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**Gender Differences in Self-Employment in a Transitioning Economy**

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# Glass ceiling or flexible work arrangements? Gender differences in self-employment in a transitioning economy[*]

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**Abstract**

In this paper, we bridge two types of literatures. The first, on the role of wealth and individual job and risk preferences in the decision making process of becoming an entrepreneur. The second concerns the move into self-employment in a transition country with a particular emphasis on the different motivations of female and male entrepreneurs. We focus our attention on Poland - a country which has undergone very large societal changes. We conduct the empirical analysis with the use of a unique Polish longitudinal survey − Social Diagnosis. Firstly, we study the supply-side determinants of becoming self-employed taking into account financial (e.g. the amount of savings) personal (e.g. risk and job preferences) and demographic (e.g. family composition) constraints.

Secondly, we test whether the disparity in earnings of employees and the self-employed drives individuals to start their own business differently for women and men. Finally, we investigate the problem of the so called glass-ceiling. We take advantage of the unique information contained in our dataset namely, on whether individuals experienced mistreatment at work (e.g. demotion, discrimination, problems with boss) and on working conditions.

Our findings indicate that the motivation for transitioning into self-employment in Poland is different for women and men. Women are motivated into self-employment by higher wages. Their preferences indicate that those transitioning into self-employment due so because of the existing glass ceiling and not due to desire for flexible work arrangements. For men, it seems that unemployment and lack of permanent contracts may be the reason for pursuing this job track. In addition, it seems men prefer to be self-employed as these type of jobs more likely match their competences while women prefer jobs that allow them to be independent.

*Keywords:* Gender; Work conditions; Risk; Self-Employment; Poland; *JEL classification codes:* D31; G11; J61

# 1 Introduction

In this paper, we bridge two types of literatures. The first, on the role of wealth and individual job and risk preferences in the decision making process of becoming an entrepreneur. The second concerns the move into self-employment in a transition country with a particular emphasis on the different motivations of female and male entrepreneurs. We focus our attention on Poland - a country which has undergone very large societal changes. We conduct the empirical analysis with the use of a unique Polish longitudinal survey – Social Diagnosis. Our analysis concerns three main aspects. Firstly, we study the supply-side determinants of becoming self-employed taking into account financial (e.g. the amount of savings), personal (e.g. risk and job preferences) and demographic (e.g. family composition) constraints. Some studies suggest that whilst for men the decision to enter self-employment is mostly income-driven (improvement of economic conditions), a significant fraction of women decide to become self-employed trading off income for a more flexible work arrangement and other non-pecuniary benefits associated with self-employment[1](Connelly (1992), Devine (1994), Williams (2000), Hurst and Lusardi (2004), Budig (2006)). In terms of risk, there is a common belief that women are more risk averse than men, which makes them more conservative financial decision makers (e.g. Croson and Gneezy (2009)). More recent research concluded that not gender *per se*, but rather individual risk preferences, cultural background and socio-demographic characteristics are crucial in understanding these differences (Carroll et al. (1994), Finucane et al. (2000), Badunenko et al. (2009), Booth and Nolen (2009), Arano et al. (2010)). We address this issue with a special reference to the decision to become self-employed.

Secondly, we test whether the disparity in earnings of employees and the self-employed drives individuals to start their own businesses. Conducting this analysis separately for women and men we want to give further insights into gender differences in the motivation to becoming self-employment.

Finally, in our investigation we address the problem of the so called glass-ceiling. The glass-ceiling hypothesis conceives entrepreneurship of women as a career advancement strategy, which helps circumvent barriers in promotion faced by employed women. The dataset used in our study contains information on whether individuals experienced mistreatment at work (e.g. demotion, discrimination, problems with boss) and work conditions that are identified as important. We compare the occurrence of these practices between women and men and analyze how they are related to the decision of becoming self-employed.

Our findings indicate that the motivation for transitioning into self-employment is

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[1]The underdeveloped social infrastructure in Poland makes it difficult to reconcile career with family life and could, for example, stimulate such career strategy

different for women and men. Women are motivated into self-employment by higher wages. Given that we observe their preferences it seems this is more likely due to the existence of a glass ceiling and not in search of flexible work arrangements. For men, it seems that unemployment and lack of permanent contracts may be the reason for pursuing this job track. In addition, men that see a job that matches their competence as a very important work condition and women that see independence on the job as an important job characteristic are more likely to transition into self-employment.

The following section provides some background information on gender differences in self-employment. Section 3 provides some details on the labor market situation in Poland. Section 4 sets out the empirical strategy and methodology. This is followed by a detailed description of the data. Section 6 provides the empirical results and finally section 9 are the conclusions.

## 2    Gender differences in becoming self-employed

There exist differences in self-employment rates between men and women and women tend to be a minority of the self-employed workforce in all developed countries (see Parker (2009) for references) although the trend has been for women to enter self-employment at a faster pace. Self-employed females remain over- represented in some industries such as services (sales, financial, insurance and real-estate; professional services and business services, Bates 1995). Self-employed females are more likely to be married and have children and the cost of child-care may be one reason underlying these results, since self-employment creates more flexible work arrangements. Though, Lombard (2001) finds that although demand for non-standard work schedules is important, most of the rise in female self-employment is due to women's increased earnings potential in self-employment. Family variables, on the other hand, have little impact on male self-employment rates. Having a self-employed husband also seems to increase the probability that a women will be self-employed. Using an EU wide cross-sectional survey Cowling (2000) finds that in eight of the thirteen countries tested no significant gender effects on self-employed exist. In his probit specification he also controls for age, martial status and education, but not for risk or other personality traits. He finds that entrepreneurs are not a homogeneous group and constraints on entrepreneurship could be more binding in some countries. Georgellis and Wall (2005) examine gender differences in the determinants in self-employment in Germany and find that men are more responsive to wage differential between salaried and self-employment sectors and that liquidity constraints are more important for men than for women.

# 3 The Case of Poland

## 3.1 Economic Transition and the Labor Market

In Poland, before 1989 the strategy of an extensive economic growth required a high level of labor force participation. A doctrine of full employment accompanied by a relatively well developed childcare infrastructure created a good environment for economic activity of women. The estimated employment rate of women in 1988 was about 55 percent (Mroczkowski (1997), pp.84). However, the model of women's professional mobilisation, which took place under communism, described by sociologists as 'externally controlled', is characterised by the fact that the change in the behavior of women took place as a result of external pressure (on them and the family) stemming mainly from the pressure of political power and not as a inter-family transition to a model based on partnership between men and women (Siemienska (1999), pp.9). Therefore an increase in female employment was not traded off by a reallocation of intra-household tasks. Thus women bore a "double burden" of professional and household work, estimated to be about 70 hours weekly on average in Central and Eastern Europe (uni (1999)). The traditional stereotype defining men as the main bread-winners did not change much.

