Does Isolation have a cost?
Explaining the gender wage gap by the social capital with UK data[1]

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ABSTRACT

In this paper we use BHPS (British Household Panel Survey) data to investigate gender differences in social capital endowments, their accumulation over the life cycle, and how they contribute to the gender wage gap. The BHPS ask questions both about strong and weak social capital ties. We confirm on UK data the life-cycle profile found in Italian data: social capital first rises and then declines with age. Men's civic participation is higher over the entire life cycle. Although male simple membership is higher, women show the same rates of active participation to civic groups. We test how differences in social capital affect gender wage gaps, controlling for the usual explanatory variables, including regional differentiation. We show that an increase in women's social capital decreases the wage gap significantly, in the statistical sense and in size. We confirm the robustness of the result with an IV regression and discuss the implication of the findings: women's relative isolation may add to the gender wage gap.

1. Introduction: Literatures on Pay Gaps and on Social Capital

The literature on social capital has broadly explored the gender differences in the endowment of social capital by sex. Aim of this paper is to investigate the relation between gender pay gaps and social capital, connecting these two strands of literature, important also to understand women's position in the economy.

The term social capital refers to the network of relations that each individual belongs to, and to the sharing of information and norms that flow through this network. The conceptwas first introduced in the social sciences by sociologists and political scientists (Pierre Bourdieu, 1983; James S. Coleman, 1988 Robert D. Putnam with Robert Leonardi and Raffaella Y. Nanetti: 1993). Social capital has both an individual and a collective dimension. Each person is endowed with a given amount of social capital, which starts with the family relations he or she is born with. Then he or she goes through a process of accumulation of social capital that includes education, job related connections, and civic participation. The presence and thickness of the social capital network in a

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society has a positive effect on economic growth: it promotes trust, it facilitates contract enforcements, and itallows better collective actors' performance.

Economists and econometricians,subsequently, inherited the concept from sociology providing greater mathematical and statisticalformalization. Some authors concentrated mostly on the macro aspect and the relation between social capital and economic growth, (La Porta, Rafael, Florencio Lopez de Silanes, Andrei Shleifer and Robert W.Vichny 2001, Samuel Bowles and Herbert Gintis 2002)), others on the individual micro-differences (Claudia Goldin and Lawrence Katz: 2001 Edward. Glaeser, David Laibson and Bruce Sacerdote: 2002).

One of the main issues related to the social capital is the methodological concern ofmeasuring social capital. Some methodsare somewhat complex: social capitalis usually measured by proxy variables, such as the number of memberships in civic organizations, the number of times one speaks to the neighbors, the acts of kinship and friendship assistance. It is difficult to pinpoint directly and give it a numerical or monetary value. Literature identified different kinds of social capital links: in particular, we make reference to three kinds of social capital linkages (Fabio Sabatini, 2004, 2009):

- Close links within the family (*bonding social capital*)
- Strong and weak links with friends, acquaintances, coworkers (*bridging social capital*)
- Association and volunteer work in the civil society (*linking social capital*)

Gender is an important issue in the sociological literature, as women's civic engagement in school related activities in neighborhood administrative issues was recognized as an important factor in the social capital network (Nan Lin 2000, Pippa Norris. 2006, Brenda O'Neill and Elisabeth Gidengil, 2006). Maarten Goos and Anna Salomons (2007) model employers' use of social networks as a source of gender wage gaps. In managerial sciences, gendered networks were introduced first by Ronald Burt (2000) and their characteristics by sex analyzed by Howard Aldrich, Pat Reese and Paola Dubini, (1989) and Herminia Ibarra (1997).Aa related paper (Elisabetta Addis and MajlindaJoxhe, 2015) surveys in depth the literature on gender and social capital. Summarizing some findings of these 3 strands of literature (sociological, economic, managerial) we find that (see also Norris 2006):

- Men belong to a larger number of associations.
- The distribution of men and women among associations is not homogeneous: men associate more with men and women with women. Men's network structures are more homophilous.
- The associations men belong to appear to be of an higher social status
- The structure of the networks that men and women belong to have different shapes: men's success depend on belonging to closer, more cohesive groups. Women pay a "closure penalty", whereas men may gain from it.
- Men and women have different kinds of social capital. When entering the labor force, women move from bonding social capital to bridging social capital, with possible larger positive externalities
- Trust and its effects on economic growth appear to descend more easily from bridging (work related) rather than from bonding (kin related) social capital
- The family is centrally located in the accumulation of social capital and the relations within it are gendered
- Beside information, other reciprocities, and trust, power is also an issue related to social capital.

