I Z A Institute of Labor Economics

Initiated by Deutsche Post Foundation

DISCUSSION PAPER SERIES

Career or Flexible Work Arrangements? Gender Differences in Self-Employment in a Young Market Economy

Dominik Buttler
Eva Sierminska

DISCUSSION PAPER SERIES

Career or Flexible Work Arrangements? Gender Differences in Self-Employment in a Young Market Economy

Dominik Buttler
Poznan University of Economics and Business

Eva Sierminska
LISER, DIW Berlin and IZA

ABSTRACT

Career or Flexible Work Arrangements? Gender Differences in Self-Employment in a Young Market Economy

We examine supply-side determinants of transition from the wage and salary sector to self-employment of women and men living Poland. The empirical analysis is made possible due to a unique and under explored longitudinal survey – Social Diagnosis – that contains rare indicators such as job preferences and work events. The empirical results in the 2007-2015 period indicate that women and men transitioning into self-employment are differently motivated. In terms of job attributes, women find independence at work and for those in professional occupations a job matching their competences as a desirable job attribute, while for men the lack of stress, a good salary and independence is key. The analysis of work events and its influence on self-employment weakly confirms the glass-ceiling hypothesis. In line with other research, our analysis indicates that financial constraints strongly determine the entry into self-employment. A key human capital determinant is past entrepreneurial experience indicating a slow, cautious transition process into self-employment.

Corresponding author:
Eva Sierminska
LISER
11, Porte des Sciences
L-4364 Esch-sur-Alzette
Luxembourg
E-mail: eva.sierminska@liser.lu

Introduction

We examine the supply-side determinants of self-employment for women and men in Poland. The empirical analysis is made possible due to the longitudinal survey – Social Diagnosis. Large sample sizes, a wide thematic scope (including relatively rare indicators of job preferences and work events, as well as, the longitudinal design make this dataset a very useful source of information.

Many studies suggest that whilst for men the decision to enter self-employment is mostly career-driven, a significant fraction of women (particularly those with small children) decide to become self-employed trading off income for more flexible work arrangements (Budig, 2006; Connelly, 1992; Devine (1994); Hurst and Lusardi, 2004; Williams, 2000). An underdeveloped social infrastructure (as the case is in Poland) could, for example, stimulate such a career strategy. Another strain of research perceives self-employment as a strategy to circumvent the constraints faced in wage and salary employment by various disadvantaged groups. These three different sets of motivations refer to careerist, work and family conflict and default theories of self-employment.

Our study is embedded in these three theoretical frameworks and analyzes three groups of determinants of self-employment transitions. Firstly, we study the determinants of becoming self-employed by considering financial and human capital endowments, family status and the household composition. The capital endowment indicators are more consistent with the careerist and default models whereas the family status variables with the work and family conflict model. Secondly, we verify whether job preferences are significant determinants of the self-employment transition. The knowledge about which desired work attributes influence employees' decisions to enter self-employment sheds light on the validity of the careerist and work and family conflict theories. Finally, we analyze the impact of various work events (e.g. whether someone was promoted, demoted or unfairly treated at work) on self-employment decisions, testing in this way the glass-ceiling hypothesis (an important element of the careerist theory). According to the glass-ceiling hypothesis employees who encounter barriers in their careers are more likely to enter self-employment.[1] In our models, we also take into consideration the economic and infrastructural conditions by controlling for economic development, unemployment levels and access to childcare facilities at the dis-

trict level. We conduct the analysis separately for women and men, which provides additional insight into differences in their motivation in becoming self-employed.

We contribute to the literature by providing further evidence on the three theories in the case of Poland. In doing so, we incorporate a unique set of variables that refer to job preferences and work attributes, which as far as we know has not been done previously. Our analysis is not an explicit test of the three theories, but it can certainly be treated as evidence in support of or lack of. Poland is a large European country, which has undergone very large economic, infrastructural and societal changes over the last 30 years. A unique feature of this country is the prevalence of grandparents in the household. We examine their role on the decision to transition into self-employment.

Our findings indicate that women and men that transitioned into self-employment report different work preferences. The behavior of working women and men in our sample does not show strong evidence in accordance with the default nor work and family conflict theories of self-employment. The careerist model, however, finds some support in the data.

The decision whether to stay in the work and salary sector or to start a new business does not correlate with the same desired job characteristics for women and men. For women, these job attributes include independence at work and a job matching their competences (for those in professional occupations), among men: the lack of stress, a good salary and independence.

The analysis of work events and its influence on self-employment weakly confirms the glass-ceiling hypothesis. The finding that demoted female employees are more likely to enter self-employment might be an indicator of the invisible barrier for women's professional advancement in the work and salary sector in Poland. Starting a new business as a response to the perceived existence of the glass-ceiling is also consistent with the careerist model of self-employment transition.

In line with other research, our analysis indicates that both financial (the amount of savings or debt) and human capital endowment (a specific entrepreneurial experience) strongly determine the

---

[1]The glass-ceiling hypothesis for women conceives entrepreneurship as a career advancement strategy, which helps circumvent barriers in promotion faced by employed women.

entry into self-employment.

The following sections provide the theoretical underpinning of the analysis and background information on gender differences in self-employment. This is followed by a section that descrives the context of Poland and a section that sets out the empirical strategy and methodology. Next, is a detailed description of the data and variables used in the estimation. This if followed by empirical results and the finally section, which concludes.

Literature review

Theoretical framework

The conceptual underpinning of this article draws on three theories explaining the decisions to start one's own business: the careerist theory, the default theory and the work and family conflict theory (for an overview, see, e.g. Budig, 2006; Carr, 1996). According to the careerist theory, self-employment serves as an attractive form of professional activity for individuals with certain abilities and resources. This theoretical framework stresses the role of different types of capital as determinants of self-employment: human (age, education, past working experience), financial (wealth, amount of savings, access to credits), social (professional reputation and contacts). The careerist theory offers a very broad theoretical perspective and it can be also applied to study the impact of discriminatory practices (present in the wage and salary sector) on the decision to enter self-employment. The second theoretical perspective, the default theory, perceives self-employment as a strategy to circumvent the constraints faced in wage and salary employment by various disadvantaged groups such as: ethnic minority members, immigrants, the disabled and individuals with low productivity. The list of constraints is not limited to individual-level characteristics but might include also macro-level factors such as for example, labor market tightness. Default and careerist theories are not mutually exclusive and might simultaneously explain the labor market behavior of groups with different social and economic status or with respect to different types of self-employment. The third conceptual framework was formulated as a response to objections to the above mentioned theories. As emphasized by Carr (1996) they represent a male-oriented point of view and do not adequately explain women's self-employment decisions. According to the work and family conflict theory women may choose to work on their own account, because this form of employment offers more flexible work arrangements, which facilitate reconciling work and family responsibilities. This draws on both of the above mentioned perspectives. Only for some women (particularly for mothers of small children) and only in favorable circumstances (when there are enough resources in the family to start a new business) the transition into self-employment might be a more attractive option than salaried employment.

Gender differences in becoming self-employed

Financial determinants According to the careerist theory, the amount of wealth is usually positively correlated with the probability of self-employment transition (see Hurst and Lusardi, 2004), although this effect is much weaker among women. This discrepancy is explained by the fact that female self-employment occurs in less capital-intensive sectors. Other authors point out that women (relative to men) have greater access to financial capital through their spouses (see Georgellis and Wall, 2005). There are also some empirical findings suggesting that women have disadvantageous access to credits and loans (for an overview and discussion, see Saridakis, Marlow, and Storey (2014), pp. 349. The study of Sena, Scott, and Roper, 2012 indicates that, with comparison to men, women are less likely to seek external finance which in turn results in their lower propensity to transition into self-employment.