After 1989, a transitioning economy was heavily influenced by factors reducing the stability of labor demand and security of employment. These include a high pace of technological and organizational progress, changes in the structure of production (especially rapid growth of the service sector), an increasing level of competition due to the opening of the economy to foreign firms. Changing conditions in the labor market required higher investments in human capital as well as occupational and spatial mobility. Such adjustments were more difficult for women due to their higher engagement in household work (including child-bearing responsibilities) (Kotowska (2007), pp.28-31)). The transition from a centraly planned to a market economy resulted in a decline in employment, especially among women. It is estimated that between 1989 and 1997 around 1,6 million women lost their jobs and only in a period 1988-1992 female employment rate fell from 58,7 to 46 percent. [2] At present, the difference in employment rates between men and women remains relatively high (more than 12 percentage points) in comparison to older EU members, although this pattern can be observed in many post-communist economies in the EU. A discrepancy in labor force participation rates by sex is widest among persons with lower and middle educational levels. For example, during the last decade (2000-2010) a difference in employment rates between women and men with a secondary education degree was large and relatively stable (12-18 pp). However, among persons with tertiary

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[2]The employment rate of men during that period fell from 74,3 to 61,4 percent (see Lisowska (2001) and Kotowska (2007), pp.31, for details).

education degree this difference was significantly smaller (2-6 pp) (Labour Force Survey, Eurostat). In Poland, the employment rate of women remains low with relation to other countries. In 2010 it reached 53 percent (after a few years of steady growth since 2004 when a value of this index amounted to 46 percent) and was lower than in such countries as Bulgaria, Czech Republic, Estonia, Lithuania, Latvia or Slovenia. According to Lisowska (2001) the low employment rate of women in many post-communist countries including Poland is driven by several factors: First, of all employers prefer to employ men, because they are afraid of the absenteeism of female workers as they bear much of the child-caring responsibilities. At the same time, an underdeveloped childcare infrastructure in Poland also makes it difficult to reconcile professional work with parental duties. Second, although unemployed women are on average more educated than their male counterparts, their education is mainly general contrary to men who more frequently graduate from vocational and technical schools. Finally, the perception of gender roles in the society gives men in many cases, priority to participate in the labor market. A survey conducted among members of political and economic elites in 27 countries indicated that opinions 'when the jobs are scarce men should have more rights' or 'family suffer when women work full time' were mostly accepted in post-communist countries (contrary to Western European and Scandinavian countries) (Siemienska (1999)). These findings are similar with the results of World Values Survey, where 55 percent of Polish respondents agreed with the opinion 'when the jobs are scarce men should have more rights'. In most European countries the percentage was significantly lower e.g. Sweden - 8, France - 33, Hungary - 40, Russia - 40, Italy - 43) (Basanez et al. (1996)). Although the recent findings of WVS (from 2005) show that this attitude is changing, still more than 30 percent of Polish respondents give men more rights to the labor market.

## 3.2 Determinants of Self-Employment with Special Reference to Women

In light of the above mentioned facts it does not come as a great surprise that the discussion of female entrepreneurship in Poland is often associated with the glass ceiling hypothesis, which states that because of discrimination practices in the labor market it is more difficult for women to find a high-quality job or to obtain a promotion. From this point of view, starting your own business can be a rational strategy for women leading to an improvement of their position in the labor market.

In Poland, the share of self-employed women among all entrepreneurs is relatively high exceeding 30 percent (including self-employed farmers) and remains relatively stable (over the last decade it decreased slightly from 37 to 34 percent). Over the last decade, the share of self-employed women (as well as men) in total employment declined. This is in

line with the hypothesis that economic development (until some threshold) is negatively correlated with the entrepreneurial activity. Possible reasons for such a relationship are the effects of scale and growth of real earnings in the wage-and-salary sector, which increase the alternative costs of self-employment (see Wennekers et al. (2010), for details).

In the Polish literature, there exist some (mostly qualitative) studies that may give support to the glass ceiling hypothesis. A survey 'Polish Business 95' conducted on a sample of female entrepreneurs indicated that the two main motives for setting up a business are 'quest for independence' and 'need for reasonable earnings'. On top of that self-employed women more often than men declared 'fear of unemployment' or 'lack of other opportunities to work' as motives for choosing this profession (see Knothe and Lisowska (1999)). Similar conclusions were drawn from a survey conducted in a group of 400 entrepreneurs (200 men and 200 women) where more that 40 percent of interviewed business women pointed to the 'lack of other opportunities to make a living' as the main motivation to enter self-employment (Rollnik-Sadowska (2010), pp.167) (this was compared to 30 percent of men declaring this motivation). These results are in line with quantitative analysis conducted in a group of OECD countries, which demonstrated that the correlation between entrepreneurship and unemployment rate among women is much higher than among men (Krynska (2007), pp.66).

Another study conducted on a sample of Polish, Lithuanian and Ukrainian female entrepreneurs indicated that an important reason for setting up their own business was the fear of being fired from a public sector company and perceived difficulties in finding a new job. Almost half (46 percent) of interviewed Polish entrepreneurs who started a business in 1995 or 1996 pointed to this motivation. Interestingly, this motivation was much more important for women with a middle educational level (high school) than for women with a higher education degree (Lisowska (1997)). A study conducted on a group of unemployed women (Lisowska (2001)) indicated that starting a new business was rarely regarded as a good strategy of (re)entering the labor market. However, this motivation was positively correlated with the educational level. Around 5 percent of unemployed women with middle educational level and 10 percent unemployed women with higher educational level declared a willingness to start their own business.

Some authors claim that self-employment by offering a more flexible work arrangement than wage employment could be a good option for mothers who want to reconcile work and maternal duties (e.g. Connelly (1992), Devine (1994), Budig (2006)). Despite the fact that in Poland the childcare infrastructure is underdeveloped (at present only 3 percent of children aged below three participate in formal full time childcare) the results from surveys on motivations of self-employed women do not confirm this hypothesis. Respondents never indicate a willingness to reconcile work with childcare duties as an important motivation for starting a business. On the contrary, business women sometimes identified

'difficulties in coping with family and work' as a serious constraint for entrepreneurship, see Mroczkowski (1997). Self-employed women less frequently than men employ workers and are more often engaged as a helping person in a family business. This is explained not only by time constraints, but also by the fact that in Poland inheritances or family firms are passed on to male descendants more frequently (Kotowska (2007), pp.37).

In summary based on past studies it seems women are more likely driven to self-employment to advance their career, for better earnings and due to lack of opportunities to make a living. Self-employment does not seem as a good way to (re)enter the labor market and to facilitate family and work reconciliation. We will examine whether these finding are persistent with more recent data.

# 4   Empirical strategy and methodology

In the paper, we aim at testing several hypothesis.

1. Women more likely than men turn to self-employment for a flexible work schedule (due to difficult child care arrangements in Poland). For younger women this may be a smaller effect due to changing gender roles.

2. Men are more driven by a good salary

3. High educated women turn to self-employment to avoid the glass ceiling.

4. Women are more likely to be risk-averse. Hence risk will have a greater role in becoming self-employed for women compared to men.

