Since no information was available on some of the questions for some countries, different data items are combined to construct this variable. This includes information on whether the person was foreign born (not readily available for Germany, part of Luxembourg and Sweden); whether the person was born in the European Union or not (not available for Greece, the Netherlands and the ECHP sample of Germany); and on their citizenship.

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[2] Similar regressions were also computed using experience calculated as age minus the reported age at first job. (In cases where information was missing, the constructed measured of experience, described in the text, was used.) These two measures are highly correlated. The results do not vary with the measure of experience and are available from the authors by request.

6. *Years since Migration* (Yrs. since Migration & Sq. YSM). This variable is constructed from the year of arrival in the country of present residence. The square of years since migration is also included to reflect the nonlinear relation between earnings and duration in the destination.

7. *Geographic Area of Origin*. This variable distinguishes between those born within or outside the European Union. For Germany, the Netherlands, Greece, Finland and the PSELL sample from Luxembourg this is the only information available on the foreign country of birth.

Table 2 includes the means of the dependent and independent variables

Differences in hours of work

First, I analyze differential market attachment as measured by hours of work across gender for individual in unions and in marriages. Married women (with children) have shown to have weaker labor attachment than single women whether the reverse hold for men. I conduct a similar analysis with the cohabitants. Table 3 presents the results, both for OLS and for differences estimates.

Besides completing the analysis of hours of work, the paper will look at the decision to participate or not in the labor market among married and cohabitant women and at the transitions in ana out the market that occur when there are changes in the household structure. (To be completed)

Differences on Work Earnings

For the first set of results the natural logarithm of individual work earnings in purchasing power parity (PPP) terms is analyzed both in controlling for country specific effects and separately by

country. Earnings are measured as total net annual income from work.[3] Income data for France and Finland are in gross terms instead of net terms and, as explained below, this needs to be taken into account in interpreting the results. Results in the paper are robust to the exclusion of these countries from the sample. Net income from work includes both wage and salary earnings and self-employment income.

As a first cut to the data on work earnings Appendix A presents some a first general estimated earnings equation, separately for both men and women, among all the working population aged 16 and above. Marital status variables are included in the model. Single individuals are the benchmark. After controlling for relevant demographics and country effects, preliminary results show that individuals living with a spouse, whether married or cohabitating, have higher earnings than single workers (Table 2). Married men earn 3 to 4% more than those in consensual unions and around 32% more than single men. Controlling for the number of children in the household, married women earn around 7% more than single women but around 15 to 16% less than those in consensual unions. The differences found between marriage and cohabitation for both men and women are consistent with the expectation that within cohabiting unions there is less specialization and division of labor than in marriages (Willis and Michael 1994), although intra-household specialization among married couples may be dwindling (Light 2004).

The number of children in the household is associated with lower women's earnings of around 14% per child. Thus, while married women without children earn more than singles, married mothers with one child earn 7% less than single women without children. This result is consistent with the decline in wages associated to motherhood found in Neumark and Korenman (1994), Waldfogel (1998) and Lundberg and Rose (2000), among others. For men, the coefficient on the

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[3] In each wave data are not available to control for the weeks worked per year or the hours worked per week in the year for which annual earnings are recorded.

number of children is significant and positive, but negligible in size (around 1% per child) (as in Loh, 1996). If the number of children is excluded from the specification, married women on average earn about 3% less than single women. Besides the bias from the omitted variable, this change in the relative ranking across marital status may also be related to the fact that the measure of potential experience employed here is further away from actual experience for married women than for others, particularly if they have interrupted (temporarily) their careers to bear children.

The main results for the sample of interest discussed in the previous section, individuals 20-50 either single or in their first observed union (working or not) is presented in Tables 4 a & b with and without controlling for hours worked. The first column in each table looks at the levels of work earnings. The second column exploits the panel dimension of the data to study within-person variation from changes in marital status and see if these changes differ by gender. All estimates include education, foreign birth, years since migration, polynomials of age, children, 15 country dummies and year dummies.

As seen in Tables 4 a-b, married couples seem to specialize more than cohabitants. Looking at the trajectory of one individual, and controlling for unobservables, women's earnings lowers at marriage both from single and cohabitation. In the case of a move from cohabitation to marriage the change is larger. This may be related to a life-cycle effect. Those women who transit first to cohabitation may decide to marry when they are ready for maternity (or already have small children, as in frequent in Nordic countries). Thus both marriage and decreased participation in the labor force may come together. We should conduct this analysis country by country to see whether we find some interesting differences that match the striking labor market opportunities for women across Europe.