Human capital According to the careerist theory, human capital variables such as education or professional experience increase the likelihood of self-employment transition. For some authors (e.g. Devine, 1994) this relationship is indicative of the existence of a "glass-ceiling," an invisible barrier to women's career advancement in the wage and salary sector. Although, the glass-ceiling effect should strengthen, in the first instance, the relationship between human capital variables and self-employment transitions for women, the literature draws a more nuanced picture. The literature review of Junquera, 2011 suggests that due to various reasons (e.g. glass-ceiling in the wage and salary sector preventing women from managerial skills acquisition, school systems reproducing traditional gender roles) women accumulate less of the specific entrepreneurial human capital. Thus, this could weaken the positive impact of human capital variables (education, experience, age) in the group

of women.

Discrimination   Another group of empirical studies applying the careerist theory comes from (gender) discrimination literature. Some authors show that among female employees who were underpaid with respect to men (Boden, 1999) or with respect to other women (Williams, 2000) the self-employment transition likelihood was higher. At a first glance, this seems to be contradictory to the findings of Georgellis and Wall (2005) who have reported that women are not responsive to wage differentials between salaried and self-employment sectors in their decisions to start a new business. However, the former wage differentials can be considered as a push factor from wage employment, whereas the latter, as a pull factor of self-employment.

Careerist vs. default theories   The default theory perceives self-employment as way to avoid obstacles disadvantaged groups face in the wage and salary sector. Therefore within this theoretical framework it is expected that e.g. members of ethnic minorities, immigrants, persons with disabilities and those living in the areas of unfavorable economic conditions will be more likely to enter self-employment. Careerist and default theories predict also different effects of human capital on the propensity to enter self-employment. According to the latter theory less educated and less experienced individuals might be more likely to enter self-employment. Another way of testing the validity of default theory relies in distinguishing different types of self-employment. According to Carr (1996) default theory determinants should predict better the transition into low quality self-employment (Carr proxied it by distinguishing incorporated and unincorporated business). The same study of Carr suggests that the default model of self-employment decision explains better the behavior of men among which not only well educated but also undereducated individuals were more likely to work on own account. In the subgroup of women such a bimodal phenomenon was not observed (such results were also reported in the earlier study of Devine, 1994). In similar vein, women with little professional experience were not more likely to be self-employed what could be predicted by the default theory.

Work and family conflict theory   The work and family conflict theory implies that family status variables (in particular marital status and whether someone has children) will have stronger impact on self-employment decision among women. As emphasized in seminal studies of Connelly (1992) and Carr (1996), in this theoretical framework mothers with preschool children should be more likely than the childless or women of school-aged children to be self-employed. Being married (a proxy for having spousal support) should also favor self-employment. Work and family conflict perspective allows for interaction effects between family status and capital (of different types) endowment variables. Carr claims that: 'self-employment does not appear to be an option available to all mothers who are prevented from taking full-time salaried work, however; the additional advantages of advanced education and the benefits of a spouse's income provide the necessary capital for a woman to form her own business' (Carr 1996, pp.49). As indicated by Budig (2006) the work and family conflict theory explains well the self-employment decisions of women performing non-professional and non-managerial jobs. At higher levels of occupational status jobs in wage and salary sector offer sufficient degree of flexibility and often provide childcare facilities. Therefore women in professional occupations resemble more men in their self-employment decisions and follow rather the careerist model. The analysis of job attributes supports the work and family conflict theory from a different perspective. Nevertheless, there is only mild evidence suggesting that women (relative to men) are being attracted to the self-employment sector by family concerns (see Allen and Curington 2014).

The Case of Poland

Institutional context of a transitioning country

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, that process of women's professional mobilization used to be described as *externally controlled*, because it took place as a result of the pressure of the communist regime (Siemienska, 1999, pp.9). Therefore, an increase in female employment was not

accompanied by a reallocation of intra-household tasks. Thus, women bore the "double burden" of professional and household work, estimated to be about 70 hours weekly on average in Central and Eastern Europe (UNICEF, 1999). The traditional stereotype of men being the main bread-winners was not altered to a great extent. After 1989, a transitioning economy was heavily influenced by factors reducing labor demand and employment security. These include a high pace of company closures, 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 childcare responsibilities) (Kotowska, 2007, pp.28-31). The transition from a centrally 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 during only four years (1988-1992), the female employment rate fell from 58,7 to 46 percent. According to Lisowska, 2001 the low employment rate of women in Poland and many other post-communist countries in the first decade of economic transition was driven by several factors. First, in the circumstances of excess labor market supply employers preferred to employ men, because they were afraid of the absenteeism of female workers as they used to bear much of the childcare responsibilities. At the same time, the collapsing child care infrastructure in Poland made it difficult to reconcile professional work with parental duties. Only in the period 1989-1991 the number of kindergartens decreased by 11 percent and the number of nurseries - by 27 percent (Koktowska, 1995). Second, although unemployed women were on average more educated than their male counterparts, their education was mainly general contrary to predominantly vocational education of men. Finally, the perception of gender roles in the society favored men in the labor market. In the second wave of World Values Survey (1990-94), 51% of Polish respondents agreed with the opinion that 'when 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). In the third wave (1995-98) this percentage fell but remained at a high level of 43% (WVS 2019). The rapid structural changes in the labor market after the collapse of the centrally planned economy resulting in dif-

ficulties in finding stable employment made self-employment (a marginal form of employment before 1989) an attractive and often the only choice for economic activity. Within a few years, the share of self-employed among all working individuals rose to 30 percent. From that time on, the share of self-employed in total employment systematically decreased, however among women the pace of the decline is slightly higher (between 1992 and 2017 among women this share fell from 29% to 16%, whereas among men from 31% to 24% (OECD, 2019). This tendency is in line with the hypothesis that economic development (until some threshold) is negatively correlated with entrepreneurial activity due to the effects of scale and growth of real earnings in the wage and salary sector (see Wennekers, van Stel, Carree, and Thurik, 2010, for details). The consistent fall of the self-employment rate could be also explained through changes of institutional features which made self-employment less attractive from both careerist and work and family conflict perspectives. The Polish context in the first half of the transition (1990-2005) can be characterized through relatively low labor force participation rates, particularly among women, a low availability of part-time jobs, a high unemployment rate, scarce public childcare services and parental leave. However, in the second half of the transition which is the period covered in the this study (2003-2015) some of these institutional features have undergone rapid changes. Together with the economic expansion, the female employment rate (in the age group 15-64) grew from 46% in 2003 to 56,6% in 2015, the total unemployment rate fell from nearly 20% in 2003 to 7,5% in 2015 (OECD, 2019). The share of children aged 3-5 covered by preschool education more than doubled, from 38% in 2003 to 84,2% in 2015 (LDB, 2019). Some changes could also be observed with respect to attitudes towards female employment. In wave six of WVS (2012), only 26% of respondents agreed with the opinion 'when jobs are scarce, men should have more rights to a job than women'. The last important feature worth mentioning, particularly from the point of view of work and family conflict theory, is the involvement of grandparents in childcare. With respect to this dimension Poland is claimed to resemble more Mediterranean than other CEE countries (see Bordone, Arpino, and Aassve, 2017). The special role of grandparents is partly determined by a very specific household composition in Poland where 10,8% households constitute extended families, predominantly three-generational ones. Such distribution is unique not only in Western Europe with EU-15 average of 1,6% but also in most CEE countries (Iacovou and Skew, 2011).