5. In high unemployment place people are more likely to go into self-employment (may be involuntary)

We do this by first identifying the determinants of self-employment and by testing various specifications. We compare the results for women and men to see whether there are gendered effects of any of the explanatory variables. In order to address the issue of selection bias, we estimate a full probit model. In this model we follow a standard three step procedure (eg. Lee (1978), Bernhardt (1994), Johansson (2000), Constant and Zimmermann (2004), Do and Duchene (2008)). In the first step, we estimate the determinants of self-employment (alternatively to being an employee) using a (reduced) probit model. We exclude the measure of average household income from the set of regressors since we expect that this variable could cause simultaneity problems in the second step. Next, based on the Mincer model we estimate potential earnings an individual could receive in

employment and self-employment correcting for self-selection. In the last step, predicted earnings differences are used as an additional variable in the full probit model determining the transition into self-employment.

The participation equation in self-employment is as follows:

$$SE_i^* = X_i\beta + U_i \tag{1}$$

where $SE_i^*$ is an indicator variable equal to 1 if individual $i$ chooses to be an entrepreneur and 0 otherwise; $X_i$ is a set of explanatory variables; $\beta$ is a vector of coefficients and $u_i$ is a disturbance term with unit variance. The dependent variable here is the transition into self employment at time $t+1$ and the explanatory variables come from period $t$

We consider our model as one of occupational choice and since the self-employed may be a selected group, we control for self-selection using the traditional econometric strategy of the Heckman two-step, which considers two occupations ($j$): self-employment and wage employment measured as the current labor market status. In this model each individual has a vector of observable characteristics $X_i$ and derives utility $U_{ij} = U(X_i; j) + u_{ij}$. where $U(.;.)$ is utility and $u_{ij}$ is idiosyncratic unobserved utility.

Let's assume $z_i^*$ measures the relative advantage for individual $i$ of being in self-employment ($SE$) versus having a salaried job ($W$)

$$z_i^* = U(X_i; SE) - U(X_i; W) + u_{iSE} - u_{iW} = X_i\beta + u_i \tag{2}$$

then $\beta = \beta_{SE} - \beta_W$ is a vector of coefficients and $u_i = u_{iSE} - u_{iW}$ and $u_i \sim IIN(0, \sigma^2)$ is the disturbance term. In this case, $z_i = 1$ if $z_i^* > 0$ and individual chooses self-employment in period $t+1$ and $z_i = 0$ if $z_i^* \leq 0$ and individual chooses wage employment in period $t+1$. The utility derived depends on the earnings each individual expects to obtain from each alternative - these may affect men and women differently. Hence, the earnings equation is estimated separately for the two groups.

The earnings function for each occupation is the following:

$$[\ln y_{iSE}|z_i = 1] = M_i\gamma_{SE} + \vartheta_{SE}\lambda_{iSE} + v_{iSE} \tag{3}$$

$$[\ln y_{iW}|z_i = 0] = M_i\gamma_W + \vartheta_W\lambda_{iW} + v_{iW} \tag{4}$$

where $\lambda_{iSE} = -\frac{\phi(\hat{z}_i)}{\Phi(\hat{z}_i)}$
and $\lambda_{iW} = \frac{\phi(\hat{z}_i)}{1-\Phi(\hat{z}_i)}$ are the inverse Mills Ratio calculated from eq. (2) to correct from selec-

tivity into each occupation and allow for the consistent estimation of the earnings equation. $\phi(\hat{z}_i)$ and $\Phi(\hat{z}_i)$ are standard normal density functions and standard normal cumulative, respectively, evaluated at $(-X_i\beta/\sigma_u)$. The predicted earnings differences derived from the wage equations are used in the full probit model as additional regressors.

# 5    Data

In the paper we exploit the panel data from the survey 'Diagnoza Spoleczna' (Social Diagnosis). The survey is conducted on a representative sample of people living in Poland (aged 16 and above) and takes into account many significant aspects of the life of individual households and their members, both the economic (income, material wealth, savings and financing), and the not strictly economic (education, medical care, problem-solving, stress, psychological well-being, lifestyle, pathologies, engagement in the arts and cultural events, use of new communication technologies as well as and many others). At the moment, five waves of data are available (2000, 2003, 2005, 2007, 2009) with the sample size ranging between 6 and 26 thousands.

## 5.1    Sample and Dependent Variable

Our sample consists of persons aged 20-60 who are either heads of families or their partners and are employees or unemployed or professionally inactive in years 2000, 2003, 2005, 2007. First, we focus on the transition into self-employment. The dependent variable takes a value '1' if an individual became self-employed in the next wave and '0' otherwise (if remained or became an employee, unemployed or professionally inactive in the next wave). We do not include retired or students.

We use all 5 waves of data and take account of this in the regressions. The resulting sample size is 2659 women concerning 1147 individuals and 2032 men obtained from the sample of 871 persons. The transitions in Table 1 exhibit an increasing trend for men (on average 6% during the sample period) and are pretty constant for women (on average 3.3 percent).

In the structural part of the analysis our dependent variable is the current labor market status (either being self-employed or being an employee). We exclude observations about those who are unemployed and professionally inactive. The sample consists of 1954 women

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Table 1: **Transition rates into self-employment over time for women and men (percentages).**

|  | 2000/2003 | 2003/2005 | 2005/2007 | 2007/2009 | Total |
|---|---|---|---|---|---|
| Women |  |  |  |  |  |
| transition rate | 3.17 | 3.64 | 2.76 | 3.76 | 3.35 |
| N | 536 | 824 | 688 | 611 | 2659 |
| Men |  |  |  |  |  |
| transition rate | 4.38 | 5.51 | 7.22 | 8.18 | 6.40 |
| N | 388 | 617 | 526 | 501 | 2032 |

concerning 1385 individuals and 2141 men obtained from the sample of 1508 persons.

## 5.2   Measure of risk

The measure of risk preferences is obtained from two questions, which were included in two waves of the survey (in 2003 and 2005):

- If you won a bet for PLN 200 and had a choice: take the amount of PLN 200 or toss a coin and either get nothing if it is heads or get PLN 400 if it is tails - what would you choose? (1. take PLN 200 at once, 2. toss a coin and either get nothing or PLN 400).

- If you lost a bet for PLN 200 and had a choice: either pay PLN 200 at once or toss a coin and either pay nothing if it is heads or pay PLN 400 if it is tails - what would you choose? (1. pay PLN 200 at once 2. toss a coin and either pay nothing or pay PLN 400).

We use these two questions to construct our variables: risk preference for loss and risk preference for profit. The two variables take on values 1 if the respondent chooses the more risky option in each of the questions and zero otherwise. In the regression analysis we use only a proxy for risk preference for profit since it explains the variability of the dependent variable better. The risk propensity question was asked only in the second and the third wave of 'Social Diagnosis' (in 2003 and 2005). If it is possible we use a risk preference variable from the time before transition. In case of observations from the year 2000, we assume that the preference for risk is stable over time and use a risk preference variable from the year 2003.