Differences in Work Earnings across countries

In Tables 5 a & 5 b I run the same underlying model separately for each country to study whether those gender differences appear also in a country-by country case. Each table presents results both of differences in work earnings with and without controlling for hours worked by each individual.

Results in Table 3 show that in general married men earn more than cohabitants and that the latter earn significantly more than singles except in Austria. The differences with respect to single individuals are substantial in France, the UK, Ireland, Belgium, Finland and the Netherlands. Conversely, preliminary findings in Table 4 show that in general cohabitant women tend to earn more than married across all European countries but that in some countries the difference is very small. It is interesting to see how in German-speaking countries, such as Austria and Germany, married women earn less than single women. This seems to be consistent with the observation in these countries that women once they have children are expected to stay at home or are likely to exert lower effort in the market (Spiess, Ondrich and Yang 1996).

The absolute gap in work earnings between married and cohabiting men does not vary much when the hours worked are included in the analysis (columns (3) and (4) in Table 5 a). The gap between married and cohabiting women shrinks substantially when hours are included in some countries while it does not vary that much in others (columns (3) and (4) in Table 5 b). These cross-country differences probably indicate the cross-country differences of the labor opportunities available for married women, particularly once they become mothers. It is much more likely that more married than cohabiting women are in part-time positions. However as we observe from Table 6, the prevalence of those jobs varies widely across Europe. In the case of the Netherlands, for example, it is extremely high. This may account for the closing of he huge gap between married and

cohabitant Dutch women once hours of work are controlled in the model. This case the gap of cohabitants with respect to both singles and marries dwindles. This indicates that this group is the one working more intensively in the market. In the case of married women, even if they have similar total work earnings as single women, they out-earn them by almost 20% once their effort is accounted for. Similarly, in Sweden, once I include hours worked differences between married and cohabitants are minor and insignificant. However, when hours are not included, cohabiting women in Sweden earn relatively more. This may again relate to the fact that almost half women in Sweden work for the public sector (see Table 6). Those positions are tenured and offer very generous benefits to mothers with children. It is possible that among those married there are more mothers who take advantage of reduced number of work hours but still enjoy good compensation packages. The fact that once hours are included there is not significant difference among women marital status in Sweden may point to very homogenous type of jobs and to narrow differences in wages among women. In that regard, the gap between married and cohabitants also closes in Denmark though not in such as substantial way as it does in Sweden.

In the case of Southern Europe, given the scarcity of the provision of either of those types of jobs –part-time or public employment- the gap between married and cohabitant women does not close substantially once work hours are included. I will analyze these differences further (to do)

The timing of changes in work effort and marital status

Table 7 shows the mean age of individuals by marital status and mean number of children in relation to time of marriage by country individuals 20-50 yrs old). There are no important cross-country differences in the mean age of married and cohabitant individuals in the sample. However the mean number of children at marriage and the time distribution when those children are born

before marriage is very different across countries. In countries with more prevalent cohabitation, such as Denmark, Finland or France, women have more children at the time of marriage. In Southern Europe, with lower prevalence of cohabitation, women have fewer children at marriage and most of those are born precisely at the year of marriage.

In that regard it may be important to understand how some of these changes in family composition affect the differences in timing of changes in effort across countries and across time.

To start analyzing these changes in Tables 8 and 9 I exploit the panel dimension of the data in additional way. The exercise explores whether changes in current monthly wages and hourly wages (by taking into account the information on current work hours) are more important just before the change in marital status or precisely at the time of marital status for women.

In Table 8 we observe that married women reduce effort AT marriage; It is not completely clear but result in the table seem to indicate that cohabitants increase effort even a bit before they move with their partners (?). This may be a way to be able to "afford" moving in with the spouse.

Results in Table 9 clearly show that part of that change in work earnings for married women comes from a reduction in work hours. However results imply both an observed increase in hours and current hourly wage for cohabitants. Thus the increase in work earnings is achieved through both exerting more effort and by improving the position in the labor market (better job, promotion?).

Summary of findings and further research

Married men earn 3 to 4% more than those in consensual unions and around 32% more than single men. This finding accords to previous extensive research on "marriage premium. Controlling

for the number of children in the household, married women earn around 7% more than single women but around 15 to 16% less than those in consensual unions.