Gender Differences in Self-Employment. A Review of Polish Studies

In the Polish literature, there exist very view (mostly qualitative) studies which could shed some light on the determinants of self-employment and differences between women and men in this regard. They offer mixed conclusions but are usually consistent with the careerist or default theory, and not necessarily confirming work and family conflict models. However, they are not explicitly designed to test these theoretical frameworks. The survey *Polish Business 95* conducted on a sample of entrepreneurs indicated that the two main motives for setting up business among women were 'quest for independence' and 'need for reasonable earnings'. On top of this, self-employed women declared, more often than men 'fear of unemployment' or 'lack of other opportunities to work' as motives for choosing self-employment (see Knothe and Lisowska, 1999). Similar conclusions were drawn from a survey conducted on a group of 400 entrepreneurs (200 men and 200 women) where more than 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 (compared to 30 percent of men) (Rollnik-Sadowska, 2010, pp.167). These results are in line with those based on a group of OECD countries, which demonstrated that the correlation between entrepreneurship and the 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 expressed this. This motivation was much more important for women with secondary education 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. In these studies respondents never indicated 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 se-

rious constraint to entrepreneurship (Mroczkowski, 1997). However, in this study only full-time self-employed women were interviewed. In Poland, like in many other countries, self-employed women less frequently than men employ workers and are more often engaged as a helping person in a family business (Kotowska, 2007, pp.37). In summary, the evidence outlined above suggests that in Poland during this period women, more frequently than men, were driven to self-employment in order to advance their career, for better earnings and due to a lack of other opportunities to make a living. These motives are recognized by careerist and default theories. In the reviewed literature, we do not find any support for the family and work conflict model. We will examine what drives women and men into self-employment in Poland with more recent data and a new data source.

Empirical strategy and methodology

Our empirical strategy relies on modeling transitions into self-employment and exploring the relationship between explanatory factors and the probability of starting a business. We begin by estimating a probit model of the transition from employment in the wage and salary sector into self-employment[2] in a subsequent wave. Our control variables include financial and human capital variables, household composition and family status variables, several proxies for job preferences and work events, as well as other macro indicators discussed further. The participation equation in self-employment is as follows:

$$SE_i^* = X_i\beta + U_i \qquad (1)$$

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; β 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 estimate the model separately for women and men.

Our model and the structure of the data (discussed in more detil in the Sample and Dependent Variable section) allow us to investigate the determinants of self-employment and determine whether

---

[2]Individuals are treated as self-employed if they report that their main source of income comes from a self-employment activity. In an analogous way, we define employees.

gender differences exist in this respect. Thus, we estimate the model separately for women and men. Although, we do not test the three theories explicitly, we do include control variables that could be indicative of which model is more likely to be at work in our sample. A significant effect of human capital and financial capital variables could be indicative of support for the careerist model, while significant variables on household composition and family status could indicate that the work and family conflict model is more appropriate. The knowledge about which desired work attributes/job preferences influence employees' decision to enter self-employment sheds light on the validity of careerist and work and family conflict theories. The impact of various work events (e.g. whether someone was promoted, demoted or unfairly treated) on self-employment decisions could be interpreted as evidence of the existence of the glass-ceiling, which is an important element of the careerist theory. In our model, we also exploit a high variability of district-level (powiat) variables (GDP, unemployment level, access to childcare facilities) to test whether macro factors influence individual decisions with respect to the employment type. We discuss these along the way. In all model specifications we include year and regional dummies. We correct standard errors for heteroskedasticity and clustering at the district-level.[3]

Data

We model transitions into self-employment using data from 'Diagnoza Spoleczna' (Social Diagnosis (SD)), a large bi-annual panel survey of people aged 16 and above living in Poland, which began in 2000 and ended in 2015. The survey focuses on several interesting aspects of households and their members, both economic (income, material wealth, savings and financial), and not strictly economic (work, 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). The sample size of each wave is between 6-36 thousands. In SD, the sampling is performed at the household level with two questionnaires being distributed.[4] The household questionnaire gathers information about the characteristics of the dwelling and basic information about all household members.On top of that, every household member aged 16 or more is asked to complete the individual questionnaire. Large sample sizes, a wide thematic scope and the longitudinal design

make SD a very useful source of information about the quality of living in Poland. From our perspective, the SD dataset contains a unique set of variables that can also be useful for verification of self-employment transition theories: human and financial capital, household composition, work preferences and work events variables.

Sample and Dependent Variable

Our sample consists of persons aged 20-60 who are either heads of households or their partners and have participated in the 7 waves over the 2000-2015 period. Table 1 shows transition rates into self-employment (the respective sample sizes can be found in Table A1) from three states: being in employment, being unemployed and being inactive. The results indicate that the largest share of transitions occur among people reporting an inactive labor status and these are generally higher for men. Transition rates for the employed are stable and are below 2% for women and around 3% for men (except for the last wave). The other rates are stable for both genders except in 2009 and 2011, where an increased rate is observed for men from the unemployed and inactive status. Our focus is on a unique set of variables that describe work preferences, but nevertheless enter the questionnaire only in wave 4 (in 2007). Consequently, most of our estimations use the sub-sample from the 2007-2015 period. Work preferences and work events are only asked of working individuals thus, by default we focus on the transitions from employment to self-employment only, which also governs our model choice.[5] Similar empirical strategies (focusing on employees and self-employed) are applied in the studies we refer to in the theoretical part of the paper, i.e. Budig (2006), Carr (1996). Thus, our sample consists of individuals who are employees (and salaries were their main source of income) and either entered self-employment (which became their

---

[3]As robustness check we estimated models with errors clustered at individual and household level. The results available in Table A4 and A5 remain unchanged.

[4]Households ere selected using the two-stage stratified sampling method. Prior to the sampling households are stratified by region (voivodship) and by city size (e.g. rural village, small town, large town, etc). The primary sampling units were either statistical regions (for urban strata) or statistical districts (for rural districts).

[5]Additional models have been used to study self-employment such as that of Sarkar, Sahoo, and Klasen, 2019, hazard models (e.g. Abbaso?lu Özgören, Ergöçmen, and Tansel, 2018) or fuzzy set models (e.g. Velilla, Molina, and Ortega, 2018)

main source of income) or remained employees in the next wave of the study (2 years later). The final sample consists of 9568 cases (4582 female, 4986 male).

Financial and human capital variables   As indicated in the literature review important determinants of self-employment transitions in both careerist and work and family conflict theories are various types of capital. In our models we include both human capital variables: age (and its quadratic term) as a proxy for professional experience, a set of binary variables for the educational level (primary, secondary and tertiary), a binary variable indicating whether an employee in t_0 has any auxiliary income from self-employment (this serves as a proxy for specific entrepreneurial human capital.), as well as financial capital variables: the amount of savings and liabilities.

The dataset at our disposal does not allow us to construct a household wealth variable in the traditional sense defined as the sum of savings and checking accounts, bonds, stocks, individual retirement accounts, housing equity, other real estate, and vehicles, minus all debt (Sierminska, Brandolini, and Smeeding, 2006). Instead, we use household savings as a proxy for wealth or assets. In the Social Diagnosis, respondents are asked to report any savings they have, not directly, but in categories, as an equivalent of monthly household income. We construct a measure of savings by multiplying the household monthly income by the middle value of the respective category. Reported savings are to 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, and investments in goods other than real estate assets.

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 higher polynomials, as suggested by Hurst and Lusardi, 2004 a joint marginal effect of savings is not statistically significant in most specifications in our sample. Since gross savings is reported instead of net savings, we also include a separate variable in our models to capture debt. The amount of household debt in the survey is measured in the same way as savings (as an equivalent of a monthly household income) and is to include all forms of debt, thus, we construct a debt variable in the same way as the savings variable.