## 5.3   Savings

In line with many studies (e.g Hurst and Lusardi (2004)) we assumed that a decision to become self-employed is subject to financial constrains. The data set we exploited did not allow us to construct a household wealth variable in the same way as Hurst and Lusardi who defined it "as the sum of savings and checking accounts, bonds, stocks, individual retirement accounts, housing equity, other real estate, and vehicles, minus all debt." (pp. 323-324). Instead, we used savings as a proxy for wealth. In 'Social Diagnosis' savings include household financial resources in cash, bank deposits (both in Polish and foreign currencies), bonds, investment funds, individual pension funds, securities quoted on the stock exchange, shares and stocks in private joint-stock companies, investments in real estate property, investments in goods other that real estate. The amount of savings is not measured directly but in categories, as an equivalent of a monthly household income. In order to construct a measure of savings we multiplied the household monthly income by the middle value of the respective category. In order to grasp a non-linear relationship between wealth and a propensity of being self-employed we used a second-order polynomial in savings in all specifications (in a model with a fifth-order polynomial suggested by Hurst and Lusardi (2004) a joint marginal effect of savings was not statistically significant in most specifications).

## 5.4   Liabilities

Contrary to Hurst and Lusardi (2004), we do not subtract household debt from household savings. Since we do not know whether the respondents reported gross or net savings we decided to add a separate debt variable to our models. The amount of a household debt in the survey is measured in the same way as savings (as an equivalent of a monthly household income). We construct a debt variable (in a linear form) in the same way as a savings variable.

## 5.5   Measure of supply side determinants of self-employment

The dataset we exploit allows to investigate an impact of other (supply-side) factors on a decision to become self-employed. In the year 2007 respondents were asked about their job preferences (they had to choose 3 most important out of 11 listed job characteristics). We assume that job preferences are constant over time and include job characteristics as proxies for them in the regression models (as dummy variables which take a value of '1' if someone had chosen a certain job characteristic and '0' otherwise). A list of job characteristics

contains such work attributes as: lack of stress, independence, self-development, working in line with ones skills, quick promotion, stability, comfortable working hours, possibility to work at home, long holidays, profession respected by others, good salary. In the regression analysis we include also a proxy for locus of control. It is a personality trait which measures individual beliefs concerning the ability to control life events. Individuals with an external locus of control believe that their life depends mostly on external forces as opposed to persons with an internal locus of control believing that the future outcomes depends mostly on their actions. Research has found that locus of control has an impact on the decision to become or stay self-employed (see Caliendo et al. (2011) for most recent empirical results). In Social Diagnosis respondents are asked:"Who or what was the cause of the previous year being a good one or a bad one in your life?" with possible answers: authorities, myself, other people, destiny. Based on that question we created a dummy for internal locus of control which equaled '1' if a person answered 'myself' and '0' otherwise. This question is not asked in 2005 and we replace the missing data from the 2003 wave. Another set of variables used in our analysis describes last year job experiences of individuals. In particular, in every wave of Social Diagnosis respondents are asked if last year they: were shifted to a lower work position, were passed over for promotion at work, were promoted, had serious problems with superior, were treated unjustly by others at work, felt discriminated. The analysis with the use of these variables sheds some light on the glass ceiling hypothesis. According to this hypothesis, we could expect that individuals who experienced an unpleasant work event, *ceteris paribus*, would be more likely to enter self-employment. The use of job experiences variables in regression models reduces significantly the sample size. For this reason we use them to supplement our regressions only at the level of descriptive statistics.

## 5.6   Demographic Variables

In our models we included a set of control variables. Educational attainment is expressed by a set of dummy variables indicating low (less than high school), medium (high school) and high (higher educational degree) educational level. The potential professional experience is proxied by age (and its quadratic term) of respondents. In line with studies of Connelly (1992), Devine (1994) and Budig (2006) we expect that occupational choice is potentially affected by the structure of the family, especially when differences between men's and women's decisions are under scrutiny. The set of household composition variables includes number of minors under age 18 and 6 respectively and a marital status variable. We included also controls for region of residence (16 voivodships/provinces ) and indicator variables for the wave year.

## 5.7    Other variables

In the full probit model (See section 4 for details) an auxiliary equation is an earnings equation developed by Mincer (1974). Since 'Social Diagnosis' does not have an exact measure of earnings, individual labor income is proxied by the variable 'personal income'. However, in the full probit model a sample consists only of individuals who defined themselves as employed or self-employed. In this group all the respondents stated that their main source of revenues is labor income, hence 'personal income' is our proxy for individual earnings.[3] Since this is a monthly variable we normalize it by taking account of hours worked last week * 4.33 [4]

## 5.8    Sample descriptives

The sample descriptives can be found in Table 3. Comparing women and men in this sample, we find men to be twice as likely to transition into self-employment than women and this is statistically significant. Their savings and debt are slightly larger and they are older and more likely to be married. Women are more likely to be widowed, have high and medium education and be out of the labor force. There are no statistically significant differences in the number of children between the two.

When we focus on the sample that actually transitions into self-employment we find men to still be statistically significantly older, more likely to be married and more likely to have a low level of education. Women transitioning into self-employment are more likely to be single.

# 6    Empirical Results

We begin this section by focusing our attention on the determinants of transitioning self-employment and comparing whether there are any gendered effects in the explanatory variables. We also introduce risk preference into the model and examine its differential effect in comparison with other controls on men and women. Finally, we introduce variables that identify what is important at work into the regressions. In the subsequent subsections we estimate alternative earnings and estimate a full probit model.

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[3]This could result in a simultaneity problem between income and wealth if our meausre of personal income will include rental income, dividends, etc.

[4]We top-code the variable weekly hours worked at 72 hours.

## 6.1 Self-employment, savings and risk

We estimate eq.(1). We include our measure of savings to test whether the effect on becoming self-employed is non-linear as in (Hurst and Lusardi (2004))[5] and only strong and positive for the richest households or whether this relationship is weaker. Both, Carroll (2002) and Charles and Hurst (2003) have found that those at the top of the wealth distribution are substantially more willing to take risks. The idea is that if liquidity constraints are important, low-wealth households should be less likely to start businesses, particularly those that require high capital investments. If indeed there is a positive relationship between savings and being self-employed then liquidity constraints should disappear at higher levels of wealth as these constraints should vanish. For this reason we also include the debt variable in our regression.

We find that the effect of savings is significant and robust to various specifications. The marginal effects indicate that savings play a 4 times stronger effect for men than for women. Debt also has a significant, but much weaker effect than savings.

Next, we included risk as an explanatory variable. Our descriptive statistics indicated that men are statistically significantly more likely to participate in lotteries hence, are less risk-averse than women. For individuals that have transitioned into self-employment these gender differences are not as significant. In table 5 and 6 being more risk-loving has a robust positive and significant effect for women and not significant effect for men, but with a similar magnitude.

The literature on the role of risk in the entrepreneur literature is rather rich and provides several strands. Here, our interest is on two of these.[6] The first, compares risk attitudes between entrepreneurs and non-entrepreneurs. Miner and Raju (2004) state that the literature on this issue remains inconclusive with entrepreneurs being slightly less risk-averse than managers in earlier literature particularly those whose main goal is venture growth rather than just income generation. This is in fact what we find when we compare the lottery results in table 3 and 4. Our regression results is in accordance with what has been found in the literature comparing risk attitudes between female and male entrepreneurs, where there are no significant differences among the two groups (Masters and Meier (1988)) of entrepreneurs.

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[5]Results available upon request.
[6]For a more exhaustive treatment consult ?

