

An empirical analysis of the reservation wage components.

Sample: Unemployed and Inactive Women in Catalunya, 2001/2.

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Course Paper for Prof. Esping-Andersen

Key issues in Contemporary Sociology:

The Social Bases of Inequality

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Madrid

April 2006

«QUINS SÓN ELS INGRESSOS MENSUALS NETS (a jornada completa) PER SOTA DELS QUALS NO ESTÀ DISPOSAT/DA A TREBALLAR?» *

*What are the monthly earnings under which you would not be willing to work (full-time)?

The answer to this question constitutes what has been called the *reservation wage*, that is, the salary which makes employable indifferent between being in unemployment and accepting a job-offer (Blanchard, 2004).¹

Blanchard and Katz (1999) consider that the reservation wage depends on two factors: lagged wages and productivity of alternative occupations and assets. Starting from this specification, I will try to explain the differences among non-employed Catalan Women in establishing their reservation wage. I will complement Blanchard and Katz model by developing the underlying mechanisms beyond lagged wages (tenure and human capital accumulation) and productivity in alternative markets (that is, home production and informal markets). Moreover, I will give special emphasis to time. Women surf across different stages in life, stages in which, regardless of any other productive activity, home obligations objectively grow up: motherhood and adult dependence.

I will consider two different groups of women in working age (18-64): First, involuntary unemployed. I adder to the Shapiro-Stiglitz (1984: 433) definition of such concept: «*By involuntary unemployment [I] mean a situation where an unemployed worker is willing to work for less than the wage received by an equally skilled employed worker, yet no job offers are forthcoming*». Second, *inactive women* or *full-time homemakers*. Among this second group, I will differentiate between those who hold *working experience* from those who had never worked. I will base on the self-categorization of women in any of these groups. Women will not be conceived isolatedly. They form part of very different family structures. The effect of family structure (partner, children, dependent adult) and their contribution to household utility function will be also included in the equation reservation wage. Household characteristics would be therefore ascribed to women's working profile.

For the empirical section, I will use the dataset from the *Panel de Desigualtats Socials a Catalunya (PaD)-Fundació Jaume Bofill, Primera Onada 2001-2002*. I will focus on the first wave of that Panel, which is conformed by 2000 households and 5839 individuals (4896 older than 15). Results should be inferable to the entire Catalan population, insofar as the dataset includes appropriate weighting variables to achieve individual *representativeness*.

This exercise is ordered in the following manner: first, I will discuss the relevance of such a study; afterwards I will present the dependent variable, followed by the independent variables and their corresponding hypothesis. In the fourth section, hypothesis will be tested. A final statement will conclude the exercise.

Why concern about reservation wages?

Assuming rationality among unemployed job seekers, the *acceptable* job offers are those providing not less than the *reservation wage* (Lancaster, 1979: 940). The *reservation wage* constitutes indeed a fundamental factor in explaining when unemployed leave that situation and reincorporate to the labour market. Mortensen (1991:1127) have modelled *escape rate* from unemployment:

$$\phi = \kappa[1 - F(b)] \quad (1)$$

Equation (1) represents the *probabilistic rate* of an unemployed *escaping* from unemployment, given a stationary, constant reservation wage (b). It reflects the instantaneous rate of job offers (κ) multiplied by the probability of an acceptable random offer $[1-F(b)]$.²

¹ I am grateful to the Fundació Jaume Bofill for allowing me to use their dataset, and especially to Àngels Llorens, for her gentle orientation. I would also like to thank Carlos González, for his wise advice on sociological literature, and Gonzalo Rivero, for being always receptive and willing to help when statistical doubts emerged. Lastly, I must thank the Library Services, for being of such a great help.

If we accept reservation wage plays a central role in individual decision of accepting job-offer, we may be interested in studying its distribution in a country like Spain, where female participation is still low. In Catalonia only 45,5% of women older than 16 participate in the labour market (compared to the 41,3% for Spain).³ Table 1 offers a richer picture of current Catalan labour market. Fortunately, women participation is increasing in Spain, and it reaches much better results for the younger cohorts (González-López, 2001:150). However, there is still a big gap to fill. Low female participation (see full-time participation as well as percentage of homemakers) is complemented by the segmentation of working careers. This second phenomenon, also interesting, will not be considered in the present exercise.

(((((((table 1 about here))))))))

Reservation wages are *endogenous*: their position depend on individuals characteristics (tenure, family obligations, and the like), but they also adjust to a given labour market structure, more concretely, to a given distribution of wage-offers.⁴ Wage offers *directly* influence the *rational expectations* of unemployed at the time of setting their reservation wage, but their influence could be *indirect* as well. Market dynamism affect the distribution of wage offers unemployed face (Mortensen, 1991). Market regulation and wage compression determine the costs of *certain services* which result fundamental for establishing the ultimate individual reservation wage: pre-school education, serves as an example of such elementary services. In the United States, where markets are deregulated in comparison to Spain, the cost of kindergarten represents 6% of the average household income (Esping-Andersen, 2000:81);⁵ by contrast, in Spain, where markets are regulated and wages are more compressed, these services become much more expensive: approximately €210 a month, but much higher in Madrid, €253, and Barcelona, €306, (Bernardi, 2005:36). The annual average household income in Catalonia in 2000 was 21.417€,⁶ that is, 3.563.488 Pts. Dividing that amount by 12 (296.957Pts), an assuming the error of comparing data from Barcelona with data coming from the Autonomous Community, the costs of preschool services represented in average the 17,37% (aprox.) monthly income of a Catalan representative household.⁷ This proportion would surely decrease out of Barcelona, where preschool costs may be high due to demographic pressures, but it would still be far away from the American picture presented in Esping-Andersen (ibid.). This kind of contextual factors will be *controlled* in this analysis, since the sample is not cross-national; however, any compared study should bear those in mind for a correct specification of the explicative model for the reservation wage.

In *Wage Dynamics: Reconciling Theory and Evidence*, Katz and Blanchard (1999) consider that reservation wage (b) depends on two factors: (y_t), the productivity in home production and informal sector (the black and gray economies), and (w_{t-1}), the lagged wages (past-wages mediated by current unemployment benefits, mainly).⁸ Accordingly, the reservation wage equation rests (1999: 97):

$$b_t = \alpha + \lambda \cdot (w_{t-1} - p_{t-1}) + (1 - \lambda) \cdot y_t \quad (2)$$

Where α is a constant and λ the weighting measure of each of the two components of the reservation wage. Resting prices (p_{t-1}) to the lagged wage (w_{t-1}) we reach the lagged *real* wage.⁹ More comprehensive specifications of the reservation wage should include *both* the costs of job searching *and* an intertemporal appraisal between current and future returns of unemployment and its alternatives

² I have changed the symbols of parameters from the original specification in order to ease reading.

³ Data-inebase: Encuesta Población Activa – 2000 I.

⁴ And at the same time, wage offers are affected by the distribution of reservation wages, as Sattinger (1991) proves, what adds even more endogeneity to the studied phenomenon.

⁵ The original title was published in 1999. I have work with the Spanish translation, published one year later.

⁶ INE-base: Panel de Hogares de la Unión Europea. 2000.

⁷ Finance of pre-school is mainly private in Spain. Public finance for pre-school is scarce in Spain (Iglesias de Ussel and Meil Landwerlin, 2001: 189). Pre-school assistance is low in the two first years (2%), while the large majority of children 3-5 attends pre-school (84%) (ibid.). Since 1999, public help for pre-school consists of a reduction of the tax base of 300€ in the IRPF. This is applied even if child does not attend pre-school (Iglesias de Ussel and Meil Landwerlin, 2001: 203).

⁸ Within (y_t) Katz and Blanchard also consider the utility of leisure. This variable, however, is not observable.

⁹ Katz and Blanchard apply a logarithmic transformation to both the reservation wage and the lagged wages, insofar as they assume both magnitudes have log-normal distribution. As can be seen in graph 1 and 2 (Appendix), the reservation wage in the sample analysed distributes Normally, so it has not been necessary to replicate the transformation.

(Mortensen, 1991: 1120-1135). But for the sake of simplicity, I will continue working with the stylized equation by Katz and Blanchard.¹⁰

From a sociological approach, Rønsen and Sundström (1997) believe that reservation wage besides depending on the utility of woman's time at home, also varies with individual preferences and the family situation. This approach leads us to Hakim thesis on different women with different preferences towards labour market participation (1996, 2000). That is to say, women differ in their demand *elasticities* for labour market participation: the relative value of *one-paid-hour* and *one-hour-of-home-production (or-leisure)* should differ among non-employed women for the same wage-offer. Accordingly, some will be more prone to interchange home production for labour market than others. Rønsen and Sundström introduce into their theoretical reservation wage equation another relevant concept for the analysis: *household economics*. Family has been considered an organization which organizes rationally to optimise household utility. Working decisions of its members are dependent to the household utility function (for an extensive review of static and dynamic models, Killingsworth and Heckman, 1991). Welfare production is a fundamental activity of current families, and they are greater in Continental Welfare Regimes, with little *defamiliarization* (Esping-Andersen, 2000). Any movement towards the labour market of unemployed and inactive women would modify the pattern of welfare production and, consequently, the household utility function. We cannot understand women's decisions to join the labour market without considering her embedment in such welfare organizations. In order to capture family backgrounds, household characteristics will be ascribed to every women in the sample.

I work with two groups of reference, as illustrated in figure 1. The upper branches capture active women; the lower, inactive or homemakers.¹¹ Interviewed could catalogue themselves in any of these categories; their placement is not the result of *posterior* operationalization. All women considered are legally adult (over 18) and have working age (18-64, both included). Students, retired and those dependent of a disability-scheme have not been considered. The sample of unemployed searching for first job was so small that I was obliged to drop them from the analysis.