Household composition and family status variables   As control variables, we include variables which are crucial from the perspective of the work and family conflict theory and are important in determining occupational choice, especially when differences between men's and women's decisions are under scrutiny. The most important variable is a dummy indicating whether there are young children in the household (aged 6 or less). We also control for whether someone shares the household with her/his spouse and whether there is at least one grandparent in the household. As outlined before, a lot of people in Poland live in three-generational families and grandparents are substantially involved in childcare activities. The presence of grandparents could potentially be a contributing factor to the work and family conflict theory and potentially have an impact on transitions.

Job preferences and job experiences   Our dataset is rich in variables that allow us to investigate the impact of other (supply-side) factors on a decision to become self-employed. Starting in 2007, respondents are asked about their job preferences (they are asked to choose 3 most important job characteristics out of a list of 11). The list includes the following work attributes: lack of stress, independence, self-development, working in line with ones skills, quick promotion, employment stability, comfortable working hours, possibility to work at home, long holidays, profession respected by others and good salary. We code these as 0/1 variables (taking a value of 1 if someone has chosen a certain job characteristic and 0 otherwise) and include 7 of them (the remaining 4 are rarely mentioned by respondents) in the regression models as proxies for desired job characteristics.

Another set of variables used in our analysis describes job experiences of individuals in the last year. Respondents in every wave are asked whether last year they: experienced a shift to a lower work position, were passed over for a promotion at work, were promoted, had serious problems with their superior, or were treated unjustly by others at work. 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*, are more interested in changing their current work environment and have additional motivation to enter self-employment.

Macro variables   In all specifications of our models we control for the year and the region of residence (16 voivodships/provinces). In addition, we include four regional-level variables aggregated at the *powiat* level, which is the second-level unit of local government and administration in Poland (NUTS-4), the equivalent of a county or district. There are 380 powiats in Poland. The *powiat* level variables include: GDP per capita (first calculated in Ciolek, 2017), as well as GDP growth, the registered unemployed as a share of the working-age population in the region by gender and an indicator variable for childcare, which measures the number of places in preschool education establishments per one child 3-5 years old. The reason for including these variables is the following. According to Wennekers et al., 2010, economic development (until some threshold) is negatively correlated with entrepreneurial activity because of the growth of real earnings in the wage and salary sector. The availability of institutional childcare should reduce the pressure for self-employment due to the need for flexible work arrangements. According to the default theory the high level of unemployment and corresponding problems in finding a job in the work and salary sector can force individuals to start their own entrepreneurial activities. Thus, we want to control for these factors in our regressions.

Sample descriptives

The descriptive statistics for the working population of our sample are in Table 3. Comparing women and men in this sample, we find that men are almost twice as likely than women to transition into self-employment (1.4% vs. 2.2%) and this is statistically significantly different. Men's savings and debts are lower than that of women. They are more likely to live with a spouse in the household, have primary education and young children. Women in this sample are better educated and less frequently live with their parent(s) or spouse. There are considerable gender differences with respect to work preferences, which are discussed in the next section in detail. When we focus on the sample that actually transitions into self-employment (Table A2) we find that women report statistically significantly more savings, are less likely to have a spouse in the household. In terms of education, they are statistically significantly less likely to have a lower level of education and are more likely to have a tertiary education. No differences are found when it comes to different experiences at work and in terms of job preferences (not shown).

Empirical Results

We begin this section by focusing our attention on the determinants of transitioning into self-employment separately for women and men. We introduce them step-wise to identify the robustness of our results

In addition, we discuss to what extent these results support the discussed models. We begin by discussing the main determinants of self-employment human and financial capital and family composition, as well as environmental factors. Next, turn to the unique set of variables that we have for the purpose of the paper: job preferences and work events. Where appropriate we discuss the outcomes for the whole sample, the younger sample (20 to 40 year olds) and professional and non-professional occupations. We report marginal effects in our tables, which allow us to better identify group differences in our binary models (Mood, 2010).

Determinants of becoming self-employed

Human capital   We estimate eq.(1) and find human capital variables to be particularly important in this framework and especially for the careerist and default models. We see this in Table 4, which shows the strongest and most robust predictor of self-employment in both gender groups to be the specific entrepreneurial human capital (proxied by the binary variable indicating whether an employee had some additional source of income from self-employment in t_0). The results show that those working in the wage and salary sector who simultaneously had a small-scale business are more likely to enter self-employment. Thus, there appears to be on-the-job learning (and human capital development) before fully entering into self-employment. The other human capital variables are insignificant with the exception of professional experience (proxied by age) among men. The non-linear marginal effect of age is small and negative. To some extent this finding is consistent with the default theory predicting that for young individuals, who usually have little professional experience, chances to find and maintain stable employment in the wage and salary sector are lower with respect to other age groups. In order to inspect this relationship in detail, we run the model measuring age in categories, rather than as a scale variable. The results (not reported here) confirmed that the

youngest age group (20-30 years) is most likely to enter self-employment. However, if the default theory were to hold, we would expect the impact of economic conditions on the propensity to self-employment to exist. Meanwhile, all of our *powiat*-level variables turned out to be insignificant.

Financial capital: Savings In our estimation, we also include savings to test whether it has a non-liner effect on becoming self-employed as in Hurst and Lusardi, 2004 and is only strong and positive for the richest households or not (Results available upon request.). This is in-line with the careerist and work and family conflict model to some extent for low-income households. As is elaborated in many studies (e.g Hurst and Lusardi, 2004), the decision to become self-employed is shown to be subject to financial constraints. Thus, an individual relies on savings (or wealth) as a buffer for self-employment and to losen these constraints. Both, Carroll, 2002 and Charles and Hurst, 2003 find that those at the top of the wealth distribution are substantially more willing to take risks than those at the bottom of the distribution, this if liquidity constraints are important, low-wealth households would 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 will not be binding at higher levels of wealth.

In Table 4, we show that the effect of savings is significant and robust to various specifications, but only for women. The marginal effects indicate that an extra 100 000 PLN (about 25 000 euros) increases the probability of transitioning to self-employment by about 4 percentage points. Debt on the other hand is significant for both women and men. The effect is much weaker than for savings and is in the range of about 2 percentage points due to an increase in debt of about 100 000 PLN. The differences between women and men in the role of savings could be a result of the differences in the access to credit among the two genders, which has been well documented.[6]

Family composition, small children and grandparents Next, we compare the impact of household composition and family status on the transition to self-employment and investigate whether there are any gender effects in the controls to see support or lack of for the work and family conflict model. We do this for the entire sample and also separately for the professional and non-professional sample, where the arguments of the model are to be more at

work. It is good to note that previous papers dealt with possible gender group differences by including a binary variable for gender (for example, see Cowling, 2000 or Verheul, Thurik, and Grilo, 2006 for multi-country studies), but this is rather restrictive. Others, using similar methods to ours investigate the effects separately for women and men (for example, see Tervo and Haapanen, 2010 for Finland, Georgellis and Wall, 2005 for Germany and Do and Duchene, 2008 for Vietnam).

In our discussion, we focus on Table 4. Household composition and family status variables are the most important self-employment predictors within the work and family conflict framework. In general, the theory predicts that particularly among women with preschool-aged children the propensity to enter self-employment (offering more flexible work arrangements) will be higher. Household composition and family status variables do not play any statistically significant role in transitioning to self-employment for women in our sample of the working population. (Men with small children are slightly less likely to transition into self-employment.) These results do not confirm the work and family conflict theory. However, as emphasized before, self-employment is not an attractive option for all mothers of young children, but only for those equipped with certain assets and those without access to alternative forms of childcare services. In particular, within the work and family conflict framework the probability of self-employment transition increases when the presence of small children coincides with a sufficient amount of human capital (education), financial capital (savings) and low availability of institutional childcare for non-professional occupations. Thus, we split the sample into professional (categories 1-3 of ISCO-08 classification: managers, professionals and technicians) and non-professional occupations (categories 4-9 of ISCO-08 classification) in Table 5 and A3, respectively. Here, we do not find any additional evidence to confirm this theory for women. The negative of for men with small children remains.