## 6.2 Self-employment, savings and risk: Gender differences

After establishing the robust role savings and risk play in the previous regressions we examine the determinants of self-employment separately for women and men to see if there are any gender effects in all the explanatory variables. Some previous papers dealt with possible gender differences by including a 0/1 indicator variable for gender (for example see Verheul et al. (2006) or Cowling (2000) for multi-country studies), but this is rather restrictive. Others have used similar methods to ours (for example see Tervo and Haapanen (2010) for Finland, Georgellis and Wall (2005) for Germany and Do and Duchene (2008) for Vietnam). Our chosen specifications are in Table 5 and 6. Age has a positive but decreasing effect. Education does not play a significant role in becoming self-employed for either women or men. Marriage has a negative effect on becoming self-employed for women and positive for men compared to being single. Women that are out of the labor force are less likely to transition into self-employment. Hence they do not see this as a way for entering back into the labor market. For men this variable is insignificant. Children to not have an effect for women or men.

## 6.3 Importance at work

As discussed in section 3, people may move into self-employment due to the job characteristics that they find important. In our survey, people are asked to state, which 3 out of 11 work conditions they find the most important. Based on this in table 2 we see the ranking for women and men. The top four of the most important conditions are the same for both: a good salary, lack of stress, job stability and a job matching competences are seen as the most important. Then for women working hours are the most important while job independence is for men. For both genders, working at home, long holidays, promotion opportunities and working in a respected profession are at the bottom of the list. Although the rankings are not very different, there are important gender differences (see Table 3 for details.). Men find a good salary, independence, promotion opportunities and job matching competences statistically significantly more desirable than women. Women, on the other hand, see a lack of stress, opportunities for personal development and working hours statistically significantly more important than men. Given that a common set of working conditions is very important for both it is difficult to hypothesis that different job appeals may be driving the decision of becoming self-employed for women and men, although there is some indication that both flexibility and opportunities for growth are more important for women than for men. We explore this in more detail below by including work conditions as explanatory variables.

Table 2: **Condition important at work.**

|  | Women | Men |
|---|---|---|
| 1. | good salary | good salary |
| 2. | lack of stress | lack of stress |
| 3. | stability | stability |
| 4. | job matching competence | job matching competence |
| 5. | working hours | independence |
| 6. | personal development | personal development |
| 7. | independence | working hours |
| 8. | respected profession | promotion opportunities |
| 9. | long holidays | long holidays |
| 10. | promotion opportunities | respected profession |
| 11. | work at home | work at home |

In table 5 and 6 in column (3) and (4) we include work conditions (identified as being important) in our specification for the transition into self-employment. For both women and men that value job stability this has a significant negative effect on transitioning into self-employment. For women, those that find the lack of stress as an important work condition this has a significantly negative effect on transitioning into self-employment, while the need for job independence has a significantly positive effect. To the extent that the latter also encompasses other job characteristics such as a flexible work schedule or ability to set ones on the job goals is to be determined. For men, for those that have identified promotion opportunities as important this influences negatively going into self-employment and identifying having a job that matches once competences positively.

Interestingly, among women that have identified a good salary as being the most important this has no effect on transitioning into self-employment. For men it has a negative although insignificant effect. Suggesting that perhaps a higher pay would not be the main reason for choosing self-employment. This will be discussed in more detail in the next section.

## 6.4   Full-probit model of self-employed

In the previous section, we examined the role of savings and other determinants in becoming self-employed. In this section, we want to estimate a full probit model, as explained in Eq (2), which takes into account potential earnings of a person in employment and self-employment.[7] In table 7 and 8 in column (1) and (2) you can find the earnings equations for women and men in salaried jobs and self-employment. The dependent variable is the log of hourly labor income as discussed in section 5.7. First, we look at the influence of

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[7]Here, as outlined in section 5.1 we limit the sample to employees and self-employed individuals (we exclude retirees, pensioners, students, unemployed and professionally inactive persons).

unmeasured variables on earnings captured by lambda. We see that it is significant for both women and men. For the self-employed the effect is negative and positive for employees. This is in line with findings from Bernhardt (1994) and Georgellis and Wall (2005) who found a negative selection into self-employment for men. The effect of women is about half of the effect for men and less significant. For both genders we find evidence of selection indicating that workers in each sector are not a random sample of all workers.

Using the estimated earnings equations we compute the earnings differentials between the self-employed and employees by gender (wagediff=wageself-wageempl). We introduce this calculated variable into the reduced probit and estimate the full probit. The results are found in table 11. We see some changes with regards to the estimates coming from the reduced probit (in tables 5 and 6) in addition the earnings differential variable is positive and significant for women and insignificant for men. This suggests that the difference in earnings in the two sectors has a positive effect on being self-employed for women and for men there may be other reasons that affect the choice of being self-employed. This also indicates that higher earnings are not the main reason for choosing this sector among men.[8] As discussed before some people may be forced to go into self-employment because of the difficulty of finding a job in the wage sector (we return to this issue in the next section).

Savings and debt still have a positive significant effect for women and savings for men. Education positively influences the probability of being self-employed particularly women. The coefficient is stronger for higher educated women. Women with finished high school are less likely to be self-employed. For this education group their work is more appreciated in the employee sector than the self-employment sector.

It has been found in a study by Connelly (1992) that for women the number of people in the households and having young children plays a significant role. Having young children has a positive effect and the number of people in the household a negative effect. Here, we only find this to be the case for men.[9] As in other studies marital status plays a significant role for women. Here, being a married woman has a strong negative effect on being self-employed.

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[8] The earnings gap is higher for men than for women, but positive for both (see table A2).

[9] When the current labor market status is the dependent variable having children under 18 has a positive and significant effect on being self-employed for women. There is no effect for men. When we use the transition into self-employment as a dependent variable then there is a positive effect of children under 6 for men.

# 7 Glass ceiling or unemployment driven?

Next, we control for labor market demand conditions to examine their effect on the decision to become self-employed. We collect data on the unemployment rate by gender, region and year and include it in our selection equation as well as the full-probit specification. The coefficient on the unemployment variable is significant and positive in all specifications. The results for the wage equation are in table 9 and 10. For women, the coefficients in the employee equation remain robust. For the self-employed the coefficient for age and working full-time becomes negative and significant. For both salary groups we no longer find evidence of selection suggesting that once we control for labor market conditions employees and self-employed are a randomly selected group of workers among women.
For men, we see similar results. The employee regression remains robust and for the self-employed equation we see education having a significant effect. Working full-time decreases your chances of transitioning into self-employment.

The strong negative effect of being full-time in your current job could be a reality of the Polish job market in, which many people are employed on short-term contracts and are not offered full-time positions. Once and individuals is able to secure a full-time contract they no longer have a need to look for other work options.

Finally we turn to the full-probit regression in table 12. Controlling for local economic conditions increases the $pseudo - R^2$ by 50%. The earnings variable declines slightly for women, but remains significant for women and becomes significant for men. For both, higher wages in the self-employment sector seem attractive. The other variables remain robust for both genders and the coefficent on the unemployment variable is positve and significant. The effect for men is twice the magnitude as for women.