The gap in work earnings between married and cohabiting women shrinks substantially when hours are included in some countries whereas that for men hardly changes. This is clearly related to the differential labor attachment between cohabiting and married women. Married couples seem to specialize more than cohabitants. Labor division seems to be weaker among European cohabitants than what Light (2004) finds for the US.

The paper opens a set of questions that I aim to pursue (partially) in this paper when completed and in further future work.

1. Compare the number of children (before and after marriage) and study how they account for changes in labor market attachment.

2. Need to Understand better who are the cohabiting and why are they cohabiting. For example, there are differences in the education gradient between middle aged (35-44) cohabitants in the US (negative) and in some European countries such as France (positive). (Goldstein and Kenney).

3. Incorporate information on labor market characteristics (ie, regulation of part-time across countries) and on "Marriage penalty" on Tax system (ie, Germany discourages second earner) to explain cross country differences.

4. Explore further cross-country differences in women's earnings while cohabitating or while married and why controlling hours of work close those gaps in some countries more than others: (1) more selection in countries with lower labor force participation (Southern Europe); (2) more "occupational discrimination" in some countries than others.

5. Need to study with whom where they living before and see whether this results changes

    drastically across countries in Europe (Southern Europe, more individuals live at home).

REFERENCES

Adsera, A. & Chiswick, B. (2007) Are There Gender Differences in Immigrant Labor Market Outcomes across European Countries? (with Barry Chiswick), *Journal of Population Economics*, 20 (3), 495–526,.

Alm, James and Leslie A. Whittington, Anderson, (2003) Shacking Up or Shelling Out: Income Taxes, Marriage, and Cohabitation, working paper, Andrew Young School of Policy Studies.

Binder D.; M. and K. Krause (2003) "The Motherhood Wage Penalty Revisited: Experience, Heterogeneity, Work Effort and Work-Schedule ", *Industrial and Labor Relations Review*, Vol. 56 (2) pp.273-294.

Björklund, Anders & Donna K. Ginther & Marianne Sundström, 2007. "Does Marriage Matter for Children? Assessing the Causal Impact of Legal Marriage," IZA Discussion Papers 3189, Institute for the Study of Labor (IZA).

Björklund, Anders & Donna K. Ginther & Marianne Sundström, 2008. "Does Marriage Lead to Specialization in Sweden?: An Evaluation of Trends in Adult Earnings Before and After Marriage, Paper presented at the Population Association of America meetings in New Orleans.

Brines, Julie and Kara Joyner. 1999. "The Ties that Bind: Commitment and Stability in the Modern Union." *American Sociological Review* 64: 333-356.

Ginther, Donna K., and Madeline Zavodny (2001). "Is the Male Marriage Premium Due to. Selection?" *Journal of Population Economics* 14: 313-328.

Jacobsen, J and L. Levin (1995) "Effects of Intermittent Labor Force Attachment on Women's Earnings" *Monthly Labor Revie,* September, pp. 14-19.

Kiernan, Kathleen. (2000) 'European Perspectives on Union Formation.' In *Ties that Bind: Perspectives on Marriage and Cohabitation.* Edited by Waite, L.; Bachrach, C.; Hindin, M.; Thomson, E.; Thornton, A. Aldine de Gruyter, 2000, pp. 40-58.

Kiernan, Kathleen (2004) Redrawing the boundaries of marriage *Journal of Marriage and the Family*, November, 66, 980-987.

Korenman, Sanders and David Neumark (1991) "Does Marriage really make men more productive?" *Journal of Human Resources* 26 (2), pp. 282-307.

Korenman, Sanders and David Neumark (1992) "Marriage, Motherhood, and Wages" *Journal of Human Resources* 27 (2), pp. 233-255.

Liefbroer, A.C. and E. Dourleijn (2006), Unmarried cohabitation and union stability: testing the role of diffusion using data from 16 European countries, *Demography* 43 (2): 203-221

Light, Audrey (2004) "Gender Differences in the Marriage and Cohabitation Income Premium." *Demography* 41 (2), pp.263-284.

Loh, E. S. (1996) "Productivity differences and the marriage wage premium for white males." *Journal of Human Resources* 31 (3), pp. 566-589.

Lundberg, Shelley and Elaina Rose (2000) "Parenthood and the earnings of married men and women." *Labour Economics* 7, pp. 689-710.