In this paper we enquire whether men's and women's different positioning in the network of relations is going to affect their labor market outcome, their wages and earnings, and the so-called "gender wage gap".

A gap between average male and average female wages and earnings exists across different sectors of the economy and segments of the labor force[4]. The study of the determinants of the gender wage differential is closely related to the study of discrimination. The concept of discrimination refers to the notion that people performing the exact same job, who therefore are supposed to have the same level of productivity, may be paid a different wage because of some characteristics unrelated to performance. Some part of the differential may be due to discrimination but also to some other factors, which are important to measure. The seminal work on race discrimination by Gary Becker (1957) extended and applied the reflection of possible sex discrimination in the wave of feminism sweeping western countries in the seventies. Moreover, the subfield on gender discrimination over the last forty years has evolved fast. An exhaustive survey can be found in Francine Blau and Lawrence Kahn (2000).

The earlier statistical formulation consisted in including a dummy variable for sex in a OLS wage regression:

$$W_i = \beta X_i + \gamma sex_i + \epsilon_i$$

Where $W_i$represents the log of the wage of individual I, $X_i$is a matrix of all available control characteristics, (age, years of education, job experience, etc.) β and γ are parameters to be estimated. The coefficient γ, when the dummy variable assigned value is 0 for male or 1 for female, collects the effect of discrimination. The entire model, however, sheds light on the structure of wage differentials, i.e. to the rewards connected to each of the X characteristics.
An important evolution of this methodology is the so-called Oaxaca-Blinder decomposition (Ronald Oaxaca, 1973, Alan Blinder, 1973).
In studies adopting this econometric variation, wages are first estimated separately by group g, in our case by sex

$$W_{gi} = \beta_g X_{gi} + \epsilon_{gi}$$

The total wage differential can now be decomposed into an explained part, due to the difference in characteristics, and an unexplained residual. The difference in mean wages between men and women can be written as

$$\bar{W}_m - \bar{W}_f = (\bar{X}_m - \bar{X}_f)\hat{\beta}_m + (\hat{\beta}_m - \hat{\beta}_f)\bar{X}_f = E + U$$

$\bar{W}_m$and$\bar{W}_f$represents the mean log wage of male and female, $\bar{X}_m$and $\bar{X}_f$are the mean characteristicsof each sex, and the $\widehat{\beta}$sare the estimated parameters from the initial separate regression. The first term is the Explained variation in wages; the second term is the unexplained candidate to measure discrimination.
There were further methodological advances, most important the introduction of Heckman correction for sample selection bias. Central to this econometric technique is the notion that only the most qualified elements of the discriminated group (i.ewomen with more

[4]OECD-Labor Force Survey

valuable characteristics) earn enough to be willing to work. Given the opportunity cost of leisure and of domestic activity, those who earn too little would not be found in employment. The gender gap would be larger if women were employed at the same rate as men. The gap we actually measure is biased downward, the more so the lower women's employment.Application of the Heckman correction reduces the bias from this source. A large literature proposed slightly different decompositions methods (Cotton 1988, Neumark1988) or have studied specific sectors or segments of the labor force.

Some results may be considered robust: the wage gap is lower in the public sector; it is higher at both ends of the wage distribution; it is sensitive to gender segmentation, feminized sectors have lower average wages; being married increases male average earnings and lowers female's, thus increasing the gap. Different studies agree that there is a very slow process of convergence. Weichselbaumer and Winter-Ebmer (2005) show that the reduction of the gap is entirely due the increasing "quality" of women workers, who, in most countries, acquired education and seniority making their wages rise. The unexplained component remained constant between 1970 and 2005.