# 8 Treatment at work

In the previous section we find that women are motivated into self-employment by higher wages and this is robust to different specifications when we control for regional unemployment. The evidence we have shown gives us an indication that women are more likely driven into transitioning into self-employment due to the existing glass ceiling and not a flexible work arrangement based on their preferences. This finding is supported by the significant and positive effect of independence as an important and significant job characteristic. To get more insight into the motivation behind these women, we use the uniquely available

variables about treatment at work last year. Table A1 shows us the share of women and men that have experienced this treatment in the top panel for the whole population and for those that have transitioned into self-employment in the bottom panel. We see that those that have not been promoted, have had boss problems or have been discriminated against are more likely to transition in to self-employment. We don't find this to be the case for men. For men the motivation seems to be different than for women. For men, when we control for the unemployment conditions only then the wage difference becomes significant suggesting that unemployment and lack of permanent contracts may be the reason for pursuing this job track. In addition, it seems men prefer to be self-employed then perform any job based on the statistically significant and positive job matching competence variable.

# 9    Conclusions

In this paper, we use a unique dataset from a transitioning economy and set out to do three things. First, we examine demand-side determinants of becoming self-employed by considering financial, personal and demographic constraints.

Our preliminary results suggest a nonlinear robust relationship between household wealth (proxied by savings) and the propensity for self-employment. We don't find gender differences in the effect of individual risk preferences, but the effect is statistically significant for women and not for men, where risk takers are more likely to work as self-employed. We find education to positively influence the probability of being self-employed particularly for women and particularly those with a higher education.

Next, we test whether the disparity in earnings between the self-employed and salaried workers drives individuals to start their own business or whether there are other reasons for entering self-employment and whether these differ for women and men.

When we test whether financial incentives or other benefits influence the decisions to become self-employed, we find that women are motivated into self-employment by higher wages. Their preferences indicate that their preference for self-employment is more likely due to the existing glass ceiling and not due to their search for flexible work arrangements. This finding is supported by a significant and positive effect of independence as a job characteristic (and not other characteristics such as long holidays or flexible working hours). Unlike in the literature for the United States, we do not find that having young children has a significant effect for women on entering into self-employment (it does for men). We also find that women that have transitioned into self-employment are more likely not have been promoted, have had boss problems or have been discriminated against at work last

year. Another reason for women to chose this sector of employment may be that there are not enough opportunities for highly educated women and they are able to realize their entrepreneurial potential via this career path. Anecdotal evidence indicates that recently women in Poland have been a very large source of economic growth, although we still find a large discrepancy between women's and men's self-employment rate.

Our findings indicate that the motivation for men transitioning into self-employment is different then it is for women. For men, when we control for unemployment conditions only then the wage difference becomes significant suggesting that unemployment and lack of permanent contracts may be the reason for pursuing this job track. In addition, it seems men prefer to be self-employed then perform any job based on the statistically significant and positive job matching competence variable.

Overall, in our sample self-employment is considered to be a stressful, unstable job opportunity that nevertheless allows for independence (women) and is fulfilling (men). Given that those that transition into self-employment are more risk-loving the aforementioned challenges may not be an obstacle in pursuing this career path and in fact we do see an increase in transition rates for men over time.

Further research will provide additional robustness checks based on age-driven samples and by occupation to see whether the conclusions from this paper correspond to sectors mostly affected by changes in employment.

# 10 Tables and Figures

Table 3: Descriptive statistics and comparison of means between women and men.

| | Women | | Men | | W-M diff | |
|---|---|---|---|---|---|---|
| | mean | sem | mean | sem | | t-stat |
| self | 0.034 | 0.004 | 0.063 | 0.005 | *** | 4.49 |
| savings | 0.29 | 0.032 | 0.355 | 0.043 | | 1.21 |
| debt | 0.584 | 0.034 | 0.607 | 0.042 | | 0.43 |
| age | 41.101 | 0.158 | 42.646 | 0.185 | *** | 6.35 |
| single | 0.035 | 0.004 | 0.036 | 0.004 | | 0.18 |
| married | 0.872 | 0.006 | 0.964 | 0.004 | *** | 11.96 |
| widow | 0.092 | 0.006 | 0 | 0.000 | *** | -16.42 |
| Educ. low | 0.385 | 0.009 | 0.563 | 0.011 | *** | 12.28 |
| Educ.med | 0.37 | 0.009 | 0.269 | 0.010 | *** | -7.43 |
| Educ. high | 0.245 | 0.008 | 0.167 | 0.008 | *** | -6.64 |
| not working | 0.338 | 0.009 | 0.144 | 0.008 | *** | -16.12 |
| children18 | 1.245 | 0.023 | 1.29 | 0.027 | | 1.28 |
| children6 | 0.26 | 0.011 | 0.276 | 0.012 | | 0.98 |
| *Importance at work* | | | | | | |
| lack of stress | 0.578 | 0.010 | 0.531 | 0.011 | *** | -3.21 |
| independence | 0.136 | 0.007 | 0.217 | 0.009 | *** | 7.17 |
| personal development | 0.202 | 0.008 | 0.151 | 0.008 | *** | -4.59 |
| matching competence | 0.285 | 0.009 | 0.324 | 0.010 | *** | 2.87 |
| promotion opportunities | 0.024 | 0.003 | 0.042 | 0.004 | *** | 3.37 |
| stability | 0.483 | 0.010 | 0.485 | 0.011 | | 0.14 |
| working hours | 0.218 | 0.008 | 0.13 | 0.007 | *** | -8.04 |
| homeowork possibilities | 0.018 | 0.003 | 0.006 | 0.002 | *** | -3.81 |
| long holidays | 0.031 | 0.003 | 0.033 | 0.004 | | 0.38 |
| respected profession | 0.032 | 0.003 | 0.028 | 0.004 | | -0.80 |
| good salary | 0.752 | 0.008 | 0.778 | 0.009 | ** | 2.09 |
| locus | 0.667 | 0.009 | 0.695 | 0.010 | ** | 2.04 |
| *Lottery* | | | | | | |
| riskprofit | 0.201 | 0.008 | 0.318 | 0.010 | *** | 9.04 |
| riskloss | 0.185 | 0.008 | 0.291 | 0.010 | *** | 8.43 |
| N | 2659 | | 2032 | | | |

Table 4: Descriptive statistics and comparison of means between women and men transitioning into self-employment.