Lundberg, Shelly (2005) Men and islands: Dealing with the family in empirical labor economics *Labour Economics* Volume 12, Issue 4: 591-612

Neumark, David and Sanders Korenman (1994) "Sources of bias in women's wage equations: results using sibling data", *Journal of Human Resources* 29 (2), pp. 379-405.

Reimers, Cordelia W. (1985) "Cultural Differences in Labor Force Participation Among Married Women," *American Economic Review*, 75, May, pp. 251-255.

Spiess, Ondrich and Yang. (1996) Barefoot and in a German kitchen: Federal parental leave and benefit policy and the return to work after childbirth in Germany, *Journal of Population Economics* 9 (3): 247-266.

Stratton, L. S. (2002) "Examining the Wage Differential for Married and Cohabiting Men." *Economic Inquiry* 40, pp.199-212.

Svarer, Michael (2004) Is Your Love in Vain? Another Look at Premarital Cohabitation and Divorce, *Journal of Human Resources* 39(2), 523-536.

Waldfogel, Jane (1997) "The Effect of Children on Women's Wages," *American Sociological Review*, Vol 62 , pp. 209-217.

Waldfogel, Jane (1998) "Understanding the 'Family Gap' in Pay for Women with Children," *Journal of Economic Perspectives*, Vol 12 (1), pp. 137-156.

Weiss, Yoram (1997): The Formation and Dissolution of Families: Why Marry? Who Marries Whom? and What Happens Upon Divorce, In *Handbook of Population and Family Economics*, ed. Rosenzweig and Stark. Amsterdam; New York and Oxford: Elsevier Science, North-Holland

Willis, Robert and Robert Michael (1994) "Innovation in Family Formation: Evidence on cohabitation in the United States." In J. Ermisch and M. Ogawa (eds.) *The Family, the Market and the State in Aging Societies*, Oxford University Press .

Table 1. Marital status for individuals 20-50 yrs old in sample

	Married	**Cohabit**	**Not in couple**
Germany	64.3	8.7	27.0
Denmark	53.0	**22.9**	24.0
Netherlands			
	66.8	12.8	20.3
Belgium	66.8	8.7	24.5
Luxembourg			
	50.3	6.4	43.3
France	55.4	14.0	30.6
UK	60.5	12.3	27.2
Ireland	53.4	**2.2**	44.3
Italy	54.8	**1.2**	44.1
Greece	59.5	**1.4**	39.1
Spain	55.5	**2.1**	42.4
Portugal	60.6	**2.1**	37.3
Austria	56.8	7.5	35.8
Finland	56.5	**16.7**	26.8

Table 2. Mean of Sample Variables.

	Men	**Women**
Log Work Earnings		
St Dev	8.072	5.644
	(3.38)	(4.37)
Age	34.7	34.7
Education		
Less Secondary	0.39	0.40
Secondary	0.41	0.40
Tertiary	0.21	0.21
Marital Status		
Married	0.58	0.67
Cohabiting	0.07	0.07
Not in union	0.34	0.26
N. Children	0.99	1.18
Foreign Born	0.04	0.05
(&) Born out of EU	0.02	0.03
N.Obs	218,783	220,448

Note: Years since migration (and Sq), age polynomials, year and country dummies in addition. Log of Income variables (All countries in common PPP values)

Table 3. Estimated association of Marital Status Change and Log Hours of Work **(Individuals 16-50 yrs)**

	OLS-Levels	Fixed Effects	Differences
Women			
Single to married	-0.191**	-0.245**	-0.153**
Single to cohabit	0.054**	-0.007	-0.012
Cohabit to married	-0.137**	-0.252**	-0.165**
N. Observations	299,687	299,687	227,818
Men			
Single to married	0.592**	0.125**	0.079**
Single to cohabit	0.365**	0.151**	0.115**
Cohabit to married	0.227**	-0.026	-0.036**
N. Observations	299,456	299,456	225,565

Source: ECHP data. Controls for age, education, student status, foreign-birth, birth outside the European Union, years since migration (and its square), potential experience (and its square), year of interview, number of children and hours worked per week. Standard errors clustered by id.
+ significant at 10%; * significant at 5%; ** significant at 1%Changes in Hours worked

Table 4 a. Estimated effect of Marital Status Change in Log Work Earnings

	OLS-Levels	Differences
Women		
Single to married	-0.393**	-0.423**
Single to cohabit	0.212**	-0.074
Cohabit to married	-0.605**	-0.349**
N. Children	-0.852**	-0.599**
N.Obs	217,104	168,435
Men		
Single to married	1.572**	-0.004
Single to cohabit	1.130**	0.086*
Cohabit to married	0.442**	-0.046
N.Children	-0.081**	-0.060**
N.Obs	215,935	166,571