Two main problems are common to all these estimates of discrimination. First, the coefficient on the sex dummy or unexplained part in the Oaxaca-Blinder decomposition may measure unobserved factors other than discrimination. The coefficient was labeled also "the measure of our ignorance" because many other factors systematically may affect the wages, other than discrimination. Therefore, as a measure of discrimination the coefficient might possibly be biased *upward*. Second, the right hand side variables in the matrix of characteristics X may themselves be the result of some discrimination: if girls are discriminated by not investing in their schooling, controlling for years of schooling is going to hide such discrimination. Because of this, the dummy coefficient and the unexplained part of the Oaxaca-Blinder decomposition tend to be biased *downward* as measures of discrimination.

The matrix of characteristicsX, therefore is of great importance to the understanding of gender gaps. The hypothesis that we tested on the data was that including social capital endowment in the X matrix, will have explanatory power on the wage and on the wage gap. This is not to deny that discrimination occurs, as the differences in social capital may reflect a discriminatory process, rather to show that the social preference for males over females, (Goldin and Rouse, 2000,Foschi, 2000, 2004 Sen 2003), acts in a more subtle way,including gender differences in social capital accumulation.

2. Data and Measurement Issues

The British Household Panel Survey (BHPS)began in 1991 and was designed as an annualsurvey of the adult population. It is a nationally representative sample of more than 5,000households, totaling approximately 10,000 individual interviews. It is a survey in which alladult members of each household are available to be interviewed each year. The primarypurpose of BHPS data is to collect detailed information on demographics and socio-economicbehavior of the UK households, such as household's consumption, income, geographic mobilityetc. We use the waves from 1995-2008 (every two year, so in total 7 waves[5]), where the total observations are 84,730person-year, after excluding for non-response and non-valid values of the variables.Table 1.reports the summary statistics for the panel generated. The mean age is around 46 years and the panel is framed by 42 % of males and 58 % females. 63% declares to be married, the average annual income is around 27.232 £, and 55% of the interviewers is employed. The survey indicates a high percentage of no-qualification individuals (around 33%) and a low percentage of higher education (2,3%).
As discussed above, one of the main issues regarding the quantification of social capital is its multidimensional nature involving more than one variable. This may create problems for the identification of a single numerical value to be used as a proper indicator of social capital.We follow the approach suggested by (Glaeser et al.2002) where they use as a proxy for social capital: thetotal number of memberships in organizations in which a single individuals belongs to. This is an indicator that corresponds to the so-called linking social capital.

BHPS is a very rich dataset, every two wave (every two years) the question asked to all the sample subjects is: *"What is the total number of the listed organizations which you are a member of?"*and the reply is an answer from 0-12 scale of the grid. We call this variable "simple membership". In addition, BHPS also asks, "*What is the total number of the listed organizations which you are n active member of?"* The reply is again in the 0-12 scale, with a maximum of 11 positive answers. We call this variable "active membership".
Table 1 reports summary statistics for the main variables in BHPS. Table 2 reports the number of simple memberships (A) and of active membership (B) per year. A very high percentage of individuals have no membership, even simple nor in one organization. Around 39,272 (46,67%) report no simple membership at all against 26,774 (31,67%) with just one membership.Regarding active memberships, nearly 45,734(54,13%) say that they are no active at any organization, whereas 25,494 (30,18%) have only one active membership.
As discussed above our aim is to shed some light on the role of social capital on the wage level and above all on the probability that the more social capital may decrease the wage gender gap.

[Insert Here Table 1 and Table 2]

We found in BHPS also some questions related to a bringing social capital, measured by the times the individuals meets with their friend. The table 3 reports some summary about the last variable. Around half of the people (47.66%) meet somebody on most days and 90% of the them (88,13%) meet somebody at least once a week. Relative isolation (once or

[5] The information on BHPS regarding the different measures of social capital, such as participation in associations was surveyed each year from 1991 until 1995. Then, after 1995, it was surveyed only every two years. In order to obtain a balanced information set, we use data from 1995 with a fixed lag (every two years). This allows us to identify the fixed effect models as discussed below.

twice a month to never) affects the remaining 11,87%, and only 2 people per thousand declare that they never meet people.