| | Women | | Men | | W-M diff | |
|---|---|---|---|---|---|---|
| | mean | sem | mean | sem | | t-stat |
| savings | 0.368 | 0.108 | 0.291 | 0.058 | | -0.63 |
| debt | 1.339 | 0.244 | 1.128 | 0.211 | | -0.65 |
| age | 38.791 | 0.953 | 41.264 | 0.667 | ** | 2.13 |
| single | 0.108 | 0.033 | 0.023 | 0.013 | ** | -2.39 |
| married | 0.814 | 0.041 | 0.977 | 0.013 | *** | 3.75 |
| widow | 0.023 | 0.016 | 0 | 0.000 | | -1.46 |
| Educ. low | 0.27 | 0.047 | 0.45 | 0.044 | *** | 2.79 |
| Educ. med | 0.422 | 0.053 | 0.321 | 0.041 | | -1.51 |
| Educ. high | 0.308 | 0.049 | 0.229 | 0.037 | | -1.28 |
| not working | 0.204 | 0.043 | 0.147 | 0.031 | | -1.07 |
| children18 | 1.109 | 0.113 | 1.217 | 0.087 | | 0.76 |
| children6 | 0.264 | 0.061 | 0.335 | 0.052 | | 0.89 |
| Importance at work | | | | | | |
| lack of stress | 0.383 | 0.052 | 0.521 | 0.044 | ** | 2.03 |
| independence | 0.312 | 0.049 | 0.285 | 0.040 | | -0.43 |
| personal development | 0.271 | 0.047 | 0.204 | 0.036 | | -1.13 |
| matching competence | 0.355 | 0.051 | 0.42 | 0.043 | | 0.97 |
| promotion opportunities | 0.019 | 0.015 | 0.02 | 0.012 | | 0.05 |
| stability | 0.344 | 0.051 | 0.316 | 0.041 | | -0.43 |
| working hours | 0.279 | 0.048 | 0.163 | 0.032 | ** | -2.01 |
| homeowork possibilities | 0.033 | 0.019 | 0 | 0.000 | ** | -1.73 |
| long holidays | 0.031 | 0.019 | 0.048 | 0.019 | | 0.64 |
| respected profession | 0.028 | 0.018 | 0.029 | 0.015 | | 0.04 |
| good salary | 0.749 | 0.046 | 0.698 | 0.040 | | -0.83 |
| | | | 0 | 0.000 | | |
| locus | 0.703 | 0.049 | 0.766 | 0.037 | | 1.03 |
| Lottery | | | | | | |
| riskprofit | 0.301 | 0.049 | 0.411 | 0.043 | * | 1.68 |
| riskloss | 0.279 | 0.048 | 0.335 | 0.042 | | 0.88 |
| N | 89 | | 130 | | | |

Table 5: Women - Determinants of transitioning into self-employment from reduced probit regression (marginal effects).

|  | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| savings | 0.011* | 0.011* | 0.012** | 0.012* |
| debt | 0.006** | 0.006** | 0.005** | 0.005** |
| age | -0.001* | -0.001* | -0.001** | -0.001* |
| married | -0.032** | -0.030** | -0.035** | -0.033** |
| widow | -0.040** | -0.039** | -0.045** | -0.043** |
| Educ. med | 0.008 | 0.008 | 0.006 | 0.006 |
| Educ. high | -0.000 | -0.000 | -0.006 | -0.006 |
| not working | -0.017* | -0.017* | -0.020** | -0.020** |
| children18 | -0.001 | -0.001 | -0.002 | -0.002 |
| children6 | -0.001 | -0.001 | 0.001 | 0.002 |
| locus |  | -0.003 |  | -0.005 |
| risk profit |  | 0.014* |  | 0.016** |
| lack of stress |  |  | -0.018*** | -0.018*** |
| independence |  |  | 0.037*** | 0.038*** |
| job matching competence |  |  | 0.010 | 0.010 |
| promotion opportunities |  |  | 0.000 | -0.000 |
| stability |  |  | -0.011 | -0.011* |
| good salary |  |  | 0.000 | -0.000 |
| r2_p | 0.075 | 0.079 | 0.125 | 0.131 |
| N | 2659 | 2659 | 2659 | 2659 |

Table 6: Men - Determinants of transitioning into self-employment from reduced probit regression (marginal effects).

|  | (1) | (2) | (3) | (4) |
|---|---|---|---|---|
| savings | 0.051*** | 0.048*** | 0.050*** | 0.048*** |
| debt | 0.009*** | 0.008** | 0.010*** | 0.009*** |
| age | -0.002** | -0.002** | -0.002** | -0.002** |
| married | 0.066* | 0.066* | 0.060 | 0.061 |
| widow | 0.000 | 0.000 | 0.000 | 0.000 |
| Educ. med | 0.016 | 0.014 | 0.011 | 0.009 |
| Educ. high | 0.025 | 0.023 | 0.017 | 0.015 |
| not working | 0.006 | 0.008 | 0.000 | 0.002 |
| children18 | -0.006 | -0.006 | -0.007 | -0.007 |
| children6 | 0.008 | 0.008 | 0.008 | 0.008 |
| locus |  | 0.019 |  | 0.020* |
| risk profit |  | 0.012 |  | 0.011 |
| lack of stress |  |  | -0.008 | -0.008 |
| independence |  |  | 0.004 | 0.002 |
| job matching competence |  |  | 0.023** | 0.024** |
| promotion opportunities |  |  | -0.073* | -0.071* |
| stability |  |  | -0.037*** | -0.038*** |
| good salary |  |  | -0.018 | -0.017 |
| r2_p | 0.089 | 0.092 | 0.116 | 0.120 |
| N | 2032 | 2032 | 2032 | 2032 |

Table 7: Women - selection adjusted earnings regressions.

|  | employee lnwage b/se | self-employed lnwage b/se |
|---|---|---|
| age | 0.024 | -0.084 |
|  | (0.017) | (0.110) |
| age2 | -0.000 | 0.001 |
|  | (0.000) | (0.001) |
| Educ. med | 0.253*** | -0.233 |
|  | (0.032) | (0.228) |
| Educ. high | 0.651*** | 0.098 |
|  | (0.033) | (0.254) |
| married | -0.032 | 0.173 |
|  | (0.062) | (0.357) |
| widow | 0.105 | 0.366 |
|  | (0.075) | (0.639) |
| full-time | -0.058 | -0.403 |
|  | (0.057) | (0.320) |
| constant | -17.009 | 364.417 |
|  | (20.463) | (264.541) |
| lambda | .550** | -.901* |
| $Pseudo-R^2$ |  |  |
| N | 1954 | 1954 |

Table 8: Men - selection adjusted earnings regressions.

|  | employee lnwage | self-employed lnwage |
|---|---|---|
|  | b/se | b/se |
| age | 0.026 | 0.066 |
|  | (0.035) | (0.108) |
| age2 | -0.000 | -0.001 |
|  | (0.000) | (0.001) |
| Educ. med | 0.191*** | 0.102 |
|  | (0.071) | (0.252) |
| Educ. high | 0.537*** | 0.081 |
|  | (0.091) | (0.321) |
| married | 0.113 | -0.109 |
|  | (0.153) | (0.420) |
| widow | 0.051 | -0.483 |
|  | (0.249) | (0.771) |
| full-time | -0.094 | -0.888 |
|  | (0.198) | (0.660) |
| constant | 90.317 | 950.194** |
|  | (72.608) | (465.615) |
| lambda | 1.363** | -1.981** |
| $Pseudo - R^2$ |  |  |
| N | 2141 | 2141 |

Table 9: Women - selection adjusted earnings regressions controlling for regional unemployment.