Our expectations with respect to household composition variables on the presence of grandparents are ambiguous. On the one hand, other family members can offer support and access to resources necessary to start your own business. On the other hand, they can help with childcare responsibilities decreasing the demand for flexible work arrange-

---

[6]An alternative specification for those aged 20 to 40 years old confirms the importance of savings for those transitioning to self-employment. (see table A3).

ments offered by self-employment. They can also lead to higher expenses and thus, create barriers to entering self-employment. Our results indicate that in the 3 specifications (entire sample, professional occupations and non-professional occupations) the coefficient for grandparents is statistically significant only in professional occupations and only for men.

We estimate another model with interactions based on the model specification presented in table 4, column 5. We interact the indicator for the presence of preschool-aged children with the variables mentioned above. The results of this exercise are presented in Table 6. The results show hardly any support for the work and family conflict theory. Within this theoretical framework we would expect statistically significant effects among women. Yet only the interaction with the education variable is statistically significant. This means that the probability of self-employment transitions among women without a tertiary degree having small children is smaller. In the sample of men the only significant result concerns financial resources. For individuals without savings, the presence of preschool-aged children is associated with a lower probability of self-employment transition. Although these results are in line with the work and family conflict framework, the confirmation for this theory remains weak nevertheless.

Environmental conditions   In column (4) and (5) of Table 4 and 5, we control for variables that could provide an indication of labor market demand conditions and macro-level factors to examine their association with the decision of becoming self-employed. We collect four types of variables at the *powiat*-region level (See section on macro variables for a description). We find child care to be statistically significant only for men. In Table 4, we find that, contrary to the expectations of the work and family conflict model, the availability of day care has a positive effect on transitioning into self-employment, but only for men.[7]

The role of job preferences

As discussed in the section discussing the situation in Poland, 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. In Table 2, we see the ranking for women and men. The top four most important conditions

are the same for both genders: a good salary, lack of stress, job stability and a job matching competences. Women are significantly less likely than men to report good salary as the most important work attribute (69% of women vs. 74% of men), but slightly more likely to report the lack of stress as an important attribute (60% vs. 56%, respectively). For the less popular work attributes, apart from long holidays, there are statistically significant differences between women and men, such as: personal development (25% vs. 19%), flexible working hours (18% vs. 13%), independence (21% vs. 16%), respected profession (4% vs.3%), promotion opportunities (4% vs.3%), teleworking opportunities (1.4% vs.0.7%). (see Table 2 for details).

Given that a common set of working conditions is identified as being very important by women and men, it is difficult to hypothesis that different job appeals may be driving their decision to become self-employed. There is some indication though that flexibility and opportunities for growth are more important for women, while independence for men. We explore this in more detail below by including work conditions as explanatory variables in our regressions. In Table 4 in column (4) and (5), we include work attributes (identified as being important) as controls for the transition into self-employment. Both women and men that value independence have a statistically significantly higher chance of transitioning into self-employment (a little over 1 percentage point). However, the coefficient of flexible working hours is statistically insignificant undermining the validity of the work and family conflict theory. Just as well *independence* may refer to *task discretion*, which is a job attribute that might be desired by individuals transitioning into self-employment. The role of job preferences is more pronounced among employed men. In this group individuals perceiving not only independence, but also the lack of stress and good salary as important job characteristics are more likely to start a new business. Particularly, the effect of this last preference is in line with the careerist model theory, as well as, with the rich evidence that pecuniary motives play a relatively greater role in male self-employment decisions (Georgellis and Wall, 2005). These results are also confirmed for men in professional occupations (Table 5) At first, stress-related preferences seem counter-intuitive given the hassle and uncertainty associated with starting a new business. However, empirical studies present mixed evidence on the relationship between self-

---

[7]The magnitude is four-times in magnitude for men in professional occupations (see Table 5) and twice for those aged 20 to 40 (Table A4).

employment and work-related stress (for the summary of results, see Hessels, Rietveld, and van der Zwan, 2017). In fact, these authors show that those working on their own account report lower levels of work-related stress than employees.

Job preferences and professional vs. non-professional occupations and job preferences Budig (2006), emphasizes that the career model explains well the self-employment decisions of women performing professional and managerial jobs, whereas the work and family conflict theory should operate at lower levels of occupational hierarchy. We investigate this by rerunning our models for these two groups of occupations. The estimates among professionals are similar to the results for the entire sample (see Table 4 and 5) The effects, however, are stronger and more statistically significant. Additionally, among women, another job preference dummy (job matching competences) becomes a significant predictor of the transition to self-employment. Women in professional occupations that identify job matching competence as an important work attribute are less likely to transition into self-employment. This is not consistent with careerist theory of self-employment. In the analysis performed among non-professionals (see Table A3), most coefficients lost significance, except for development opportunities and independence for women, yet the magnitudes remain small.

Work events

In the previous section, we find that women are motivated into self-employment by independence and a job matching their competences (only in professional occupations), while men by the lack of stress, independence and a good salary.

To get more insight into the motivation behind these transitions, we use the uniquely available variables in our data that refer to events experienced at work last year. The bottom panel of Table 3 shows us the share of women and men that have experienced a given treatment. The are no statistically significant differences among women and men. Even so, more than half of women and men report having experienced unfair treatment at work, about 7% report having been promoted at work and a similar share report having been omitted for a promotion, 4% report having had problems at work with their boss and around 2% report being demoted.

The estimation of the effect of work events on the transition to self-employment is useful for testing the glass-ceiling hypothesis. If the glass-ceiling were a problem in the wage and salary sector, unfavorable work events would be a push factor to self-employment, particularly among women. The parameter estimates in Table 4 column (2) and (5) weakly confirm the glass-ceiling hypothesis. Looking at the probit model, we do not find that past year job experiences have a significant effect on the transition for men, but they do for women. In particular, women that were demoted last year were two percentage point more likely to transition into self-employment. This is also the case for professional women (Table 5) and those aged 20-40 (Table A4) Surprisingly, those that have been unfairly treated are less likely to transition. This finding seems counter-intuitive, however staying in the wage and salary sector does not imply staying in the same company.

Limitations and Conclusions

This paper examines work to self-employment transitions in Poland among women and men using rare indicators on job preferences and work events. On the one hand, we examine job preferences of women and men in the salary and those that have decided to transition into self-employment sector. On the other hand, we have the unique opportunity whether experiences at work have an impact on these transitions. We position the interpretation of the results within three popular theories of self-employment: the careerist model, the default model and the work and family conflict model.

Our results are most consistent with the careerist model of self-employment. Starting ones own business seems to be an attractive option for individuals endowed with financial resources (the case of women and men employed in the professional occupations). The other important asset crucial for self-employment transition refers to the specific human capital accumulated in the period when employment in the wage and salary sector is combined with small scale self-employment. The results show that starting one's own business is a gradual process and the eventual outflow to self-employment is preceded by a trial period during which both salary and self-employment is taking place. This "learning by doing" aspect of self-employment raises the question on what brings about this initial, small scale self-employment and whether it is determined by the same set of factors as a regular self-employment. This issue deserves

further inquiry.