(((((Figure 1 about here)))))

The dependent variable for inactive women only captures the information for women willing to have paid-work. I would not analyse willingness, even though it is an interesting question too.¹² Among inactive women, very few had never work; at first sight, we can appreciate a significant reduction in wage aspirations among those women. Surprisingly, however, inactive women with working experience set their average reservation wage very close to the unemployed one. A statistical mean comparison (ttest) does not provide enough evidences to refuse the null hypothesis, that is, both groups ask for the same wage, even though one has been unemployed *a priori* longer than the other.¹³ From the dataset, we can know how long have been unemployed in unemployment, but we cannot know how long have been inactive in that situation, neither the origin of her current situation: paid-work or unemployment. For the sake of simplicity, I will assume that inactive have been out of job longer than unemployed, even though it only responds to *common sense*. More interesting would be to check whether the same set of variables explains both

¹⁰ Indeed, Mortensen (1999, eq: 2.32) model for reservation wage includes these elements:

$$b = \alpha + \beta \cdot (l - c) + \gamma \cdot \mu$$

where (l) is the utility of leisure, (c) the costs of job searching, (μ) the median wage offer, and α , β and γ the parameters' coefficients. (l-c) reflects the opportunity cost of accepting the offer. These kinds of models, however, are hardly *identifiable*, because at least one of the variables, the preference for leisure, is not observable (Killingsworth and Heckman, 1991: 246). Kiefer and Neumann, 1979 model puts greater emphasis in the strong relationship between time and reservation wages.

$$b_t(t) = Z_t' \cdot \tau + g \cdot t$$

where (t) is the time elapsed since drop into unemployment, and (Z') is a vector of unemployed and labor market characteristics.

¹¹ I adhere to Hakim's claim for substituting housewife for homemaker (reasons in Hakim 2000:159).

¹² Answers for willing a paid job among inactive women: 45,64% because need money; 7,51% because she's bored; 12,19% because family responsibilities have changed; 16,31% because likes working; 2,91% because she wants exercise the profession she is currently learning; 4,61% because "people must work"; 5,69% to achieve economic independence; 5,14% other (N=220).

¹³ There was an outlier in the sample, located much above 1.5 the inter-quartilic range. This case would potentially bias the coefficients making the models useless. Accordingly, that single case was dropped from the final sample.

distributions or if, conversely, different variables reach similar results. Multivariate analysis would provide an answer to this question.

I will work with an *observable* dependent variable, contrary to previous work like Kiefer and Neumann (1979), where researchers had to estimate the dependent variable for unemployed. We should be certainly prudent facing the type of question we are analysing: «*The theory of job search focus explicitly in the uncertain world to which unemployed must deal when she tries to find a new job*» (Mortensen, 1991:1132).¹⁴ Are the answers to the relevant question credible? Do unemployed had in mind *all factors* behind reservation wage when they answer the interviewer? In *Do People Mean What They Mean?*, Bertrand and Mullainathan (2001) study the veracity of such type of questions, including reservation wages. The key question is whether respondents make any mental effort in answering the question; do they recall all the relevant information? Do social desirability and cognitive dissonance interfere in the final answers? (ibid.:68, 69). Results of their study should encourage us to develop an exercise like this, but to be prudent as well. They found that answers to reservation wage questions captured some unobserved individual characteristics (socio-demographics, family background and attitudes). Moreover, *they observed a strong relationship between reservation wage and future income*; however, *changes* in reported reservation wages did not help to predict *changes* in income (2001:71). Certainly, these results recommend being careful about the values of the dependent variable, but at the same time they provide consistent support to fulfil an analysis like the one presented. In order to corroborate our results, the successive wages of the *Panel de Desigualtats Socials* would position us in situation to test whether wage aspirations and finally reached wages had any relationship. This, however, must be left for the future.¹⁵

Before presenting hypothesis, I will only add an additional question: it relates to the potential risk of facing a problem of self-selection within inactive women. We may expect that only those with certain characteristics were willing to have paid work: that is, women who are fully free from caring services. Table 2 presents for inactive women their willingness to have a paid job adjusted by their number of children. As can be seen, even Ns are low, there seems to be no relation between the number of children and willingness to work in that particular group of women.

((((Table 2 about here))))

INDEPENDENT VARIABLES AND HYPOTHESIS

In the following lines I will present the candidates for explicative variables of reservation wage distribution. These are clustered in two principal components, according to Katz and Blanchard reservation wage equation. The first component comprises elements related to previous working experience and job-searching, besides lagged wages; the second regards for the productivity in other economic activities as well as asset productivity.

Component I: Lagged Wages (extended) - ($w_{t-1} - p_{t-1}$)

Wages are related to workers' productivity. The higher the productivity of the worker, the higher her wage. Non-employed are expected to adjust their reservation wage according to their potential productivity in labour market. The larger the candidate productivity, the larger her reservation wage. We can approximate productivity in two ways: first, *retrospectively*, that is, attending to her last earning, or *lagged wage*, or by her last occupation (qualified *vis-à-vis* non-qualified worker). Alternatively, we could asses her potential productivity *prospectively*, that is, attending to her human capital, more easily approximated by the highest level of formal education reached by candidate.

I.a. Formal education

¹⁴ The translation to English is mine.

¹⁵ At the time of preparing the dataset, only 2 wages were available. At the last stages, the third wage was released.

Becker (1964:109-10) studied the relationship between education (human capital) and a worker's earnings. He proposed the following model of "net" earnings of a person at any age t , (E_t).

$$E_t = X_t + \sum_{j=1}^n r_{t-j} f_{t-j} C_{t-j} - C_t \quad (3)$$

The parameter (X_t) accounts for the part of the earnings which do not come from human capital investment. The summation accounts for the total returns made in her earlier (k_{t-j}), their rates of return (r_{t-j}) minus the cost to her of investments at t (C_t).¹⁶ The parameter (f_{t-j}) accounts for finite life adjustments of human capital investment. Following this model we could expect that those women with greater levels of education would establish the *reservation wage* higher, according to their previous investments in human capital, other things constant. Otherwise, they would be wasting previous investment in human capital. The mechanism is slightly more complex: non-employed do not set their reservation wages randomly, that is to say, considering that they can reach any given job in the labour market. On the contrary, women adjust their reservation wages according to the kind of job they consider they can reach: possibilities are strongly related with their ascribed human capital. Women with high levels of education would probably consider their return to working life *if, and only if*, a qualified-job were offered, a job which, by definition, should have greater honoraries. In simple terms, when women consider their return to working life they are surely thinking in different jobs, depending on their level of human capital. Divergent goals led to divergent reservation wages.

Human capital needs to be exercised and updated. Unemployment spells prevent workers to exercise their skills, even though they can join a training program for unemployed (active labour market policies). In general, the longer the spell in unemployed, the greater the depreciation of accumulated human capital (Mincer and Ofek, 1980; Calhoun and Espenshade, 1988; Snower, 1995:128). Mincer and Ofek (1980) proved that depreciation affects both general and specific human capital.¹⁷ The depreciation rate would be a growth (decay) type function (\int) of duration. That is, depreciation is lower at the very beginning of unemployment spell, and also beyond some point, where *nothing else lefts to be depreciated*.¹⁸ In the intermediate time-periods, depreciation rate maximises.

Mincer and Ofek consider that depreciation is indeed a phenomenon intrinsically *supply-based*: that is, workers with lower prior wages are more prone to interrupt their works careers for longer periods and more frequently. This is why we observe an empirical relationship between unemployment spell and reservation wages. Low-educated workers have less human capital to lose in unemployment. They could remain longer spells in unemployment/inactivity without suffering excessive depreciation in their human capital. Contrarily, educated women have too much at stake in unemployment: losing part of *all* their human capital accumulated. For that reason, they are less prone to fall in unemployment (Mincer and Ofek, 1981 and González-López, 2001 for the Spanish case). When they interrupt their careers, in order to prevent themselves from suffering depreciation, they would be willing to accept lower wage-offers even for doing the same work as prior to unemployment. In other words, high-educated women may be more risk averse towards human capital depreciation than low-educated. In order to test this phenomenon, I will consider the interaction between the duration of unemployment spell and women education. If aversion towards skill depreciation is higher among high educated, we should wait for a negative coefficient in that interaction. In fear of depreciation, high educated would be more willing to lower their wage aspirations and accept qualified job for lower wage-offers. Different aversion towards human capital depreciation leads, therefore, to an empirical relationship between long spells in unemployment and low reservation wages.

Following the Mincer-Ofek argument, I will adjust for *voluntariness* in unemployment drop;¹⁹ if working interruption was programmed, we should wait for a flatter wage profile, reflecting indeed a lower rate of investment in human capital previous to unemployment drop (Mincer-Ofek, 1980:3).

¹⁶ Becker (1973:111) considers that X_t in developed economies is indeed small and could even be neglected.

¹⁷ Alternatively, we could use Carneiro, Cunha and Heckman (2003:5) dichotomy between cognitive and non-cognitive abilities: the latter embraces motivation, self-discipline and time-preference. All these non-cognitive abilities are probably easily depreciable.

¹⁸ This does not mean that all human capital is depreciable: These scholars indeed assume that there are intrinsic abilities in human beings that are not depreciable in time (good memory, for instance).

¹⁹ See table 5 for a snapshot.

Human capital depreciation may have also a demand-side effect. This argument is made *à la Breen-Hannan-O'Leary* (1995): employers may perceive long spells in unemployment or inactivity as an indicator of the degree of depreciation of the applicant's human capital. Rational job-seekers should include employers' expectations in their wage aspirations and therefore, reduce their reservation wage in time.²⁰

Unfortunately, the dataset does not capture the length of spell in inactivity. I can only test the hypothesis for the unemployed women for which depreciation should be minimal, according too Mincer-Ofek *S-type function* of human capital depreciation.

I.b Last earnings and last-job qualification

Previous working experience could be an indirect way to assess inactive women potential productivity in the labor market. Working should incorporate certain skills to employed, say, *know how*, as well as experience, responsibility and the like. Employers are usually interested in experienced workers; they do not want to assume formation costs if not strictly necessary. Women without working experience should realize their lack of experience and, accordingly, be less exigent in their demand for wages. This is the reason to split inactive women between work- and non-work-experienced.

Katz and Blanchard (1999:70) suggest two causal mechanisms to relate *last earnings* and reservation wage. The first relates to unemployment benefits: this income is structurally related to previous working experience. The higher the past wage, the higher the unemployment benefit and, consequently, the higher the reservation wage. The other argument refers to a psychological mechanism, by which «*workers' aspirations in job search and wage bargaining are likely to be shaped by their previous earnings*».²¹

Kasper (1967) describes a dynamic relationship between past earnings and current reservation wages. His model of relative reservation wages (which he calls *asking wage*) predicts reservation wages to be initially higher than last wage and to decrease with time unemployed, as leisure utility function decreases in time, the asset position of the household deteriorates in time (what Mortensen (1991) calls *liquidity constrain*) and opportunity costs decrease in time. In the initial phase of search, opportunity costs are greater because the worker is in risk of making a wrong choice and disinvest what she has accumulated in terms of seniority, pensions, and other job rights in her old job. Likewise, for a constant rate of job offers (even though this assumption is implicitly stated), unemployed resign to more future job offers, the shortest the spell in unemployment he has already been. Therefore, opportunity costs decrease in time. More interesting, Kasper considers that at the long run there may be workers which would accept wages lower than they formally received, forecast which seems quite plausible attending to real life.