St. errors clustered by id. + significant at 10%; * significant at 5%; ** significant at 1%

Table 4 b. Estimated effect of Marital Status Change in Log of Work Earnings With Hours included

	OLS-Levels	Differences
Women		
Single to married	-0.018	-0.351**
	(0.61)	(6.35)
Single to cohabit	0.091*	-0.056
	(2.55)	(1.22)
Cohabit to married		
N. Children	-0.316**	-0.448**
	(24.79)	(17.96)
Men		
Single to married	0.953**	-0.034
	(33.71)	(0.81)
Single to cohabit	0.750**	0.066+
	(24.61)	(1.70)
Cohabit to married		
N.Children	-0.077**	-0.045**
	(7.86)	(2.58)

St. errors clustered by id. + significant at 10%; * significant at 5%; ** significant at 1%

Table 5 a. Difference in log Work Earnings with respect to single Men by country and marital status in 15 European Union countries, 1993-2001. **(Individuals 20-50 yrs)**

	Married	Cohabitant	Married	Cohabitant	N. Obs
	Hours worked not included		With hours worked		
Germany	0.281**	0.216**	0.229**	0.183**	37791
Denmark	0.313**	0.288**	0.244**	0.201**	12488
Netherlands	0.455**	0.475**	0.337**	0.353**	21054
Belgium	0.464**	0.411**	0.339**	0.307**	12151
Luxembourg	0.281**	0.080*	0.265**	0.060+	9476
France	0.597**	0.454**	0.521**	0.398**	26459
UK	0.395**	0.218**	0.328**	0.167**	28835
Ireland	0.467**	0.396**	0.443**	0.353**	17200
Italy	0.233**	0.240**	0.190**	0.175**	33587
Greece	0.180**	0.154**	0.144**	0.123*	22101
Spain	0.351**	0.271**	0.292**	0.225**	28765
Portugal	0.239**	0.129*	0.220**	0.125*	24534
Austria	0.227**	0.075+	0.228**	0.080+	13062
Finland	0.452**	0.512**	0.285**	0.349**	14222
Sweden	0.087**	0.167**	0.014	0.070**	14457

Source: ECHP data. OLS regression controls for age, education, student status, foreign-birth, birth outside the European Union, years since migration (and its square), potential experience (and its square), year of interview, number of children and hours worked per week. Standard errors clustered by id.
+ significant at 10%; * significant at 5%; ** significant at 1%

Table 5 b. Difference in log Work Earnings with respect to single Women by country and marital status. **(Individuals 20-50 yrs)**

	Married	Cohabitant	Married	Cohabitant	N. Obs
	Hours worked not included		With hours worked		
Germany	-0.124**	0.153**	-0.005	0.148**	29631
Denmark	0.206**	0.318**	0.165**	0.253**	11257
Netherlands	0.056	0.348**	0.196**	0.259**	17176
Belgium	0.364**	0.432**	0.297**	0.330**	10107
Luxembourg	-0.156**	0.132**	0.038	0.152**	5181
France	0.212**	0.299**	0.189**	0.265**	22008
UK	0.175**	0.248**	0.199**	0.182**	27378
Ireland	0.168**	0.386**	0.151**	0.302**	10682
Italy	0.014	0.137*	0.044+	0.125*	19365
Greece	-0.007	0.035	0.009	0.024	10765
Spain	0.021	0.122*	0.056*	0.153**	15638
Portugal	0.107**	0.011	0.112**	0.054	16246
Austria	-0.158**	0.086*	-0.105**	0.090*	9009
Finland	0.293**	0.454**	0.173**	0.310**	13419
Sweden	0.102**	0.152**	0.038+	0.039+	13596

Source: ECHP data. OLS regression controls for age, education, student status, foreign-birth, birth outside the European Union, years since migration (and its square), potential experience (and its square), year of interview, number of children and hours worked per week. Standard errors clustered by id.
+ significant at 10%; * significant at 5%; ** significant at 1%

Table 6 . Prevalence of Public Employment and Part Time Employment across European Countries in the 1990s