|  | employee lnwage b/se | self-employed lnwage b/se |
|---|---|---|
| age | 0.015 | -0.178* |
|  | (0.014) | (0.080) |
| age2 | -0.000 | 0.002* |
|  | (0.000) | (0.001) |
| Educ. med | 0.251*** | -0.286 |
|  | (0.028) | (0.201) |
| Educ. high | 0.650*** | -0.021 |
|  | (0.029) | (0.225) |
| married | -0.061 | -0.139 |
|  | (0.053) | (0.269) |
| widow | 0.054 | -0.343 |
|  | (0.062) | (0.451) |
| full-time | -0.079 | -0.697*** |
|  | (0.049) | (0.234) |
| constant | -47.146*** | -10.981 * |
|  | (13.443) | (138.062) |
| lambda | .165 | -.083 |
| $Pseudo - R^2$ |  |  |
| N | 1954 | 1954 |

Table 10: Men - selection adjusted earnings regressions controlling for regional unemployment.

|  | employee lnwage | self-employed lnwage |
|---|---|---|
|  | b/se | b/se |
| age | 0.017 | 0.020 |
|  | (0.014) | (0.052) |
| age2 | -0.000 | -0.000 |
|  | (0.000) | (0.001) |
| Educ. med | 0.216*** | 0.283** |
|  | (0.028) | (0.129) |
| Educ. high | 0.614*** | 0.510*** |
|  | (0.033) | (0.131) |
| married | 0.091 | -0.118 |
|  | (0.061) | (0.197) |
| widow | 0.025 | -0.302 |
|  | (0.099) | (0.374) |
| full-time | -0.125 | -0.949*** |
|  | (0.078) | (0.349) |
| constant | -51.942*** | -76.256 |
|  | (14.839) | (73.692) |
| lambda | .292** | -.030 |
| $Pseudo - R^2$ |  |  |
| N | 2141 | 2141 |

Table 11: Full probit model for women and men (marginal effects).

|  | (1) self Women | (2) self Men |
|---|---|---|
| wage diff. | 0.102*** | 0.065 |
|  | (0.037) | (0.050) |
| savings | 0.015*** | 0.024*** |
|  | (0.005) | (0.007) |
| debt | 0.008*** | 0.004 |
|  | (0.002) | (0.003) |
| age | 0.002 | -0.003*** |
|  | (0.001) | (0.001) |
| Educ. med | 0.049** | 0.020 |
|  | (0.023) | (0.017) |
| Educ. high | 0.053** | 0.068** |
|  | (0.026) | (0.030) |
| married | -0.065*** | 0.012 |
|  | (0.022) | (0.031) |
| widow | -0.100*** | 0.029 |
|  | (0.029) | (0.053) |
| children18 | 0.001 | -0.008 |
|  | (0.006) | (0.007) |
| children6 | 0.009 | 0.025* |
|  | (0.014) | (0.014) |
| r2_p | 0.129 | 0.147 |
| N | 1954 | 2141 |

variables region and year not reported

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Table 12: Full probit model for women and men controlling for regional unemployment (marginal effects).

|  | (1) | (2) |
| --- | --- | --- |
|  | self | self |
|  | Women | Men |
| wage diff. | 0.063*** | 0.094* |
|  | (0.020) | (0.049) |
| savings | 0.013*** | 0.025*** |
|  | (0.005) | (0.007) |
| debt | 0.006*** | 0.004 |
|  | (0.002) | (0.003) |
| age | 0.001 | -0.002** |
|  | (0.001) | (0.001) |
| Educ. med | 0.036* | 0.010 |
|  | (0.018) | (0.015) |
| Educ. high | 0.044** | 0.036** |
|  | (0.021) | (0.018) |
| married | -0.036* | 0.025 |
|  | (0.020) | (0.029) |
| widow | -0.046* | 0.042 |
|  | (0.026) | (0.047) |
| children18 | -0.001 | -0.006 |
|  | (0.006) | (0.006) |
| children6 | 0.005 | 0.024* |
|  | (0.013) | (0.013) |
| unemployment rate | 0.020*** | 0.048*** |
|  | (0.003) | (0.004) |
| $Pseudo-R^2$ | 0.208 | 0.266 |
| N | 1954 | 2141 |

variables region and year not reported

# 11 Appendix

Table A1: Treatment at work during the last year for women and men.

| | Women | | Men | | W-M diff | |
| | mean | sem | mean | sem | | t-stat |
|---|---|---|---|---|---|---|
| promoted | 0.085 | 0.007 | 0.090 | 0.008 | | -0.47 |
| not promoted | 0.080 | 0.007 | 0.089 | 0.008 | | -0.85 |
| demoted | 0.025 | 0.004 | 0.042 | 0.005 | *** | -2.49 |
| boss problems | 0.053 | 0.006 | 0.064 | 0.007 | | -1.24 |
| discrimination | 0.020 | 0.004 | 0.010 | 0.003 | ** | 2.15 |
| unfair treatment | 0.549 | 0.013 | 0.582 | 0.013 | ** | -1.75 |
| | | | | | | |
| N | 1401 | | 1370 | | | |

Treatment for those that transitioned into self-employment.

| | Women | | Men | | W-M diff | |
| | mean | sem | mean | sem | | t-stat |
|---|---|---|---|---|---|---|
| promoted | 0.042 | 0.033 | 0.089 | 0.039 | | -0.92 |
| not promoted | 0.175 | 0.062 | 0.069 | 0.035 | | 1.49 |
| demoted | 0.029 | 0.027 | 0.023 | 0.021 | | 0.18 |
| boss problems | 0.143 | 0.057 | 0.077 | 0.037 | | 0.98 |
| discrimination | 0.142 | 0.057 | 0.043 | 0.028 | | 1.56 |
| unfair treatment | 0.513 | 0.081 | 0.557 | 0.069 | | -0.41 |
| | | | | | | |
| N | 39 | | 53 | | | |

variables region and year not reported

Table A2: Descriptive statistics - full probit model -women and men

|  | Women | | | |
|---|---|---|---|---|
|  | mean | sd | min | max |
| wagedif | 2.139 | 0.565 | 0.8 | 4.2 |
| entrepreneur | 0.046 | 0.210 | 0.0 | 1.0 |
| savings | 0.416 | 1.843 | 0.0 | 46.3 |
| debt | 0.799 | 2.116 | 0.0 | 48.1 |
| age | 41.395 | 8.059 | 21.0 | 60.0 |
| children6 | 0.170 | 0.419 | 0.0 | 3.0 |
| children18 | 0.967 | 0.965 | 0.0 | 6.0 |
| education | 2.096 | 0.772 | 1.0 | 3.0 |
| maritalstatus | 2.063 | 0.403 | 1.0 | 3.0 |
| N | 1954 | | | |

|  | Men | | | |
|---|---|---|---|---|
|  | mean | sd | min | max |
| wagedif | 4.354 | 0.924 | 1.9 | 6.9 |
| entrepreneur | 0.093 | 0.291 | 0.0 | 1.0 |
| savings | 0.468 | 2.058 | 0.0 | 46.3 |
| debt | 0.779 | 2.053 | 0.0 | 48.1 |
| age | 41.713 | 8.626 | 21.0 | 59.0 |
| children6 | 0.295 | 0.566 | 0.0 | 4.0 |
| children18 | 1.212 | 1.142 | 0.0 | 9.0 |
| education | 1.706 | 0.789 | 1.0 | 3.0 |
| maritalstatus | 1.975 | 0.270 | 1.0 | 3.0 |
| N | 2141 | | | |

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