The unique aspect of the analysis is the opportunity to study the impact of job preferences and work events on self-employment transition likelihood. The original literature referring to the careerist model of self-employment abstains from studying the role of preferences (see Carr 1996). However, among the analyzed preferences, which significantly influenced the propensity to start ones own business, two seem to be consistent with the careerist model. Employees with preferences for a good salary (only men) and for independence (but not flexible working hours) are more likely to enter self-employment. Because in our analysis we control for the preference for flexible working hours (which is not statistically significant), we perceive the preference for independence as a preference for *task discretion*. This term is well recognized in the literature and characterizes the extent to which employees are able to exercise independent initiatives and judgment over their job tasks, for instance with respect to the speed of work, task order or task methods. *Task discretion* has been proved to correlate with work motivation, work commitment and job satisfaction (see Gallie, 2007, pp. 105-138). Therefore, we interpret the preference for independence as a desire to perform work of higher quality. It has to be emphasized, however, that we do not know to what extend these preferences are satisfied in the work and salary sector, as well as, after the self-employment transition. This helps to explain the less intuitive results with respect to preferences, such as the lack of stress as an important job attribute for men who are more likely to become self-employment and women (in professional occupations) with preference for jobs matching competences who are less likely to start their own business.

The analysis of work events, another unique aspect of this paper, and its influence on self-employment weakly confirmed the glass-ceiling hypothesis. The finding that demoted female employees are more likely to enter self-employment may be an indicator of the invisible barrier for women's professional advancement in the work and salary sector in Poland. It is also consistent with the careerist model of self-employment transition. It should be emphasized, however, that we did not find statistically significant differences between men and women with respect to crucial work events (the incidence of promotions, missed promotions, demotions, problems with boss, unfair treatment at work). Women are simply more responsive to the adverse work events.

In the paper, we find scarcely any support for the work and family conflict model. The lack of statistically significant results does not seem to be sufficient to discard this theoretical framework. One could claim that in the case of Poland, a country with quickly developing childcare infrastructure and relatively generous parental leave schemes, the demand for flexible work arrangements offered by self-employment will be low. However, the work and family conflict theory finds empirical support in Sweden, a country with much more family-friendly policies (Andersson Joona, 2014). Therefore, we claim that the lack of impact of family composition on self-employment transitions could result from the selection process related to the empirical strategy applied in this article. Since the focus of our analysis is on transition from paid employment to self-employment, our sample consists of individuals for whom the work and salary sector offers a sufficient level of flexibility. This would explain why preferences for flexible working hours and the access to institutional (kindergartens) and informal (grandparents) childcare did not affect the propensity to enter self-employment. The work and family conflict model can be still useful in explaining other types of transitions, e.g. from unemployment or inactivity to (self)employment. This seems to be a natural area for further investigation. An alternative explanation of the lack of support for the work and family conflict theory can be attributed to the phenomenon of bogus self-employment (workers who meet the definition of employees, but due to various reasons, for example tax purposes, are officially registered as self-employed). The transition between paid employment and bogus self-employment seems to be determined by factors different than family composition. Unfortunately, our dataset does not allow to identify the false self-employed.

In this study we did not find much support for the default model perceiving self-employment as a strategy to circumvent the constraints faced in wage and salary employment by various disadvantaged groups. The only finding consistent with this framework is that individuals from the youngest age groups (aged 20-30) are more likely to enter self-employment. However, we do not find any impact of other factors limiting the access to the wage and salary sector (low education, living in the areas of high unemployment and of low economic development). However, as in the case of the work and family conflict models, the default theory can be potentially useful for describing transitions of different type (e.g. from unemployment to self-employment).

Our results suggest that in order to encourage entrepreneurship support programs could be put in place. Not only financial in order to alleviate the financial constraint barriers, but also training as have our result shown the significant role of "intermediate" self-employment, while continuing to work in the wage sector. Specific support could be provided to women who do not seem self-employment as a route to develop their job competences.

References

Abbaso?lu Özgören, A., Ergöçmen, B., & Tansel, A. (2018). *Birth and Employment Transitions of Women in Turkey: Conflicting or Compatible Roles?* (GLO Discussion Paper Series No. 161). Retrieved from https://ideas.repec.org/p/zbw/glodps/161.html

Andersson Joona, P. (2014). *Female Self-Employment and Children: The Case of Sweden* (Working Paper No. 8486). IZA Discussion Papers. Retrieved July 11, 2019, from https://www.econstor.eu/handle/10419/103487

Boden, R. J. (1999). Gender inequality in wage earnings and female self-employment selection. *The Journal of Socio-Economics*, *28*(3), 351–364. doi:10.1016/S1053-5357(99)00026-8

Bordone, V., Arpino, B., & Aassve, A. (2017). Patterns of grandparental child care across Europe: The role of the policy context and working mothers' need. *Ageing & Society*, *37*(4), 845–873. doi:10.1017/S0144686X1600009X

Budig, M. J. (2006). Gender, self-employment, and earnings: The interlocking structures of family and professional status. *Gender and Society*, *20*(6), pp. 725–753. Retrieved from http://www.jstor.org/stable/27640932

Carr, D. (1996). Two paths to self-employment?: Women's and men's self-employment in the united states, 1980. *Work and Occupations*, *23*(1), 26–53. doi:10.1177/0730888496023001003

Carroll, C. (2002). Portfolios of the rich. In L. Guiso, M. Haliassos, & T. Jappelli (Eds.), *Household portfolios* (Chap. chapter 10, pp. 389–430). The MIT Press.

Charles, K. K., & Hurst, E. (2003). The correlation of wealth across generations. *Journal of Political Economy*, *111*(6), 1155–1182. Retrieved from http://ideas.repec.org/a/ucp/jpolec/v111y2003i6p1155-1182.html

Ciolek, D. (2017). Oszacowanie wartosci produktu krajowego brutto w polskich powiatach. *Gospodarka Narodowa*, (3), 55–87.

Connelly, R. (1992). Self-employment and providing child care. *Demography*, *29*(1), pp. 17–29. Retrieved from http://www.jstor.org/stable/2061360

Cowling, M. (2000). Are entrepreneurs different across countries? *Applied Economics Letters*, *7*, 785–789.

Devine, T. J. (1994). Changes in wage-and-salary returns to skill and the recent rise in female self-employment. *The American Economic Review*, *84*(2), pp. 108–113. Retrieved from http://www.jstor.org/stable/2117812

Do, T. Q. T., & Duchene, G. (2008). *Determinants of self-employment : The case in vietnam* (Documents de travail du Centre d'Economie de la Sorbonne No. v08038). Universite Pantheon-Sorbonne (Paris 1), Centre d'Economie de la Sorbonne. Retrieved from http://ideas.repec.org/p/mse/cesdoc/v08038.html

Gallie, D. (2007). Production Regimes and the Quality of Employment in Europe. *Annual Review of Sociology*, *33*, 85–104.

Georgellis, Y., & Wall, H. (2005). Gender differences in self-employment. *International Review of Applied Economics*, *19*(3), 321–342. Retrieved from http://ideas.repec.org/a/taf/irapec/v19y2005i3p321-342.html

Hessels, J., Rietveld, C. A., & van der Zwan, P. (2017). Self-employment and work-related stress: The mediating role of job control and job demand. *Journal of Business Venturing*, *32*(2), 178–196. doi:https://doi.org/10.1016/j.jbusvent.2016.10.007

Hurst, E., & Lusardi, A. (2004). Liquidity constraints, household wealth, and entrepreneurship. *Journal of Political Economy*, *112*(2), 319–347. Retrieved from http://ideas.repec.org/a/ucp/jpolec/v112y2004i2p319-347.html

Iacovou, M., & Skew, A. J. (2011). Household composition across the new Europe: Where do the new Member States fit in? *Demographic Research*, *25*(14), 465–490. doi:10.4054/DemRes.2011.25.14

Junquera, B. (2011). Where does female entrepreneurial human capital come from? A review of the literature. *Innovation*, *13*(3), 391–411. doi:10.5172/impp.2011.13.3.391

Knothe, M. A., & Lisowska, E. (1999). *Women on the labour market : Negative changes and entrepreneurship oportunities as the conse-*

14

quences of transition. Center for the Advancement of Women.