	Part-Time[b]		Public Sector[a]
	% total employed	% female employed	% total employed
Spain	7.5	16.6	15.5
Greece	4.8	8.4	12.2
Italy	6.4	12.7	17.9
France	15.6	28.9	24.6
Belgium	13.6	29.8	19
Netherlands	37.4	67.2	12
Luxembourg	7.9	20.3	10.8
Germany	16.3	33.8	15.5
Portugal	7.5	11.6	18.4
Denmark	21.6	35.4	30.2
Finland	8.2	11.1	23.3
Sweden	24.3	40.3	32.1
Austria	13.9	26.9	22.5
Norway	26.5	46.5	31.2
Ireland	12.1	23.1	13.3
United Kingdom	24	44.3	14.2

Source: *OECD Employment Outlook* OECD (Paris) various issues. **(a) 1994;** (b) 1995.

Table 7. Mean age of individuals by marital status and mean number of children in relation to time of marriage by country individuals 20-50 yrs old).

	Mean age of individuals		Number of children of married individuals in relation to time of marriage		
	Married	Cohabiting	2 yrs before marriage	1 yr before marriage	Year of marriage
Germany	37.8	29.8	0.17	0.20	0.40
Denmark	39.4	30.3	**0.59**	**0.68**	**0.91**
Netherlands	39.2	31.0	0.09	0.12	0.26
Belgium	38.3	31.3	0.11	0.12	0.25
Luxembourg	37.7	31.3	0.11	0.15	0.24
France	39.0	30.5	**0.41**	**0.43**	**0.54**
UK	38.1	29.5	0.24	0.29	0.37
Ireland	39.2	29.4	0.25	0.30	0.44
Italy	38.6	32.0	**0.04**	**0.05**	0.17
Greece	38.3	28.6	**0.01**	**0.02**	0.20
Spain	38.0	30.7	**0.07**	**0.12**	0.20
Portugal	37.4	32.2	**0.08**	**0.14**	0.29
Austria	38.5	29.8	**0.30**	**0.45**	**0.64**
Finland	39.6	30.6	**0.35**	**0.42**	**0.60**

Table 8. Estimated changes in current monthly wage earnings before or at the time of changes in marital status.

| | Differences Currently Monthly wage earnings | | |
	Wage t-t1 M. Status t-t1	Wage t-t2 M. Status t-t1	Wage t-t2 M. Status t1-t2
Women			
Single to married	-0.212**	-0.068	-0.273**
Single to cohabit	0.026	0.255**	0.009
Men			
Single to married	0.141**	0.283**	0.005
Single to cohabit	0.241**	0.366**	0.064

St. errors clustered by id. + significant at 10%; * significant at 5%; ** significant at 1%

Table 9. Estimated changes in wage hourly earnings before or at the time of changes in marital status.

| | Differences in Hourly Wages | | |
	Hr. Wage t-t1 M. Status t-t1	Hr. Wage t-t2 M. Status t-t1	Hr. Wage t-t2 M. Status t1-t2
Women			
Single to married	-0.041	0.066	-0.003
Single to cohabit	0.057+	0.155**	-0.005
Men			
Single to married	0.033	0.105*	-0.033
Single to cohabit	0.113**	0.173**	0.026

Standard errors clustered by id. + significant at 10%; * significant at 5%; ** significant at 1%

Appendix 1. OLS Regression analysis of work earnings by gender for all adults 16+.

	Men	Women
Less Secondary Education	-0.241**	-0.339**
	(0.006)	(0.008)
Tertiary Education	0.412**	0.583**
	(0.007)	(0.008)
Yrs. Experience	0.101**	0.107**
	(0.001)	(0.001)
Yrs. Experience Squared	-0.002**	-0.002**
	(0.00002)	(0.00002)
Foreign Birth	-0.424**	-0.427**
	(0.040)	(0.053)
Years since Migration	0.031**	0.030**
	(0.003)	(0.005)
Sq. YSM	-0.00045**	-0.00037**
	(0.00007)	(0.00009)
N. Children	0.010**	-0.143**
	(0.003)	(0.004)
Married	0.321**	0.075**
	(0.008)	(0.009)
Cohabiting	0.280**	0.233**
	(0.009)	(0.010)
N.Obs	316,182	231,457
Adj.R-Sq.	0.28	0.20

Note: Inviduals age 16+ Dependent variable: natural logarithm of work earnings. Robust standard errors clustered by individual are below coefficients. Complete estimates also include country dummy variables. + significant at 10%; * significant at 5%; ** significant at 1%
Source: ECHP- Waves 1-7.