[Insert Here Table 3]

3. Gender differences in participation. Honor or duty?

Table 4reports estimation of OLS regressions where the dependent variable is the number of simple memberships in civic organizations.In column 1 the positive and significant coefficient on the dummy variable "male" confirms men's greater presence in the so called "public sphere". Household income is also significant, although with a much smaller coefficient, being married has a positive effect on civic participation for both sexes. Each subsequent child decreases civic participation significantly.

Insert Here Figure 2

In Figure 2, we present the age profile of social capital accumulation by sex of the variable simple membership. We fit with a quadratic approximation the level of social capital as measured by the numbers of the organization membership for each age, whereas on the y-axis we calculate the average amount of social capital for the different age level. The methodology, introduced by Glaeseret. el (2002) with no gender distinction, was applied by Addis and Joxhe (2015) on Italian "Multiscopo" data to show that the age profile in Italy is quite gendered. Italian women's profile was similar to men's when very young, never increased, and declined with age. The inverse-U shape of the age-profile is almost entirely due to males. Important gender difference can be detected in the UK data as well. In the UK, women's civic participation starts lower than men's at an early age, with only 0,35 average rate of participation against men's 0,5, then rises and peaks at the same age as men's then declines. The gap with men's civic participation is persistent, and increases in time. Women's peak participation is at an average of 0.96 civic organizations each, men's at 1.37. The results are robust to the introduction of year fixed effects and regional fixed effect the coefficients do not change between regressions (2) and (3) in table 3.

Insert Here Table 4

In Table 5 weshow the results for active membership, i.e an OLS regressions with dependent variable “being active in a civic organization”. The sign of the coefficient on the dummy for sex is much smaller than in the regression for simple membership. It is also significant only at the 0.05 level..The sign, size and significance of the coefficients on other variables considered are coherent with the regression for simple membership, except for being married and household income.Being married increases both simple and active membership, but married men’s active participation decreases, married women’s increases. We can only advance hypothetical explanation of such result. It may be that the socialization related to children is borne by mothers rather than by fathers, or that men find complicate to apply multitasking to running both a family and active civic participation. The effect of household income is still positive and significant but much smaller.Rich people are simple members of many more organization than lower income people, but household income does not affect much the choice of being active members of a civic organization.

Insert Here Table 5

Moreover, men’s high number of simple memberships appears to reflect a symbolic rather than actual integration to the civic groups. Effective voluntary activity rates are almost the same for women, while having a card and being a member without being active is more common for men. This suggest a situation where being a member reflects an exchange of honor - the man is honored to be part of a group even if he does not actively participate, the group is honored by having an important member even if he does not do actual work for the organization- which links together men more than women in the network

Insert Here Figure 3

As a consequence, the age profile of social capital accumulation for active membership is very different compared with simple membership. There is almost no gender difference, andwomen’s participation peaks at the same level as men’s. For men the peak is at 1,1 active memberships, for women 0,99, reached between age 55 and 65 for both sexes, as shown in Figure 3.

4. Gender gap in wages and social capital

We afterward try investigating the relationship between social capital accumulation and wage gander gap using fixed-effects OLS estimation. We first ask about the effects of the simple-membership on social capital, comparing the results with the effects of active-membership on social capital, results that are presented in table 6 and 7.

Our model follows a simple individual fixed effect equation where the estimation of gender wage gapvariation is explained by a set of explanatory variables and the stock of simple and active membership:

$$W_{it} = \beta_{it}X_{it} + \delta_{it}SC_{it} + \alpha_i + u_{it}$$

Where

W_{it}= Represents the average wage difference between male and female for each type of occupation (SOC2010)[6], thus the wage gender gap

X_{it}=Are the control variables usually used to explain all the variation in wages like age, education level, job hours, marital status they represent individual characteristics that may be related to on-the-job productivity.[7] We also add regional dummies to control for the unobserved heterogeneity among different areas of UK (NUTS1). At last, we introduce also a variable, which explains the strong ties of social capital such as the frequency of meeting friends.All the coefficients β_{it} will explain the partial correlation of each independent variable on the wage gap.

SC_{it} = Is the stock of social capital as measured by the number of total memberships (simple and active) and δ_{it} is our coefficient of interest. The sign and the size of the coefficient will determine the relative contribution of the social capital on the wage gap. Since we control for the within variation including fixed effect, the coefficient δ will show the between variation of the wage gap when the social capital at individual level increases by 1.