All in all, there seems to be a clear relationship between past wage and current wage aspirations. The relationship, besides, seems to depend on time. This reason justifies the inclusion of an interaction between time in unemployment and past wage. Unfortunately, the dataset does not include time in inactivity, so we could only study this relationship for current unemployed.

Component II: Productivity in alternative activities and active assets – (y_t)

IIa. Black economy and domestic work

Unemployed/inactive women should compare their productivity in the black or informal economy and the potential productivity in the labour market. The *relative productivity* in both markets should determine to which task specialize.²² The same applies between working life and *domestic work*, understood as house cleaning and tidying, meal preparation, washing up after meals, repairs, gardening, shopping and laundry, but not child or adultcare (Hakim, 1996:48). In both appraisals of *relative productivity*, women should also consider future productivity gains. How does productivity in house work and informal economy increases? Blanchard and Katz consider that increases in productivity in the informal economy are closely related to

²⁰ Unemployed or inactive may train their skills in the informal economy: however, these are surely not credible to employers' eyes.

²¹ Blanchard (1998:14) refers to a study in which the relationship between lagged wages and finally reached wages was directly tested and confirmed: Card, D., 1990, Unexpected inflation, real wages, and employment determination in union contracts, *American Economic Review* 80, 669-688.

²² Information about informal jobs is only available for inactive women.

formal market economy. I will assume, on the contrary, that productivity in these two sectors is upperly bonded. On the one hand, as Hakim (1997:48) states, full-time homemakers tend to be unproductive in their tasks. They lack the incentives to optimize their time is in the base of such misallocation of resources. Even with the right incentives, since Baumol (1967), we know that these manual time-intense jobs, *where labor is itself the end*, impede high productivity gains.²³ On the other hand, the informal economy does not provide *training programs (in-the-job-training*, in Becker's terms) to "their employee" and, therefore, we could expect rare productivity gains in that sector. Only technological progresses could improve productivity in such sector: for instance, the adoption of a new sewing-machine for an *informal textile industry*. These are most probably the exception of the rule: the informal economy usually refers to small-scale enterprises producing goods and services (Hakim, 1997: 38). Small enterprises are the ones which invest less in R&D, due to finance constrain and risk aversion, mainly. Productivity gains should not be high in that sector, as a direct consequence.

To sum up, I conceive home production and informal sector productivity to produce decreasing returns, as illustrated in figure 2.

((((Figure 2 about here)))

The relative positions of curves are arbitrary. What is relevant is that for both sectors additional years of experience produce increasingly smaller, marginal returns on productivity. With time the productivity in these sectors may become a constant which lifts up the intercept of the *wage reservation* function. In order to capture this effect on reservation wages I will introduce a dummy indicating whether the inactive women work in the informal economy. The baseline of a completely specified model would be the value of domestic work, common to all individuals considered.

Iib. Demand for caring services

Following Hakim (1996) we could split home production into two different components: one is stable in time, *domestic work* (already considered); the other component, *reproductive and caring work*, depends on which stage of life the woman situates. Demand for both exist, and *must be satisfied*. Every household economy has two options: doing it by itself, or hiring them in the private market.

Home production is *time-intense*: the time any member of the family devotes to them is time which he or she cannot invest in labour market, training programs or leisure. The market value of this time is difficult to measure, given the flexibility in the homemaker use of time. «*Domestic work can be carried out with different degrees of intensity, efficiency and productivity, interspersing it with leisure time and other breaks*» (Hakim, 1996:47). Being not possible to measure productivity in home production, I will focus on the mere existence of demand for such services, and more concretely, for *caring work*, which varies throughout the life-course of every women.

Even not being able to assess their values, we could say that *domestic work* (organized adequately) is less time-demanding than *reproductive* or *caring work*. The latter could even result a *full-time activity*, forcing women to chose between working and household life, at least temporary.²⁴ If they opt for the former, they have to purchase that service in the labour market. For women unemployed or inactive, any job offer should be high enough to make acceptance a rational decision: that is to say, the wage must cover at least the costs of buying caring services in the market. Remember, *once demand for care exists in a given household, it must be satisfied; young or adult dependent are dependent*. There is no choice. Therefore, child and adult rearing should automatically increase the reservation wage. However, this relation is not constant: childcare is less time-demanding the older the child becomes. It reaches its maximum after child birth, and decreases with children's age (Rønsen and Sundström, 1997:160; Calhoun and Espenshade,

²³ Even for small increases in productivity, women may become in time more productive in this sector than in the labour market. Human depreciation of *marketable* skills decay in time, while productivity in housework may increase in time (Mincer-Ofek, 1980:21). The ultimate rate of productivities may recommend to specialize in home production and dismiss job searching, even if this was not the initial plan. In this case the change in the relative productivity is still mainly caused by the depreciation of human capital, and not by a substantial increase in domestic work productivity.

²⁴ The same should apply for men, but here I am only considering non-employed women.

1988). Child-care is a full-time activity for only the first 4-6 years of a child's life, about ten years with two children (Hakim, 1996:51). Holding constant the *pay-for-worked-hour*, the total costs of private child-rearing should decline with child's age. The less time-intense it becomes, the fewer hours of service is bought. Accordingly, reservation wage have to discount these costs. All in all, *ceteris paribus*, we should expect reservation wage reach its maximum after child birth and decrease afterwards with time (Rønsen and Sundström, 1997).²⁵

Adult-rearing (ie. spouse, parents and parents-in-law) is different. Hakim (1996: 52) refers to this activity in the following terms:

The decline in childcare work is being replaced to some extent by the care of elderly relatives, which is potentially more time consuming and burdensome. A mother's care of her children is based on unreasoning love and affection, at least some of the time, in most cases. Care of the elderly is based on love and obligation. The dependency of children does not last long, but people caring for the elderly cannot look forward to a bright future. The elderly can only be expected to get more frail, more unreasonable and more dependent, and one never knows when the caring activity will end. Compared with childcare, care of the elderly is a heavier and less rewarding burden.

The relationship between adult-rearing and reservation wage is not straightforward. Adults are *a priori* economically independent, insofar as they hold their corresponding retirement/elderly benefits. Once they become dependent, children usually make responsible for them, especially among lower-rents, to which private caring services may be more expensive in relative terms (Iglesias de Ussel and Meil Landwerlin, 2001). Inactive women over 50 are in Spain the most common relative-carer (ibid. p.160). Adult-rearing could be exerted direct, indirect and externally: that is, hosting the dependent person at home; maintaining daily contact with them and helping them in certain activities (visit physician, shopping); or allocating them into a specialized elderly institution. Costs vary substantially among these possibilities, and the dependent economic contribution for the three of them can also vary significantly. I will assume that even as time-intense as childcare, adultcare influence in reservation wages should be smaller, given the most probable economic contribution of the dependent on the host-household economy.²⁶

In order to capture the relative weight of both components of home caring production (i.e. child- and adultcare) in a multivariate regression I will develop a polynomial function based on age. Age will approximate the different stages of women life and, accordingly, their household demand for caring services.²⁷ The age of emancipation in Catalonia is high. Only 41'8% of youth between 20 and 34 live by their own. The average age of that collective is 29'8 years.²⁸ And Catalan women became mother at the age of 30'94, only one year later. They have in average 1'281 children.²⁹

A stylized story-life would follow the following course: Once women emancipate, the relationship between home production and age is positive and linear. In their first years of *independence*, women become fully responsible for their domestic work. Later, they become mothers and child-rearing is added to the usual home production activities. Leisure time is squeezed. Caring become time-intense after motherhood (around 31), and continue high after the *last* children has the age to go to public, compulsory school, say, 10 years after. Among non-employed women, reservation wage should be high during that entire interval. After 40, the most intense stage of child-rearing comes to end, and women can organize more freely their time and her reservation wage should decrease accordingly. The downward path is slow, as childcare responsibilities persist in time. New obligations may emerge then, that is, adult-care. Adultcare responsibilities should be minimal at the beginning, but, as Hakim suggests, it can only worsen. The pressure of which over reservation wages should increase in time, as grandparents becomes increasingly dependent. This process could take many years, of course. But in Spain, almost 90% of home-based adultcare assistance is provided privately by the families (Ditch et al, 1996 quoted in González-López,

²⁵ Reservation wage should decrease after new child birth, because there is a greater - and highly inelastic - demand for market inputs (*baby-goods*). Rønsen and Sundström consider, however, that the time component counterweights this decrease and causes the ultimate increase of reservation wage after child's birth.

²⁶ There are public help for adultcare, too: fiscal deductions in IRPF and direct transfers (Iglesias de Ussel and Meil Landwerlin, 2001:161-2)

²⁷ This model applies to all those households in which women do from 1 to 100% of home production. Only where man do 100% of home production, women's reservation wage would be unaffected by child or adultcare.

²⁸ Data from: DEP Consultoria Estratègica i Carme Trilla, 2003.

²⁹ INE-base, indicadores demogràfics bàsicos.

2001:148).³⁰ Grandparents can contribute to household economy. This partially alleviates the upward pressures of adultcare on reservation wages. The upward pressure is also counteracted, the older the children become. For both reasons, and bearing public help into consideration (see footnote 24), we could expect for the reservation wage to slowly decrease in time after 40. The attenuated, negative relationship between age and reservation wage could be adjusted by a negative parable: attenuation should indeed be captured by a low coefficient, close to 0. Home production returns to minimums, that is, just domestic work, when grandparents pass away. At that time, if women are still employable (younger than 65), reservation wages should be minimal, all things constant.

Of course, such a stylized model leaves in the air many things. It just tries to capture a slight tendency of reservation wages through different life stages. A considerable drawback: it does not fully capture the big difference in home production before and after first birth. It only captures the mean slope between both stages, so the model may lose part of its explicative power by its own building. These two slopes are represented in figure 3 by the slashed line, while ultimate slope predicted by the model is represented by a regular line.

((((Figure 3 about here))))

Undeniable, this *story-life* is idiosyncratic to Spain, which conforms part of the continental welfare regime, where relatives' risks are assumed *mainly* by the family, not by the state or the market (Esping-Andersen, 2000). It would have serious problems of robustness in case being applied in a different regime.