Kotowska, I. (2007). *Aktywnosc zawodowa i edukacyjna a obowiazki rodzinne w polsce* (U. I. Woycicka I. Sztanderska, Ed.). Scholar.

Krynska, E. (2007). *Praca na wlasny rachunek - determinanty i implikacje* (E. Krynska, Ed.). IPISS.

Lisowska, E. (1997). *Polish women in the business world* (E. Lisowska & E. Maslyk-Musia, Eds.). Maria Curie-Sklodowska University Press.

Lisowska, E. (2001). *Przedsiebiorczosc kobiet w polsce na tle krajow europy srodkowej i wschodniej*. SGH.

Mood, C. (2010). Logistic regression: Why we cannot do what we think we can do, and what we can do about it. *European Sociological Review*, *26*(1), 67–82. Retrieved from http://www.jstor.org/stable/40602478

Mroczkowski, T. (1997). Women as employees and entrepreneurs in the polish transformation. *Industrial Relations Journal*, *28:2*, 83–91.

Rollnik-Sadowska, E. (2010). *Przedsiebiorczosc kobiet w polsce*. Difin.

Saridakis, G., Marlow, S., & Storey, D. J. (2014). Do different factors explain male and female self-employment rates? *Journal of Business Venturing*, *29*(3), 345–362. doi:10.1016/j.jbusvent.2013.04.004

Sarkar, S., Sahoo, S., & Klasen, S. (2019). Employment transitions of women in India: A panel analysis. *World Development*, *115*(100), 291–309. doi:10.1016/j.worlddev.2018.1

Sena, V., Scott, J., & Roper, S. (2012). Gender, borrowing patterns and self-employment: Some evidence for England. *Small Business Economics*, *38*(4), 467–480. doi:10.1007/s11187-010-9272-9

Siemienska, R. (1999). *Women and men in elites : Cross national study*. ISS Warszawa.

Sierminska, E., Brandolini, A., & Smeeding, T. M. (2006). The luxembourg wealth study – a cross-country comparable database for household wealth research. *The Journal of Economic Inequality*, *4*(3), 375–383. doi:10.1007/s10888-006-9030-z

Tervo, H., & Haapanen, M. (2010). The nature of self-employment: How does gender matter? *International Journal of Entrepreneurship and Small Business*, *9(3)*, 349–371.

UNICEF. (1999). *Women in Transition*. The MONEE Project, UNICEF.

Velilla, J., Molina, J. A., & Ortega, R. (2018). Why older workers become entrepreneurs? International evidence using fuzzy set methods. *The Journal of the Economics of Ageing*, *12*(100), 88–95. doi:10.1016/j.jeoa.2018.03.00

Verheul, I., Thurik, R., & Grilo, I. (2006). *Determinants of self-employment preference and realization of women and men in europe and the united states* (Scales Research Reports No. H200622). EIM Business and Policy Research. Retrieved from http://ideas.repec.org/p/eim/papers/h200622.html

Wennekers, S., van Stel, A., Carree, M. A., & Thurik, R. (2010). *The relationship between entrepreneurship and economic development: Is it u-shaped?* (Scales Research Reports No. H200824). EIM Business and Policy Research. Retrieved from http://econpapers.repec.org/RePEc:eim:papers:h200824

Williams, D. R. (2000). Consequences of self-employment for women and men in the United States. *Labour Economics*, *7*(5), 665–687. Retrieved from http://ideas.repec.org/a/eee/labeco/v7y2000i5p665-687.html

Tables and Figures

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

	2000 to 2003	2003 to 2005	2005 to 2007	2007 to 2009	2009 to 2011	2011 to 2013	2013 to 2015	Total
Women								
employee	1.63	2.72	1.85	1.34	1.13	1.25	2.00	1.59
unemployed	1.63	0.75	2.07	0.84	2.32	2.04	2.17	1.80
inactive	3.65	2.76	0.84	2.32	2.67	1.94	1.99	2.30
Total	2.02	2.35	1.68	1.45	1.68	1.48	2.02	1.77
Men								
employee	2.59	3.14	3.98	2.85	2.60	2.69	2.19	2.70
unemployed	4.12	6.33	5.60	2.30	5.15	3.47	4.81	4.67
inactive	8.11	4.44	6.76	4.08	8.70	2.30	4.08	5.92
Total	2.98	3.65	4.43	2.86	3.17	2.73	2.48	3.02

Source: Diagnoza Spoleczna, 2000-2015.

Table 2
Importance of work attributes for women and men.

	Women		Men		Difference	
	mean	sd	mean	sd	b	t
good salary	0.688	0.463	0.738	0.440	0.050***	(5.398)
lack of stress	0.601	0.490	0.565	0.496	-0.036***	(-3.619)
employment stability	0.588	0.492	0.581	0.493	-0.007	(-0.707)
job matching competences	0.292	0.455	0.281	0.450	-0.011	(-1.169)
personal development opp.	0.243	0.429	0.190	0.392	-0.053***	(-6.336)
flexible working hours	0.176	0.381	0.127	0.333	-0.049***	(-6.669)
independence	0.155	0.362	0.211	0.408	0.056***	(7.099)
respected profession	0.039	0.193	0.030	0.171	-0.008*	(-2.229)
long holidays	0.029	0.167	0.025	0.156	-0.004	(-1.187)
promotion opportunities	0.027	0.161	0.039	0.192	0.012**	(3.287)
opportunities to telework	0.014	0.119	0.007	0.086	-0.007**	(-3.263)
N		4582		4986		9568

Source: Diagnoza Spoleczna, 2007-2015.

Table 3

Descriptive statistics and comparison of means between women and men.

	Women		Men			W-M diff
	mean	sd	mean	sd	b	t
SE transition	0.014	0.119	0.022	0.147	0.008**	(2.810)
savings 100k PLN	0.073	0.216	0.062	0.193	-0.012**	(-2.733)
debt 100k PLN	0.131	0.295	0.118	0.272	-0.013*	(-2.211)
age	43.284	8.516	43.557	9.159	0.273	(1.512)
primary	0.241	0.428	0.478	0.500	0.237***	(24.969)
secondary	0.344	0.475	0.297	0.457	-0.048***	(-4.981)
tertiary	0.414	0.493	0.225	0.418	-0.189***	(-20.106)
small scale SE	0.012	0.109	0.015	0.123	0.003	(1.369)
children under 6	0.156	0.363	0.232	0.422	0.076***	(9.452)
spouse present	0.788	0.409	0.917	0.277	0.128***	(17.827)
grandparents present	0.105	0.306	0.145	0.352	0.041***	(6.040)
unfair treatment	0.516	0.500	0.518	0.500	0.003	(0.246)
promotion	0.074	0.262	0.074	0.262	-0.000	(-0.002)
promotion missed	0.060	0.238	0.069	0.253	0.008	(1.621)
boss problems	0.043	0.204	0.047	0.211	0.003	(0.731)
demoted	0.017	0.129	0.018	0.134	0.001	(0.456)
Observations	4582		4986		9568	

Source: Diagnoza Spoleczna, 2007-2015.

Note: Macro-level variables, region and year dummies not reported

Table 4
Determinants of transitioning into self-employment from reduced probit regression for women and men (marginal effects).