α_i= Represent the inclusion of individual effect and $u_{it}$is the error term assumed to be i.i.d.

In Table 6., we show the results of our first regression. An increase in simple membership decreases the wage gap at 10% level of significance, but the significance is not highly robust to the introduction of the variable “meeting friends”and of the regional dummies. A unity increase in simple membership decreases the wage gap by only 3.2 %.

In table 7., instead, we show that active participation in civic associations has both a sizable effect of 3.5% reducing the wage gap, and the result is significant at the 1% level. This result is robust to the introduction of strong ties and of regional dummies. In the regression including full control for regional dummies and including the specific variable representing meeting friends, a 1% variation in active membership correlates with a decrease in the wage gap of 34 pounds a month, at the 5% significance level.

As shown from the results using an econometric methodology, thegender wage gap is largely influenced by the social capital. However, it links with alsotheories put forward in

[6]Standard Occupation Classification in UK 2010; ONS UK http://www.ons.gov.uk/ons/guide-method/classifications/current-standard-classifications/soc2010/index.html

[7] We follow the standard practice of using the number of hours worked on the right hand side of the equation. This choice does not take into consideration the fact that women may work fewer hours in order to perform domestic work, and leads to an estimate of the earnings gap (women earn less because they work fewer hours) rather than strictly speaking of the wage gap.

psychology and in managerial science about the effects of social capital. In particular, our findings point to the relevance of contact theory (Allport (1954), Pettygrew 1998) and to the importance of the concept of relational embeddedness (Tsai and Ghoshal, 1998). We show that real personal contact, as opposed to the act of holding a card, makes a difference. And we show that, if we accept the identification of three distinct dimensions of social capital (structural, relational, and cognitive) as in Nahapiet and Ghoshal (1997), the relational dimension appears to be the one determining our results.

[Insert here table 6 and table 7]

5. Robustness

The results as discussed in section 5, showed that an increase in social capital, as measured by the number of active membership in organization, is positively correlated with a decrease in the wage gap. The problem of reverse causality, thus a higher social capital decreases the wage gap but in the meantime higher wages increases social capital, implies that the result may explain only partial correlation and not the direct causality of social capital on the wage gap
In order to ascertain that social capital is driving this decrease, we perform an instrumental variable estimation, as shown in table 7.

Our instrument, not correlated with wage but explains the variation in social capital, is religious affiliationsee for instance (D. Kim et el. 2011)
We perform a two-step regression, where in the first stage we regress our dependent variable “social capital” on religious affiliation.
We take the predicted values and regress the wage gap on this new variable and all the other controls as in the regression of table 8.
The Sargan test (over identification) shows that our instrument is correctly identified.
Our independent variable being instrumented, social capital, is significant at the 1% level.
Therefore we show that a unitary increase in the number of memberships decreases the wage gap by 16 pounds, on average per individual.
Hence our interpretation if the results suggest that increase in women’s social capital is driving the decrease in the gender wage gap appears to be robust.

6. Conclusion

In this paper we asked how the difference in social capital accumulation found in earlier work affects wages and gender wage gaps. We used BHPS (British Household Panel Survey) data which consents to differentiate between weaker ties (simple and active membership) and stronger ties (meeting with friends). We analyzed gender differences in social capital endowments, and their accumulation over the life cycle. We confirm on UK data the life-cycle profile found in ItalianMultiscopo data: social capital first rises and then declines with age. Men's civic participation is higher over the entire life-cycle. We find that although male simple membership is higher, women show the same rates of active participation to civic groups, as if some exchange of honors is involved in male simple memberships. We tested how differences in social capital affect gender wage gaps, controlling for the usual explanatory variables, including regional differentiation. We find that active membership in civic organization decreases significantly the wage gap, whereas simple membership has a weaker significance. The effect is relevant both in term of size of the coefficient and of statistical level. We confirmed our interpretation checking the robustness by an IV regression. Finally we derive the and discuss the implication of these findings: women's relative isolation may add to the gender wage gap. In order to decrease the gender wage gap, encouraging women's civic participation may have a significant effect.