At least Kiefer and Neumann (1979) have tried to adjust a polynomial model like this for estimating reservation wages.³¹ However, they foresee an inverse relation between age and time. «*In contrast to earnings function, reservation wages have a pronounced nonlinearity in age, being high in the early work years, reaching a minimum at about 26 years and rising thereafter*» (1979:100). Advancing what will come lines below, I must say that coefficients for age and age² have opposite signs than Kiefer-Neumann's, and are statistically significant, too. The opposite conclusions between both models may lie in the samples analysed: while Kiefer and Neumann analyse a very particular sub-sample of male workers, entitled for the *Trade Adjustment Assistance Program* in the USA, I analyse a sample of women representative of the whole female Catalan population. The measure of the dependent variable also differs: I have had the opportunity to work with a direct, *observable* measure of the reservation wage.

All in all, if we buy the argument, we should wait for a polynomial relation between reservation wage and age.³² Reservation wage may be lower when woman is young (the intercept of the equation), increase steadily, and accentuate in the first years of emancipation and motherhood; once the last children must attend school, the demand for home production services would decline. The decrease in the necessity of caring production would push reservation wages down. The decreasing path is flatter nonetheless than the increasing one, inasmuch as new obligations, even not as economic-demanding as childcare, tend to appear: adult-rearing, mainly.

In order to assess the concrete impact of child and adultcare I will also work with a set of variables which capture specifically that information: number of children, hours devoted to child and adultcare, among others. We should not derive wrong conclusions of this section: motherhood and adultcare are compatible with working life. Conciliation difficulties have flattened due to the reduction of family size, and working life increases in value as life expectancy enlarge. The two periods of relatively inelastic demand for the two caring services add difficulty to the conciliation of family and work (the *double burden* for González-López, 2001:151), but should not impede it.

IIc Productivity of nonlabor income: benefits, assets (and partner).

³⁰ The complete reference is: Ditch, J., J. Bradshaw and T. Eardley (1996), "Developments in National Family in 1994", European Observatory on National Family Policies (York: University of York, Social Policy Research Unit).

³¹ Initially I thought that I was the first to try this functional adjustment. I was wrong and at least these two scholars had operationalized it with anteriority.

³² Gary S. Becker would probably disagree, arguing that that polynomial relationship is due to the pattern of human capital investment, which would be maximized at middle ages, as equation (1.23) of his *Treatise on the Family* states.

I cannot capture the rents coming from capital, neither the *amount* of the benefits when women are eligible to any of its varieties. Instead, I will create three different measures which will approximate to these magnitudes.

On the one hand, I will approximate the household economic situation by its savings and debts. Mortensen (1991:1126-7) considers that the *empirical evidence* of decreasing function of reservation wage in time is precisely based on a *liquidity restriction*. Savings and credit capacity of unemployed are limited, and once they come to end, their options become narrower. They must accept whatever job which compensates the utility of leisure: the legal *minimum wage* in Spain. Following this argument, Danforth (1979, quoted in Mortensen, 1991:1126) showed how the reservation wage and the unemployed wealth is positively correlated, in a theoretical framework in which individuals are risk averse.³³

Regarding benefits, I have different information for unemployed and inactive women. For the former, I have created two dummy variables: they are time-discounters, that is, they measure time remaining until *benefits lapse* (in Meyer's terms): *less* and *more* than 6 months lasting. Meyer (1990) finds that leaving unemployment rises dramatically just prior to when benefits lapse. The underlying mechanism may be as follows: the longer the unemployment benefits, the higher the chances to refuse low wage-offers or, equivalently, the higher the position of the *de facto* reservation wage (Siebert, 1997:50-1). For inactive, I only know whether they have any benefit, but not its amount. I have only considered those women who have benefits compatible with coming back to work. If a woman received a disability-benefit, for instance, was excluded from the sample.

Finally, I considered having a partner as another source of nonlabor income.³⁴ The productivity of this asset is measured by two variables: his education and his current wage. Introducing the first variable into the base model is statistically risky. The education of both members of the couple is highly correlated: .62 for unemployed and .57 for inactive women. Homogamy exposes OLS models to multicollinearity. For those cases in which children collaborate in the *household economy* with their earnings, something which may be common in Catalunya attending to the average emancipation age, I will consider another variable, the *total household income*. Considering both assets, partners' income and others' relatives, we are assuming that women belong to a *family or household economy*, which allocates resources in order to optimize household welfare or utility. By rationalizing among members the distribution of time between labour market, home production and leisure, household economies optimize their utility. The decision to whether specialize in market or home relates to the *comparative advantage* of each individual in both markets and the ratios of other member (Becker, 1981:17). Solidarity and intra-familiar transferences are supposed to do the rest (for a critical appraisal see Killingsworth and Heckman, 1991: 187-8 and González-López, 2001: 168 for Spain). According to *comparative advantage*, we could expect that women married to *high* educated men would tend to stay at home: the marginal wage of an additional hour of paid work of man should be greater than his wife's. The theoretical puzzle relates to *homogamy*: how could a couple assess who has the greater marginal utility in paid-work when they both have the same level of formal education? How is the reservation wage affected, accordingly? The process is unclear. Moreover, *gender market segmentation*, and its related earnings differentials, seems to mediate in this kind of intra-household bargaining. I am afraid I am not able to answer this kind of intra-household processes, which should be ultimately decisive to understand women participation in the labour market.

III. Attitude to paid-work: *heterogeneous preferences*³⁵

«At present, the emphasis in research on women's work and gender issue is on the sex-role prescriptions offered to women and on the situational constrain on their behaviour – on what they are *expected* to do and what they are *prevented* from doing, but never on what they *want* to do. One principal contribution of preference theory is to reinstate this third dimension, of women's personal preferences between alternative work-lifestyles.» (Hakim, 2000:14)

³³ Danforth, J. O. (1979), "On the role of consumption and decreasing absolute risk aversion in the theory of job search", in S.A. Lippman and J.J. McCall (eds.), *Studies in the economics of search*. New York: North-Holland, p.109-131.

³⁴ Only a couple declared being lesbian in the entire sample. Both of them worked, so every couple considered in this analysis is assumed to be heterosexual.

³⁵ This section is fully inspired in Hakim 1996, 2000.

I adhere to Hakim emphasis on preferences, and accordingly, I will add a third component to Blanchard-Katz equation an adjust models by individual preferences of women. According to Hakim, some women exclusively work and opt for childlessness (they are *work-centred women*); others combine or specialize temporally in employment and family caring (they are *adaptative*); others, simply, prefer to stay at home or enjoy leisure time (they are *home-centred women*). This last life-style is indeed being substituted by a new version, in which women consider *employment after marriage but it is restricted to part-time and other jobs chosen to fit in with the domestic role, so that market work remains secondary to and contingent on a primary responsibility* (Hakim, 1996: 135). The first and the last kind of preferences are minoritarian, but they exist. Adaptative and home-centred (but willing to work!) constitute the basis of this exercise.

In order to capture preferences for paid work, I will analyse the same two dimensions than Rønsen and Sundström, 1997: religiosity and cohabitation. The former will be captured very tangentially: highly religious would be considered all those women who send their children to religious school (which, besides, are all private in Spain). I will add another dimension, may be polemic: women's ideology and her partner's. I believe conservatism and religiosity is highly correlated in Spain. Finally, I will also control for mothers' relation to labour market. The argument is straightforward: children want to achieve the same status than their parents:³⁶ if mothers' worked, their willingness to work would increase and, *ceteris paribus*, their reservation wage decline accordingly. Alternatively, the mechanism can be thought in terms of *intergenerational transmission of the housekeeping role* (Bernardi, 2001).

Besides *preferences*, a proper model of reservation wages should include individual attitude to risk, and its variation with time. As Blau (1991) states, attitude of risk is related to duration of search. The longer the spell, the higher the aversion and, therefore, the lower the ultimate reservation wage. Individual aversion, however, is an unobserved variable, and it won't be included *directly* in the set of variables.

DATA

The *Panel de Desigualtats Socials a Catalunya* (Catalan Household Inequality Panel) is being carried by the Fundació Jaume Bofill (Barcelona) since 2001. The Panel is organized in 4 waves, and 3 are currently available.³⁷ I have worked with the first one, from 2001/2. Every wave includes two types of questionnaire. One is *individual*; the other is made at the household level. It is possible to merge both levels of data into a single dataset. This is how I have proceeded. In order to make the sample representative for the Catalan individuals, I have applied a five-factors weight included in the dataset, which account for: gender, age, province, geographic origin and town magnitude. Only individuals would be representative in this exercise, not households, inasmuch as the unit of analysis in this study is intrinsically individual.

The reader will probably find an inflation of models, 41, to be exact. Such a number meets three reasons: first, the myriad of life-styles and household configurations make impossible to apply a single model for such a variety of configurations. Filters are not always recodifiable (for instance, replace a missing for a 0), inasmuch as that would bias coefficients. Second, independent variables are sometimes highly correlated. Considering all together would cause multicollinearity. Third, the *Panel de Desigualtats Socials* capture information usually catalogued as unobservable, beginning by the dependent variable. I did not want to lose the opportunity to take into consideration all plausibly determinant variables.

The models are organized following the two components of Blanchard and Katz equation. Ordinary Least Square technique is applied. Heterocedasticity and multicollinearity tests have been conformed. When the model did not pass the first test, was re-estimated using the White Matrix. Tests which do not pass the ANOVA test have been shadowed in the inferior section of tables 3 and 4.³⁸

No single definitive model will be offered. This is not the goal of this exercise, but the study of the *relative* relevance of the two components of the reservation wage equation, plus preferences.

³⁶ This line of reasoning is based in the *model of occupational choice* by Breen and García Peñalosa (2002).

³⁷ Indeed just two were available at the time of preparing the dataset for this exercise.

³⁸ Recall the F test provides an overall test in which the null is that all coefficients are equal to zero. Failing to reject the test means that the variables do not produce a significant effect different to zero on the dependent variable.

(((table 3 and 4 about here)))

COMMENTS ON RESULTS

Education is the driving force underneath reservation wage of both samples. (EDU) is always a powerful predictor, always on the same direction: the higher the education, the higher the reservation wage. More educated, though, seem to not to be more averse towards skill depreciation than low educated. The coefficient of the interaction (UNEMPL*EDU, in u1.2) between length in unemployment and education did not result significant, even holding the expected negative sign. *Voluntariness* in unemployment drop (VOLUNDRUP) conforms to Mincer-Ofek thesis: that is, women who program their working absence, slow down their skill acquisition (be it solid knowledge or working experience). Consequently, they are less demanding in setting their future reservation wages. In other words, reservation wage seems to be related to a supply-effect, what in fact corroborates Mincer-Ofek hypothesis, as well as González-López findings regarding transitions from employment to homemaking.

As expected, length of unemployment spell (UNEMPL in u2.1 and u2.2) is significant and negative, adhering to previous studies (Kasper, 1967). This decrease may be mediated, however, by previous earnings.³⁹ In effect, *last earnings* (LASTWAGE) interacts with length of unemployment spell (UNEMPL*LASTW), rising the reservation wage. Kasper predicted a gradual decrease in reservation wages with time in unemployment, up to the point that unemployed may finally accept a lower wage than the last one she earned. Kasper may be right: but even for long spells in unemployment, those with higher last earnings seem to be less prone to lower their reservation wage, as indicates by the positive coefficient of that interaction.

A learning process of wage distribution (something which would surely attract Blau's attention) may be indicated by previous times in unemployment (N IN UNEMP), having searched for job in the last month (SEARCH4JOB) and, even, by turning to job-finding services (JOBSERVICES). These variables, however, make a difference only for unemployed.⁴⁰ Times in unemployment increases reservation wage, may be because individuals know that, *ultimately, an opportunity always presents* (remember that they have already left unemployment at least once). Or may be because they do not feel as desperate as the first time, and are less willing to lower their reservation wage. *Ceteris paribus*, however, searching for a job in the last month lowers the reservation wage of job-seekers. I believe this is a clear sign of learning process which may operate behind wage reservation setting. Allowing professionals to advice in the job-search (JOBSERVICES) also affects reservation wages: however, it works oppositely in both samples: for unemployed, these services encourage individuals to increase their reservation wage, may be because they still maintain their confidence in those services; inactive women, however, may be more sceptical to them. After all, having make use of those services in the last 5 years seems to have changed little in their life: they are *currently* inactive. The mechanism may be different: in those services they may have been warned about their depreciation of human capital or non-cognitive skills. In any case, we should be very prudent with inactive coefficients, inasmuch as they are not statistically significant.

While aspirations for (INTERMITENT) contracts does not trace a clear pattern, (PART-TIME) jobs does: women willing a contract like the latter set their reservation wage accordingly, into a lower level, as signals the negative coefficients for every model in both samples. Those coefficients, are not significant, however, so these results cannot be inferred to the Catalan population.

The interaction between age and education (AGE*EDU), which tried to approximate tenure and *sacrifice capacity* did not result significant for either of the samples, contrary to theory. Another measure of *tenure* was applied, discounting total months in unemployment from worked years, but it did not work, either.

If something surprised me for the group of variables regarding caring services was the insignificance of childcare measures: neither the number of children (NCHI), the amount of hours devoted

³⁹ Remember that this measure is only available for unemployed.

⁴⁰ The impossibility of controlling for the spell under inactivity for inactive women probably drives the lack of significance not only of the coefficients for this block of variables but the overall model, as the F test signals.

to childbearing (CHILDHOURS), the presence of a child younger than 5 (HCHI05), nor attending to pre-school (HCHI05SCH) were statistically significant. These results contrast with González-López findings, where mothers' return to labour market is discouraged by the presence of small children. On the other hand, adultcare, measured for unemployed as number of dependent adults leaving at home (DEPADATH, in u3.4) and for inactive as the number of hours devoted to them (ADULTHOURS, in i4.4), was statistically significant only for the second group.⁴¹ The effect of the latter variable could be indeed, very powerful, as it ranges from 0 to 105. Why this considerable difference between child and adultcare? The answer may be in the *timing* of those caring services. *Motherhood* is increasingly planned and timed (Hotz et al. 1997 and González-López, 2001: 148 for Spain). *Timing* may influence child-bearing costs. More exactly, *timing* should help to minimize mothers' foregone earnings. The effect of motherhood over reservation wage should therefore be minimized. This would be manifested in non-significant coefficients such as the ones presented in table 5. Adultcare, on the other hand, is not timed. It may be the result of rapid deteriorative illness or a sudden accident. *Suddenness* frames the need for *those* caring services. As not being planned, they may be much more detrimental for women's career than motherhood, and a serious obstacle for women's return to labor market when they are not employed. Their reservation wages should increase dramatically. Given the high costs of private caring services in Spain, if women are not occupied, and an adult relative is dependent on their family, it is reasonable to expect that, except for a succulent wage-offer, women would finally opt for staying at home. Table 5 shows reasons of leaving the labour market. The third and the fifth row may be interpreted as an empirical evidence of motherhood timing. On the other hand, almost 1 out of 4 of current inactive women left working life at least once in their life for *adultcare*.⁴² This percentage is lower for unemployed, but still quite considerable. From table 5 we could infer the strong impact of adultcare in women's working career and, possibly, their ultimate decision of *staying at home*.

(((table 5 about here)))

The *substitutive* (contrary to *complementary*) role of private domestic work (HHDSERVICE) and *do-it-on-your-own* domestic work may be captured in equation u3.3. Once private domestic work services are hired, woman is supposed to work in the labour market. If she does not, and still does a big part of the it, her reservation wage decreases, as signals the coefficient of (% of HOUSEWORK done by women). It seems not reasonable to hire someone to do the domestic work and still do part of it.

(AGE), as a proxy of life-cycle caring responsibilities, adjusts to what was expected in 3 out of 4 models (see: u2.1, u2.2, i4.1 and i4.2).⁴³ Caring-services demand is lower in the first years of emancipation, increases rapidly with motherhood and decreases gradually with adultcare (see coefficients' magnitude). Reservation wage adapts to the different pressures of caring-services through life-time. Graph 1 and 2 (in Appendix) plot models u3.1 and i4.1, where only age is included for modelling reservation wages. The polynomial specification adapts relatively well to *unemployed* reservation wage. The maximum reservation wage is predicted at the age of 39 (remember that the median age of motherhood in Catalonia is over 30). However, for those *inactive*, the model does not fit as expected. The maximum reservation wage is predicted for the age of 51,9 (and for those with working experience 13,4 years later!). This surprising result complements indeed the relevance of adultcare in women's career signalled lines above, in contrast to childcare responsibilities. This relative larger weight of adultcare *vs.* childcare seems academically puzzling, and should be studied with more depth in future research.

The second source of productivity in alternative markets relates to the *informal economy*. Having a job in the informal economy (INFJOB) seems to lower the reservation wage (even though the coefficient is not significant): it may reflect the conditions of such type of job: no social security, or working daily alone at home, for instance. When the activity is well paid (PAIDinfJOB), the picture seems to change,

⁴¹ Indeed, there were only 3 households among unemployed where lived any dependent adult. And in none household within that group lived a child of 0-5 years old and a dependent adult at the same time.

⁴² The questionnaire *does not* explicitly ask for adultcare, but for any *relative caring*. The immediate previous question asks whether the interviewed has left work for childcare. Therefore, I interpret relative caring not as child-plus-adultcare but only as adultcare.

⁴³ In all these models, collinearity is high, as expected.

even though coefficient is not significant, either. Anyway, these variables have not the strong effects expected.

Regarding productivity of alternative assets, the *benefit-time-discounter* works properly. The closer the end of the benefit, the lower the reservation wage (BEN1). When the end is far (more than 6 months, as indicate by BEN2), reservation wage is unaffected. For inactive women, however, benefits seem to have no effect (INACTIVE BEN). The dataset does not allow knowing the duration of benefits for that group. What we observe may reflect the *average* of two worlds: one in which benefits would end eventually, and other in which benefits will still last for long.

Living in couple is not an active *per se* (VIUENPAR). It only is when the partner works and receives a corresponding wage (HISWAGE). Having him no job (HIMNOJOB) does not have an effect, contrary to all intuition. The problem probably is in the codification of the variable. In this category I did not distinguished unemployed from retired, and it may offer a blurred picture. (HISWAGE) is a strong predictor, especially for unemployed, attending to the R^2 of model u4.3. (SAVINGS) seems not to make any difference; this seems true even interacting it with the length of unemployment spell (SAVINGS*UN in u4.5). The *liquidity restriction* is not represented in this data, even though the coefficient has the right sign (that is, even for long unemployment spells if finance situation is still relatively wealthy at home, unemployed maintain high her reservation wage, *ceteris paribus*), and it is not far from the 0,10 significance border ($t=1,61$)

Another measure of household financial state is approximated by debts (DEBTS). This variable is measured as the number of financial credits that the household owes, and the negative coefficient signals that, as was expected, it pushes down the reservation wage of unemployed. The inactive women are only sensible to household income (HHINCOME). This may reflect the key difference between both samples. For inactive, non-working is her *status quo*. Only if the household economy is endangered, she would move from *status quo* in order to help the household economy. When the household income is wealthy, inactive women face greater disincentives to work and, accordingly, increase their reservation wage. For an unemployed, however, the *status quo* is the labour market, regardless of the household economy (for them, that coefficient is not significant). *They are paid-workers*, and they would work even when the household economy is wealthy. This difference may reflect, even tangentially, the distinctive life-style careers of women which Hakim has persuasively defended. Lastly, and surprisingly for Becker's comparative advantage is the insignificance of the partner's education: (HISEDU) may be not perceived as a source of current and future earnings for women. Only his wage seems to matter for such type of intra-household bargaining. This may reflect the low returns of additional years of education in Spain.

Preferences have been only approximated. The dataset did not include a large battery of questions on preferences toward working life. As signalled in footnote 12, we can have a slight idea of why inactive women are *willing to work* (mainly for economic reasons, compared to only 4,61% of women who chose "*people must work*"); but it is still far of a wide understanding of preferences towards working life, and more interestingly, relative value of paid-work vs. domestic-work. In the model on preferences and expectations, I have recovered (AGE) in order to adjust for any generational effect (the female emancipation or revolution) that may lie behind them, as González-López defends (2001). However, it could be argued that preferences are constant among generations and that age is only a proxy of different stages of common life-styles: that is, the younger the women are, the more predisposed to accept lower wages, *ceteris paribus*. Being education and age clearly correlated in Catalonia (-.13 for unemployed, -.20 for inactive), this hypothesis is still more plausible. As I read somewhere, more skilled unemployed are more prone to lower their reservation wages – because are surer of their long-term possibilities. In any case, age should be positively correlated with reservation wages. The relation is fulfilled in i6.2, whereas it has a positive sign in u5.1 and u5.3. This non-expected finding questions the *generational effect*. Older women are more prone to reduce their reservation wage than younger, even having adjusted for education. We may face a self-selection process among this particular group of older unemployed: they have probably any dependent adult at home, and their children already emancipated. They reservation wages would decrease accordingly.