Table 1: BHPS Summary Statistics 1995-2008

Variable	Obs.	Mean	Std. Dev.	Min	Max
Age	84730	46.20571	1.908.808	15	100
Male	84730	.4264723	.4945671	0	1
Married	84730	.6361501	.481109	0	1
Household income	84730	27232.55	17869.45	0	99930.07
Weekly job hours	49105	32.82.601	1.189.776	0	99
Employed	84730	.5544317	.4970313	0	1
No Qualification	84730	.3300248	.4702245	0	1
O Level	84730	.1852237	.3884812	0	1
No college	84730	.3657264	.4816361	0	1
College	84730	.0952437	.293553	0	1
University	84730	.0237814	.1523684	0	1

Table 1 produces summary statistics for all the sample of BHPS from 1995-2008

Table 2: Total number of membership in organizations by year (BHPS 1995-2008).
(A)simple membership
(B) active memberships

(A)Number of <u>simple</u> Memberships in organizations				Year				
	1995	1997	1999	2001	2003	2005	2007	Total
none	3,090	4,458	6,299	7,405	6,277	5,876	5,867	39,272
1	2,484	3,01	4,142	4,644	4,368	4,217	3,909	26,774
2	1,332	1,366	1,924	2,296	1,565	1,582	1,43	11,495
3	533	526	692	966	693	668	600	4,678
4	184	153	213	305	265	215	209	1,544
5	73	54	62	124	83	63	74	533
6	12	13	20	40	37	35	14	171
7	7	1	4	7	7	12	12	50
8	0	0	0	3	2	3	0	8
9	0	0	0	0	1	0	0	1
12	0	0	0	1	0	0	0	1
Total	7,715	9,581	13,356	15,791	13,298	12,671	12,115	84,527
(B) **Number of <u>Active</u> membership in Organizations**				Year				
	1995	1997	1999	2001	2003	2005	2007	Total
none	3,702	4,851	7,316	8,630	7,389	6,904	6,942	45,734
1	2,39	2,836	3,795	4,669	4,113	4,015	3,676	25,494
2	1,031	1,171	1,496	1,79	1,186	1,165	958	8,797
3	364	387	525	598	441	415	381	3,111
4	116	139	182	167	121	119	117	961
5	38	45	43	53	35	42	28	284
6	9	6	16	17	8	7	8	71
7	2	9	6	0	4	3	3	27
8	0	1	1	0	0	0	0	2
9	0	1	0	1	0	0	0	2
11	0	0	0	1	0	0	0	1
Total	7,652	9,446	13,38	15,926	13,297	12,67	12,113	84,484

Table 2 (A and B) produces summary statistics for simple and active membership.

Table 3: Frequency of "meeting people"(strong ties) BHPS(1995-2008)

Frequency of "meeting People"	Freq.	Percent	Cum.
on most days	36,689	47.66	47.66
once or twice a week	31,158	40.47	88.13
once or twice a month	7,176	9.32	97.45
less than once a month	1,817	2.36	99.81
never	146	0.19	100.00
Total	76,986	100.00	

Table 3 produces summary statistics for the variable frequency of meeting friends (strong ties)

Table 4:OLS estimation for Number of Simple Membership Organization

	(1)	(2)	(3)
	#Num_org	#Num_org	#Num_org
Age	0.00808***	0.00853***	0.00917***
	(0.000200)	(0.000216)	(0.000217)
Male	0.129***	0.115***	0.107***
	(0.00730)	(0.0125)	(0.0124)
HHincome^3	0.0113***	0.0114***	0.0126***
	(0.000218)	(0.000219)	(0.000227)
Married	0.0878***	0.0566***	0.0350***
	(0.00780)	(0.0102)	(0.0102)
Nr.children		-0.0604***	-0.0715***
		(0.00910)	(0.00907)
Male#married		0.0281+	0.0306*
		(0.0155)	(0.0154)
			(0.0295)
Constant	0.0859***	0.0627***	0.0956**
	(0.0130)	(0.0148)	(0.0317)
N	84527	84527	84069

Standard errors in parentheses
+ $p< 0.10$, * $p< 0.05$, ** $p< 0.01$, *** $p< 0.001$
Table 4 reports estimation of OLS regressions where the dependent variable is the number of simple memberships in civic organizations.