Mothers seem to effectively bias expectations of their children when they have to work, but the coefficient is not significant (MOMJOB). These results are indeed partially corroborated in González-

López (2001:165). Neither it is significant another question that I introduced in order to capture a very natural impulse: «*to what extent are you satisfied with the economic level you have provided your children?*» (SATSECO4CH). I expected that the lower the satisfaction, the higher the incentives to accept a job and improve the household economic balance. Therefore, reservation wage should decrease. The sign was the contrary, and the coefficient was not significant, anyway. I have adjusted by the ideological position of woman and her partner. Only the latter was definitively included (HISIDEOL). Partner's ideology seems to be powerful for unemployed. May be, conservative partners would prefer women to stay at home and create in her the feeling of requiring a high-wage-offer in order to defend her decision in front of her partner. Needed is to say, that only 4 women in the entire sample declared that among other reasons (childcare and domestic work), they did not work because *her partner did not want her to work*.

Lastly, cohabitation: (COHAB) is supposed to create a more reciprocal relationship than marriage, at least in a country like Spain where cohabiting is still an uncommon trend and may be *an expression of non-conformism* (Bernardi, 2001). I expected that cohabitation would decrease reservation wages, showing a more intense preference among cohabiting women for paid-work. The result is the reverse, surprisingly. When the coefficient is statistically significant, reservation wages increase with cohabitation. The answer may be in education: that is, cohabitation may be reflecting higher education and, accordingly, reservation wages should increase. But both variables correlate only in (-0.11 for unemployed and -.08 for inactive). The answer must be somewhere else. Bernardi (2001:137), facing similar results for Italy, identifies a self-selection process: those cohabitating did not become homemakers in the first place. A similar process may operate among Catalan women.

Conclusions

The goal of this exercise was to shed some light in understanding the different components influencing the reservation wage. Catalunya and the rest of Spain have great levels of inactivity among women, and possibly a high informal sector too. Unravelling the impediments for enhancing women participation in the labour market is not only of academic interest, but should be a priority in the policy making.

The reduced sample size requires interpreting the results cautiously, although some interesting patterns seemed to come up. Departing from the Blanchard-Katz model we identified two main components in reservation wages: lagged wages, and productivity in alternative sectors and assets. Attending to the adjusted R^2 , we could make out the following pattern: lagged wages (extended by job-searching) are only influential for unemployed reservation wage distribution. Inactive women may have remained in that situation too long for still conceiving their reservation wages in such terms. Demand for caring services is equivalently influential to both distributions. Financing private services is especially influential for unemployed, whereas adultcare is fundamental for understanding inactive reservation wages. The most relevant asset for non-employed women is the partners' wage, and unemployed are quite sensible to lower their aspirations when they accumulate debts. While unemployed are insensible to household income, inactive living in wealthy households would difficulty return to labour market. The lack of necessity seems to be operating behind their reservation wages. Only unemployed seem to be influenced by attitudes: partner's support (approximate by ideology) and cohabitation seem to explain part of their distribution. Cohabitation may work as a proxy of *high aspirations* (a full-time job, as most man) rather than a larger susceptibility of lowering the reservation wage to obtain a job. Finally, education seems a powerful transversal predictor of both distributions of reservation wages; education is statistically significant, and moves into the expected direction, in almost every single model. Adding this results to González-López findings (see transition 3 in pp.165-7, 2001), where most educated women have the higher chances to return to work in case of interruption, we could devise a *polarization of female careers*: those educated should not interrupt their working career; in case they do, however, they would be non-employed for short spells, and would come back to work achieving relatively high wages (those which satisfy their high reservation wages); low-educated, induced by marriage or motherhood (and adultcare too!), would leave paid-work, remain at home for the rest of their lives or, in case, have only intermittent low-paid jobs. This pattern, accentuated by *homogamy*, signals for an increase in income inequality across Catalan households.

Time seems to play a fundamental role in all the underlying processes. Time *would not be* relevant in explaining reservation wages if unemployed had infinite life (that is, future job-offers were unlimited), knew the wage-offer distribution and lack no capital constrains (Kiefer and Neumann, 1979: 102). These conditions are empirically implausible, however. Time can be manifested through *age* or *length of unemployment spell*, alternatively. Anyway, understanding its interaction with those parameters forming the reservation wage equation constitutes a fundamental way of identifying the ultimate driving mechanisms between the dependent and the independent variables. Time affects liquidity, benefits and in form of age, demand for caring services, too. However, human capital seems to be immune to depreciation (that is, to the pass of time). Once interacted with length of unemployment spell, it does not result statistically significant. Surprisingly, the most relevant measure of human capital is the highest level of formal education; the experience in the labour market, approximate by the interaction between age and education and the degree of qualification of last work, seems to not matter for reservation wages setting. Labour experience among inactive is neither a relevant element for assessing potential productivity. Once adjusted by other variables, the initial distribution of figure 1 dilutes.

Another fundamental concept in the study of reservation wages is the *Household Economics*. Women build up and form part of a given household. Their working decisions is *related to* the Household Economics. Some probably choose their working profile more freely than others, and this kind of gender discrimination should end. But this does not cancel the idea of women belonging to a team, a *welfare production team*, where the activity of every integrant affects their counterparts'. Effectively, Household Economics, measured by the wage of the partner, the amount of debts or the bought of caring services, count on women's ultimate setting of their reservation wages, as it has been proved. Regarding caring services, data signals that what *ultimately* increases the reservation wage is more dependent on adult-rearing than child-bearing, what deviates from initially expectations. Once demand for adultcare exists, *it must be satisfied*. Adultcare is time-intense. Reservation wages of inactive women rises accordingly. Public help in Spain for dependent-adult is based mainly in transfers from the *Seguridad Social* and fiscal deductions in the IRPF. These may be not enough. Time is limited. *Direct services* should be added to the public equation in order to *release* time for women and encourage them to remain employed when need for adultcare comes up, or to return to the labor market if they are already outside. Otherwise, adultcare, even for the most loved relative, may be a great impediment for women's working career. Attitudes in all this process count, of course, but most women are *not* home-centred, as Hakim noted. Moreover, we should not forget that «*a usual precondition for women being capable of commodifying is [precisely] their defamiliarization*» (Orloff, 1993 quoted in Esping-Andersen, 2000:74).⁴⁴

⁴⁴ Translation to English is mine. Complete reference: Orloff, A. "Gender and the Social Rights of Citizenship". American Sociological Review, 58: 303-328.

APPENDIX

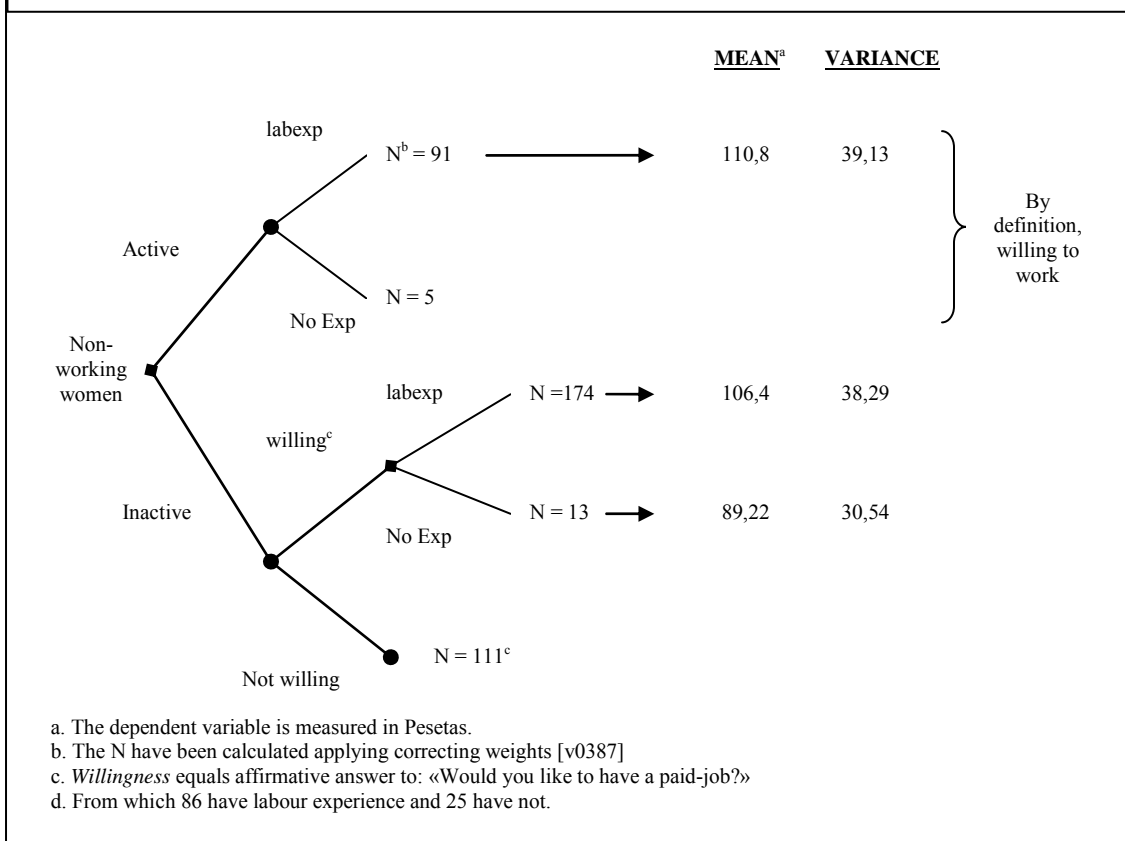
Table 1. Activity by gender and ages 18-64, both included.

Percentages in bold letters

	MEN	WOMEN	total
Full-time worker	1316	837	2152
	73.47	46.69	60.07
Part-time worker	55	208	263
	3.04	11.63	7.34
Intermittent worker	50	95	145
	2.79	5.30	4.05
Unemployed searching 1st job	6	5	12
	0.35	0.30	0.33
Unemployed	98	105	203
	5.47	5.87	5.67
Homemaker	6	336	341
	0.32	18.72	9.52
Retired	90	34	123
	5.00	1.89	3.45
Student	84	85	169
	4.67	4.74	4.71
Working disable	41	36	77
	2.29	2.04	2.16
Rendist	0	2	2
	0.00	0.11	0.06
Other situations	46	49	95
	2.59	2.71	2.65
Total	1791	1792	3583
	100.00	100.00	100.00

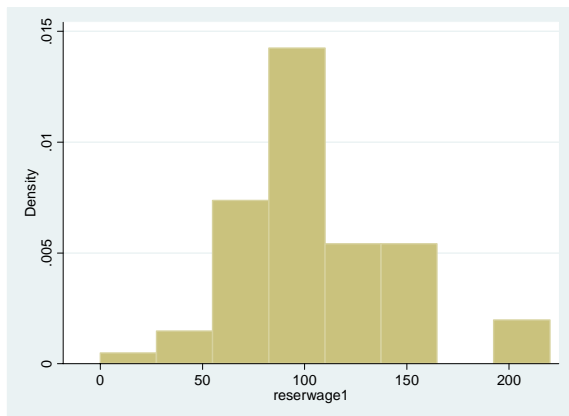
Source: Panel de Desigualtats Socials a Catalunya (PaD)-Fundació Jaume Bofill, Primera Onada 2001-2002".

Figure 1. Groups of reference, and the distribution of the dependent variable: reservation wage

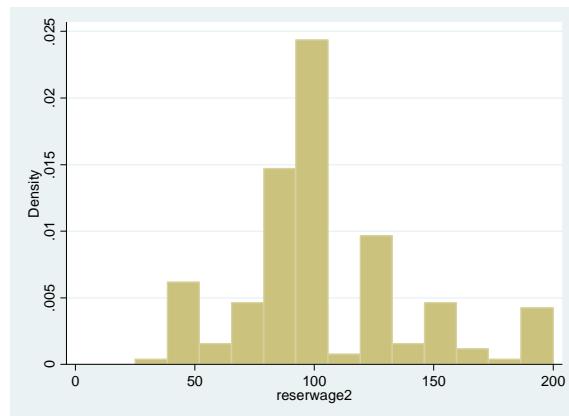


Addendum: Distribution of the dependent variable: Reservation Wage

UNEMPLOYED



INACTIVE



# children	willing to work			full-time housewives (%)
	no	yes	total	
0	42	127	169	0,25
1	7	36	43	0,16
2	5	20	25	0,20
3	2	1	3	0,67

Font: Panel de Desigualtats Socials a Catalunya (PaD)-Fundació Jaume Bofill, Primera Onada 2001-2002".

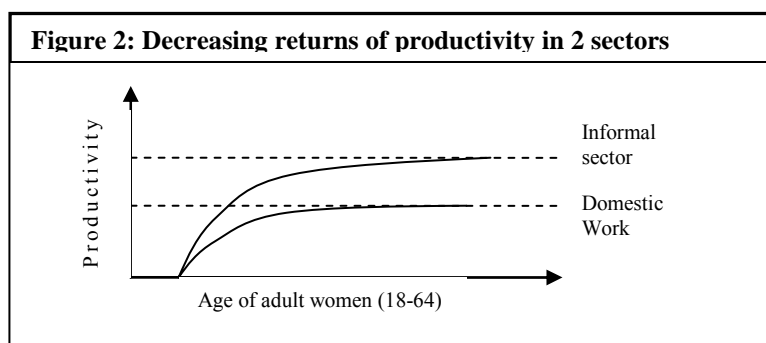


Figure 3: a stylized relation between reservation wage and life-cycle caring work

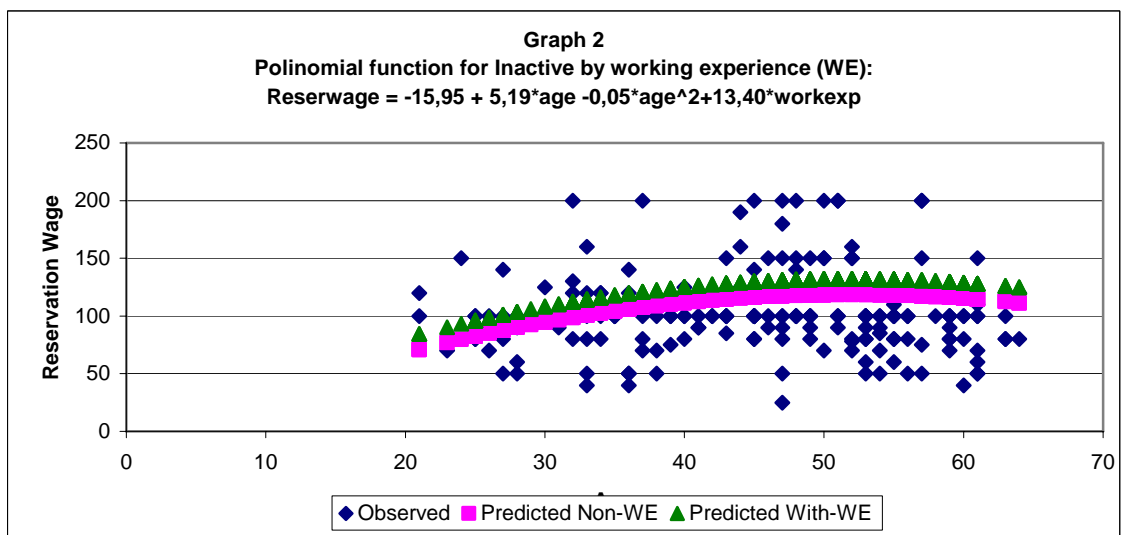
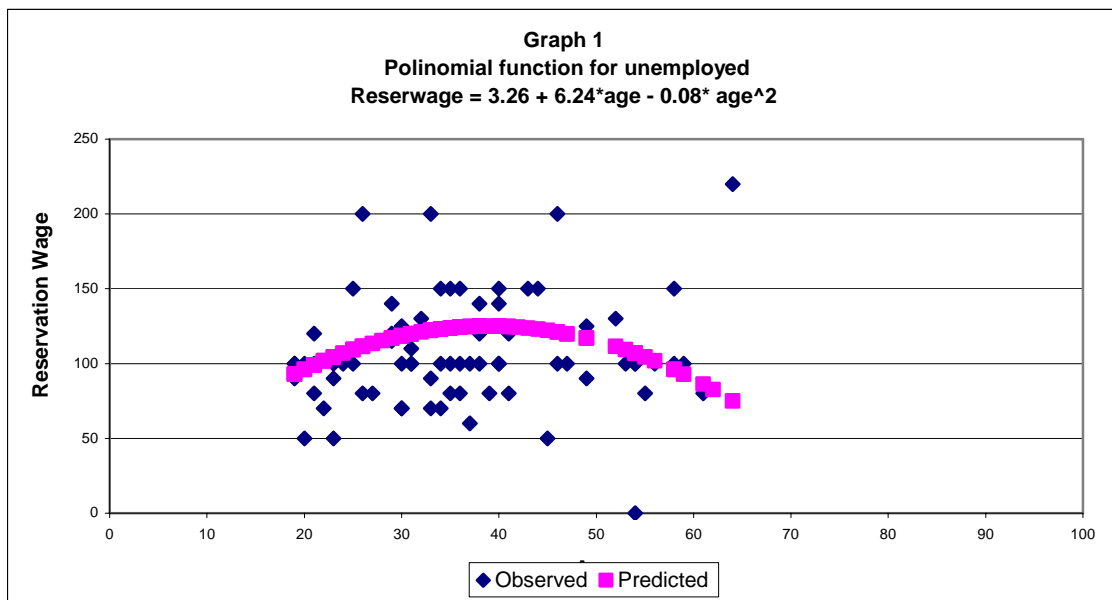
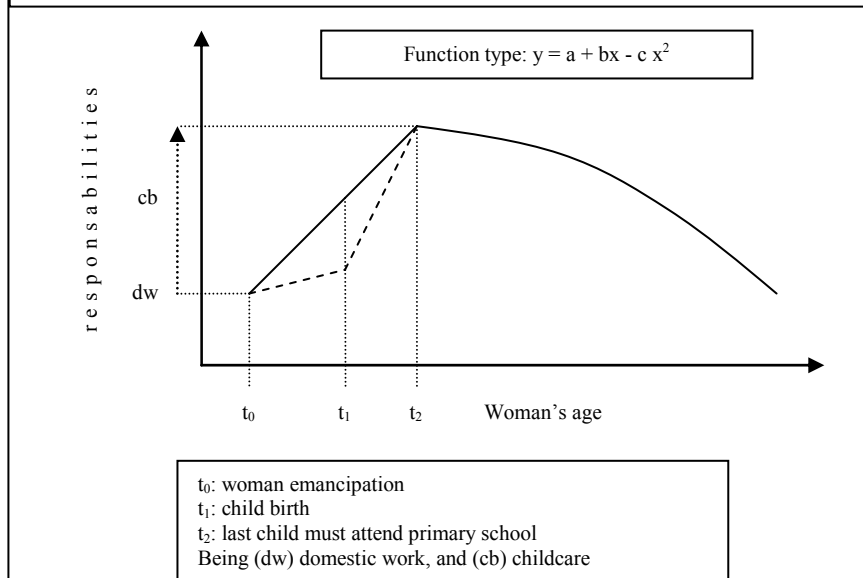


Table 3. OLS FOR RESERVATION WAGE OF INVOLUNTARY UNEMPLOYED I

Yellow for unemployed; blue for inactive women.