Table5: OLS estimation for Number of Active Participation on Organization

	(1) #num_org_active	(2) #num_org_active	(3) #num_org_active
Age	0.00542***	0.00624***	0.00683***
	(0.000179)	(0.000193)	(0.000195)
Male	0.0264***	0.0559***	0.0518***
	(0.00653)	(0.0112)	(0.0112)
HHincome^3	0.00580***	0.00593***	0.00711***
	(0.000195)	(0.000196)	(0.000204)
Married	0.0275***	0.0116	-0.00357
	(0.00697)	(0.00915)	(0.00916)
Nr Child		-0.0916***	-0.0995***
		(0.00813)	(0.00813)
Male#married		-0.0350*	-0.0347*
		(0.0139)	(0.0138)
			(0.0265)
Constat	0.253***	0.194***	0.335***
	(0.0116)	(0.0133)	(0.0287)
N	*84484*	*84484*	*84025*

Standard errors in parentheses
$^{+}p< 0.10$, $^{*}p< 0.05$, $^{**}p< 0.01$, $^{***}p< 0.001$
In Table 5 we show the results for active membership, i.e an OLS regressions with dependent variable “being active in a civic organization”

Table 6: Gender wage gap and "simple membership" social capital. (OLS fixed effect)

	(1) Wage gap	(2) Wage gap	(3) Wage_gap
Age	3.023***	3.038***	2.978***
	(0.330)	(0.381)	(0.382)
Married	11.70**	10.31*	10.88*
	(4.459)	(4.863)	(4.903)
O level	-7.780	2.625	2.746
	(10.21)	(11.26)	(11.28)
No College	7.813	14.43	14.48
	(8.835)	(9.714)	(9.722)
College degree	54.81***	67.08***	66.70***
	(13.07)	(14.26)	(14.29)
Universitydegree	79.16***	87.34***	86.92***
	(21.81)	(24.23)	(24.25)
Job hours	1.792***	1.650***	1.679***
	(0.142)	(0.154)	(0.155)
Simple memberships	-0.947	-2.914+	-3.224+
	(1.558)	(1.661)	(1.667)
Meeting with friends		0.691	0.557
		(1.931)	(1.940)
Constant	210.5***	211.1***	161.3***
	(14.01)	(16.19)	(36.11)
Regional FE	No	No	Yes
N	47065	42684	42364

Standard errors in parentheses
+ $p< 0.10$, * $p< 0.05$, ** $p< 0.01$, *** $p< 0.001$
Reference category for education level is: *no qualification*
In Table 6 we show the results for an OLS fixed effect regressions with dependent variable wage gap and simple membership.

Table 7: Gender wage gap and "active membership" social capital. (OLS fixed effect)

	(1) Wage_gap	(2) Wage_gap	(3) Wage_gap
Age	2.963***	2.988***	2.921***
	(0.331)	(0.382)	(0.383)
Married	11.37*	10.25*	10.83*
	(4.461)	(4.864)	(4.904)
O level	-7.882	1.927	2.141
	(10.23)	(11.26)	(11.29)
No college	7.484	13.47	13.53
	(8.855)	(9.722)	(9.731)
College degree	52.08***	65.39***	64.88***
	(13.10)	(14.28)	(14.30)
Universitydegree	77.71***	85.30***	84.70***
	(21.81)	(24.23)	(24.26)
Job hours	1.771***	1.640***	1.669***
	(0.143)	(0.155)	(0.155)
Active memberships	-2.049	-3.393*	-3.455*
	(1.522)	(1.626)	(1.631)
Meeting with friends		0.612	0.485
		(1.931)	(1.940)
Constant	215.0***	214.2***	165.3***
	(14.11)	(16.29)	(36.18)
Regional FE	No	No	Yes
N	47046	42698	42378

Standard errors in parentheses
$^{+}p< 0.10$, $^{*}p< 0.05$, $^{**}p< 0.01$, $^{***}p< 0.001$
Reference category for education level is: *no qualification*
In Table 7 we show the results for an OLS fixed effect regressions with dependent variable wage gap and active membership.

Table 8: IV OLS for gender gap with social capital

	(2 step) Wage gap
N° of Active Membership	-16.14***
	(3.401)
Age	1.379***
	(0.120)
Married	32.94***
	(3.024)
O Level	11.28**
	(4.375)
No College	27.71***
	(3.869)
College degree	63.09***
	(5.146)
University degree	103.3***
	(8.039)
Job Hours	4.975***
	(0.111)
Meeting with friends	-1.187
	(1.854)
Constant	143.8***
	(12.02)
Regional Dummies	Yes
N	42378

Standard errors in parentheses
$^{+}p< 0.10$, $^{*}p< 0.05$, $^{**}p< 0.01$, $^{***}p< 0.001$
Reference category for education level is: *no qualification*
In Table 8 we show the results for an IV Instrumental variable regression of active membership and gender wage gap

Underidentification test (Anderson canon. corr. LM statistic): 7671.745
Chi-sq(1) P-val = 0.0000

Weak identification test (Cragg-Donald Wald F statistic): 9363.590
Stock-Yogo weak ID test critical values: 10% maximal IV size 16.38
15% maximal IV size 8.96
20% maximal IV size 6.66
25% maximal IV size 5.53
Source: Stock-Yogo (2005). Reproduced by permission

Sargan statistic (overidentification test of all instruments): 0.000
(equation exactly identified)

Figure 2: Life-cycle social capital accumulation profile, for the total number of simple membership in organizations.

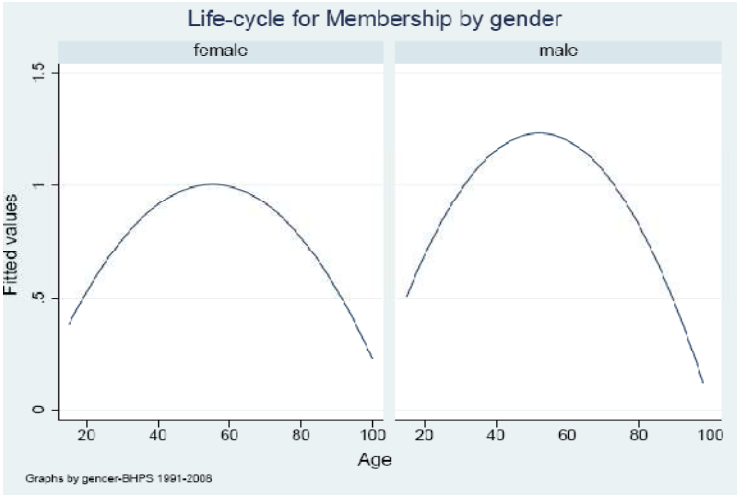

Figure 2 presents the age profile of social capital accumulation by sex of the variable simple membership.

Figure 3: Life-cycle social capital accumulation profile for the total number of active membership in organizations.

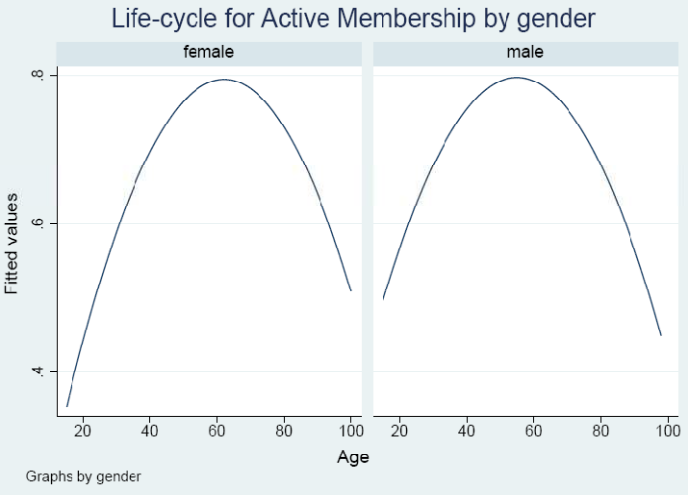

Figure 3 presents the age profile of social capital accumulation by sex of the variable active membership.