Independent Variables		Component I										Component II									
		Education						Lagged wages				Demand for caring services									
		unemployed			inactive			unemployed		inactive		unemployed					inactive				
		u1.1	u1.2	u1.3	i1.1	i1.2	i1.3	u2.1	u2.2	i2.1	i2.2	u3.1	u3.2	u3.3	u3.4	u3.5	i4.1	i4.2	i4.3	i4.4	i4.5
Age	intercept	62.25***	81.26***	74.68***	44.4***	75.09***	84.37	89.97***	92.76**	76.40	118.35**	3.26	-21.58	147.6***	76.00***	128.36**	-15.95	-29.43	44.84*	-7.79	-3.89
	age	(4.06)	(18.85)	(18.87)	(13.3)	12.61	(18.66)	(19.62)	(45.95)	(14.95)	(47.15)	(46.12)	(55.68)	(26.62)	(17.58)	(47.49)	(35.43)	(39.60)	(25.58)	(51.77)	(32.46)
	age^2					.28	(.24)		.04		(1.00)		6.24**	5.55				5.19***	4.26**		
Human Capital	edu	13.87***	7.32	11.47***	15.97***	17.73***	9.03**	5.30	10.71	7.87**	-8.86		12.19***	-3.03	9.66**	5.00		6.75*	15.85***	27.32***	17.08***
	labexp	(4.06)	(5.60)	(4.27)	(3.21)	(3.73)	(4.42)	(4.68)	(14.86)	(3.82)	(16.57)		(4.33)	(4.42)	(4.34)	(5.95)		(3.67)	(4.28)	(8.02)	(4.62)
	unempl					dropped	dropped														
	unempl*edu		(.27)					-1.04**	-1.04**												
	qualified		(.44)					(.43)	(.43)												
	volundrop1		-.07																		
Lagged Wages	lastwage																				
	N in unempl																				
	unempl*lastw																				
	search4job																				
	jobservices																				
	part-time																				
	intermitent																				
	age*edu																				
	Caring Services	%homework																			
nchi																					
childhours																					
depadatho																					
hhdservice																					
hchi05																					
Children 0 to 5																					
hchi05sch																					
N	91	73	89	187	155	147	80	80	191	191	91	89	42	89	18	192	190	116	36	49	
F	.11.67	.64	5.45	13.82	8.36	1.79	3.66	3.05	1.47	1.32	3.07	3.12	8.94	4.88	2.08	4.39	2.46	3.48	5.59	4.76	
Prob > F	.0010	.5834	.0018	.0000	.0000	.1349	.0008	.0023	.1912	.2356	.0516	.0124	.0000	.0014	.1424	.0052	.0261	.0035	.0009	.0015	
R^2	.1159	.0285	.1612	.1306	.1424	.0477	.3201	.3303	.0529	.0627	.0651	.1584	.5540	.1886	.3899	.0521	.0754	.1606	.4825	.3562	
adj R^2	.1060	-	.1316	.1212	.1254	-	.2327	.2219	-	-	.0439	.1076	.4921	.1500	.2022	-	-	.1144	.3963	.2813	
hhtttest (.05)																					
mean var																					

*p<0.1; **p<0.05; *** p<0.01. Standard errors in parenthesis; All those models which label is dotted did not pass the htest, and were re-estimated using the White Matrix (robust errors). Those models are not weighted.

Source: Desigualtats Socials a Catalunya (PaD)-Fundació Jaume Bofill, Primera Onada 2001-2002

Table 4. OLS FOR RESERVATION WAGE OF INVOLUNTARY UNEMPLOYED II

Yellow for unemployed; blue for inactive women.																						
Component II										Plausible third component: Attitudes												
Independent Variables		Productivity in the informal economy (III)		Productivity of alternative assets								Preferences & Expectations										
		inactive only		unemployed				inactive				unemployed					Preferences & Expectations					
		i5.5	i5.5	u4.1	u4.2	u4.3	u4.4	u4.5	i5.1	i5.2	i5.3	i5.4	u5.1	u5.2	u5.3	u5.4	u5.5	i6.1	i6.2	i6.3	i6.4	i6.5
Age	intercept	44.64*** (13.47)	43.97*** (13.52)	64.28 (18.24)	28.02 (32.04)	-76.90 (43.54)	-116.44 (80.48)	-83.86 (84.33)	42.22** (19.50)	20.12* (16.56)	18.23 (18.44)	-101.07* (52.04)	54.28*** (29.51)	70.11* (36.79)	74.59** (33.44)	-1.96 (64.23)	72.53*** (20.08)	60.80*** (19.12)	29.55 (26.31)	53.24*** (18.34)	69.90** (31.85)	66.22*** (19.37)
	age																					
Human Capital	age^2																					
	edu	15.96*** (3.22)	16.00*** (3.22)	10.35* (5.43)	25.48*** (7.91)	41.73*** (9.57)	11.79 (8.00)	16.25* (8.76)	17.81*** (3.85)	21.54*** (4.35)	16.03*** (5.01)	14.47** (5.60)	23.98*** (5.30)	10.94 (7.56)	21.5*** (5.59)	27.08** (10.27)	7.81 (4.84)	9.21** (4.19)	6.70 (4.48)	10.27*** (4.25)	18.18*** (4.69)	9.73** (4.81)
Informal Eco	workexp	14.87 (10.20)	15.10 (10.24)						14.37 (11.65)	14.19 (11.77)	15.36 (13.52)	2.71 (13.43)						10.24 (7.25)	13.48** (5.81)	17.37*** (5.97)	6.74 (16.32)	dropped
	unempl																					
prod. of altern. assets	infjob																					
	paidinfjob																					
hhd finance	ben1																					
	ben2																					
hhd finance	inactive ben																					
	vtuenpar																					
hhd finance	himnojob																					
	partner																					
hhd finance	hswage																					
	hisedu																					
hhd finance	savings																					
	debts																					
hhd finance	hhincome																					
	savings*un																					
Prefs & Expects	cohab																					
	relschool																					
Prefs & Expects	satsfec04ch																					
	momworked																					
Prefs & Expects	hhsdeol																					
	subjclass																					
N		187	187	66	40	28	38	36	148	133	100	121	54	34	52	27	75	173	136	165	111	142
F		9.17	9.18	2.54	3.66	5.04	5.08	4.11	5.39	6.03	6.32	6.12	10.68	.66	8.32	4.18	2.55	2.28	2.13	3.11	4.54	2.55
Prob > F		.0000	.0000	.0376	.0094	.0032	.0007	.0022	.0001	.0000	.0000	.0000	.0000	.6534	.0000	.0114	.0623	.0630	.0543	.0106	.0009	.0420
R^2		.1307	.1308	.1747	.3498	.5338	.5424	.5869	.1594	.1919	.2516	.2747	.3905	.1153	.4144	.4321	.0973	.0581	.0915	.0873	.1779	.0594
adj R^2		.1164	.1166	.1059	.2541	.4278	.4356	.4440	.1298	.1601	.2118	.2298	.3539	-	.3646	.3288	.0592	-	-	-	.1387	-
hhtttest (.05)		for	for	for	for	for	for	for	for	for	margin	for	for	-	for	for	for	-	-	-	for	-
mean vif		1.00	1.01	1.17	1.33	1.24	1.44	1.88	1.08	1.08	1.23	1.48	1.03	1.15	1.11	1.10	1.14	1.09	1.13	1.11	1.08	1.13

*p<0.1; **p<0.05;*** p<0.01. Standard errors in parenthesis; All those models which label is dotted did not pass the hhtttest, and were re-estimated using the White Matrix (robust errors). Those models are not weighted.
Source: Panel de Desigualtats Socials a Catalunya (PaD)-Fundació Jaume Bofill, Primera Onada 2001-2002

Table 5. Child- and Adultcare behind unemployment drop			<i>unemployed</i>	<i>inactive</i>
		the contract ended and it was not renewed	3,32	1,42
Did ever coincide leaving the job with having a baby?		they dismissed me	-	5,76
		I left voluntarily	12,36	33,29
		I ask for maternal leave	-	-
		When was pregned or had child did not work	28,2	19,57
		I have never left work for that reason	56,11	37,01
			100%	100%
Left work for adultcare	no		82,94	76,14
	yes		17,06	23,65
			100%	100%
Source: Panel de Desigualtats Socials a Catalunya (PaD)-Fundació Jaume Bofill, Primera Onada 2001-2002".				

INDEPENDENT VARIABLES

code	description (if required)	type	further explanation (if necessary)
age		continuous	
age^2		continuous	
edu		5 categories.	→ 1-Non-alphabetizes
labexp	working experience	dummy	2-No studies but alphabetized
volundrop		dummy	3- Primary=3
part-time	willing part-time contract	dummy	4- Secondary
intermitent	willing variable contract	dummy	5- University
search4job		dummy	
jobservices	services of reallocation	dummy	in the last month
age*edu	interaction	continuous	in the last 5 years
qualified	qualified worker	dummy	0: non-qualified in industry and services+army+agrarian+other workers in non-manual jobs + firm representative (<i>comercial</i>); 1: qualified in services and industry+medium- or high-technician (in business, administration and techniques) +director
unempl	length of unemployment spell	continuous	
unempl*age	interaction	continuous	
lastwage	Earnings in last job	continuous	Monthly based. I have applied the average fiscal pressure (28.7% in 2000, EUROSTAT 2003) to data coming from annual estimations.
unempl*lastwage	interaction		
N unempl	Times in unemployment previous to current (only unemployed)	continuous	
semijob	job in the informal economy	dummy	
paidsmjob	wage in informal job	continuous	
% of homework	homework done by interviewed	5 categories	0-19;20-39; 40-59;60-79;80-100%
nchi	number of children at home	continuous	Empirical maximum in 4
childhours	hours devoted to childcare	continuous	
adulthours	hours devoted to adultcare	continuous	
depadatho	dependent adults living at home	continuous	Empirical maximum at 3
hhdservice	private home services	dummy	
hhdchi05	children 0-5 in home	dummy	
hhdchi05sch	children 0-5 in pre-school	dummy	
inactive subsid	benefit	dummy	for inactive
sub 1	benefit	dummy	they will last shorter than 6 months (unemployed)
sub 2	benefit	dummy	they will last longer than 6 months (unemployed)
viuenpar	live with couple	dummy	
hiswage		continuous	Monthly based. I have applied the average fiscal pressure (28.7% in 2000, EUROSTAT 2003) to data coming from annual estimations. From rents coming from capital (benefits from business), I have applied the average fiscal pressure for capital in 2000: 19,8% (2000 EUROSTAT, 2003 pp.97).
himnojjob	he has no job	dummy	he me be retired, or may be unemployed.
hisedu		5 categories	idem as edu
savings	household savings	continuous	<i>how many months would they pay for?</i>
savings*unempl	interaction		
debts	household credits	4 categories	0 to 4 credits.
hhincome		continuous	
cohab	cohabitation	dummy	
relschool	children go to religious school	dummy	
satsfeco4chi	satisfaction with economic resources offered to children	11 categories	0 non-satisfied - 10 fully satisfied.
motherworked	mother of interviewed	dummy	
hisodeol	partners' ideology	7 categories	1- extreme to 7 extreme right
subjclass	subjective social class	3 categories	0 white-; 1 blue-collar; 2 employer

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