	Women					Men				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
savings 100k PLN	0.033**	0.033**	0.029**	0.031**	0.029**	-0.008	-0.009	-0.010	-0.012	-0.014
	(0.014)	(0.014)	(0.013)	(0.014)	(0.014)	(0.023)	(0.023)	(0.023)	(0.024)	(0.023)
debt 100k PLN	0.014***	0.014***	0.012***	0.013***	0.012***	0.017**	0.017**	0.017**	0.016**	0.016**
	(0.003)	(0.003)	(0.003)	(0.003)	(0.004)	(0.007)	(0.007)	(0.007)	(0.008)	(0.008)
age	-0.000*	-0.000	-0.001*	-0.000*	-0.000	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
education: secondary										
education: primary	-0.002	-0.002	-0.002	-0.002	-0.001	0.001	0.001	0.002	0.002	0.004
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
education: tertiary	-0.005	-0.005	-0.005	-0.005	-0.006	0.006	0.005	0.005	0.005	0.004
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
small scale SE	0.038***	0.038***	0.038***	0.038***	0.037***	0.027**	0.028**	0.025**	0.027**	0.025**
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.012)	(0.013)	(0.012)	(0.012)	(0.013)
children under 6	-0.004	-0.004	-0.005	-0.004	-0.004	-0.008	-0.008	-0.008*	-0.008	-0.008*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
spouse in HH	-0.003	-0.003	-0.002	-0.002	-0.001	0.007	0.007	0.006	0.008	0.008
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
grandparent in HH	-0.001	-0.001	-0.001	-0.000	0.000	-0.002	-0.002	-0.002	0.000	0.000
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
demoted		0.023***			0.022***		0.007			0.008
		(0.009)			(0.008)		(0.014)			(0.013)
promotion missed		0.000			0.001		-0.001			0.001
		(0.008)			(0.007)		(0.008)			(0.008)
promotion		0.005			0.003		0.004			0.005
		(0.006)			(0.006)		(0.008)			(0.008)
boss problems		0.003			0.004		0.010			0.009
		(0.008)			(0.008)		(0.008)			(0.007)
unfair treatment		-0.007**			-0.006**		-0.000			-0.001
		(0.003)			(0.003)		(0.004)			(0.004)
lack of stress			-0.001		-0.001			0.008*		0.008*
			(0.004)		(0.004)			(0.004)		(0.004)
independence			0.013***		0.013***			0.017***		0.016***
			(0.004)		(0.004)			(0.005)		(0.005)
development opp			-0.001		-0.002			0.004		0.003
			(0.005)		(0.005)			(0.006)		(0.006)
matching competences			-0.005		-0.005			0.007		0.007
			(0.005)		(0.005)			(0.005)		(0.005)
employment stability			-0.000		-0.000			0.006		0.005
			(0.004)		(0.004)			(0.005)		(0.005)
flex working hours			-0.001		-0.002			0.003		0.002
			(0.005)		(0.005)			(0.007)		(0.007)
good salary			-0.001		-0.000			0.012**		0.012**
			(0.004)		(0.004)			(0.006)		(0.006)
reg: day care				0.006	0.008				0.022*	0.021*
				(0.010)	(0.010)				(0.013)	(0.013)
reg: unemp / work ratio				-0.000	-0.000				-0.000	-0.000
				(0.001)	(0.001)				(0.001)	(0.001)
reg: gdp per capita				-0.013	-0.021				-0.035	-0.050
				(0.112)	(0.115)				(0.154)	(0.155)
reg: gdp growth				-0.016	-0.018				0.004	0.004
				(0.029)	(0.028)				(0.029)	(0.029)
r2_p	0.102	0.116	0.120	0.105	0.135	0.043	0.045	0.054	0.048	0.061
N	4582	4582	4582	4582	4582	4986	4986	4986	4986	4986

Source: Diagnoza Spoleczna, 2007-2015.
Note: Marginal effects, year and regional dummies included. reg: daycare refers to the average number of places in preschool education per one child 3-5 years old; reg: unemp/work refers to the number of unemployed/number of working

Table 5

Determinants of transitioning into self-employment from reduced probit regression for women and men in professional occupations (marginal effects).

	Women					Men				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
savings 100k PLN	0.043***	0.044**	0.038***	0.040**	0.038**	0.015	0.014	0.006	0.016	0.010
	(0.017)	(0.018)	(0.014)	(0.016)	(0.015)	(0.048)	(0.047)	(0.046)	(0.047)	(0.046)
debt 100k PLN	0.014***	0.015***	0.012***	0.013***	0.012***	0.027*	0.027*	0.025	0.030**	0.027*
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.016)	(0.015)	(0.016)	(0.015)	(0.014)
age	-0.001***	-0.001**	-0.001***	-0.001**	-0.001***	-0.002***	-0.002***	-0.002***	-0.002***	-0.002**
	(0.001)	(0.001)	(0.000)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
education: secondary										
education: primary	0.018	0.017	0.017	0.018	0.018	-0.027	-0.029	-0.025	-0.020	-0.023
	(0.016)	(0.017)	(0.016)	(0.016)	(0.016)	(0.034)	(0.033)	(0.035)	(0.033)	(0.034)
education: tertiary	-0.006	-0.006	-0.004	-0.007	-0.003	-0.010	-0.012	-0.011	-0.011	-0.014
	(0.006)	(0.006)	(0.007)	(0.006)	(0.007)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
small scale SE	0.049***	0.048***	0.049***	0.049***	0.049***	0.045*	0.047*	0.038	0.042*	0.035
	(0.012)	(0.012)	(0.012)	(0.012)	(0.012)	(0.024)	(0.024)	(0.025)	(0.025)	(0.027)
children under 6	0.002	0.003	-0.001	0.002	0.001	-0.011	-0.010	-0.012	-0.011	-0.011
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.012)	(0.012)	(0.013)	(0.012)	(0.013)
spouse in HH	-0.009	-0.009	-0.006	-0.008	-0.005	0.041	0.042	0.044	0.038	0.045
	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)	(0.034)	(0.034)	(0.034)	(0.034)	(0.033)
grandparent in HH	-0.006	-0.004	-0.005	-0.004	-0.001	-0.046	-0.044	-0.052*	-0.050*	-0.059**
	(0.013)	(0.011)	(0.011)	(0.012)	(0.010)	(0.029)	(0.029)	(0.029)	(0.029)	(0.029)
demoted		0.039**			0.037***		0.000			0.000
		(0.015)			(0.014)		(.)			(.)
promotion missed		0.002			0.001		0.003			0.000
		(0.011)			(0.009)		(0.021)			(0.021)
promotion		0.007			0.006		0.006			0.010
		(0.009)			(0.009)		(0.018)			(0.019)
boss problems		-0.005			-0.001		0.028			0.029
		(0.014)			(0.014)		(0.020)			(0.021)
unfair treatment		-0.009*			-0.007*		-0.006			-0.007
		(0.005)			(0.004)		(0.010)			(0.010)
lack of stress			0.003		0.004			0.034*		0.032**
			(0.005)		(0.006)			(0.018)		(0.016)
independence			0.025***		0.025***			0.045***		0.045***
			(0.006)		(0.007)			(0.014)		(0.013)
development opportunities			-0.005		-0.007			0.021		0.016
			(0.007)		(0.007)			(0.017)		(0.015)
matching competences			-0.015**		-0.014*			0.023		0.017
			(0.008)		(0.008)			(0.019)		(0.017)
employment stability			0.008		0.008			0.013		0.011
			(0.005)		(0.006)			(0.016)		(0.015)
flex working hours			0.010		0.009			0.022		0.019
			(0.007)		(0.007)			(0.024)		(0.024)
good salary			0.004		0.006			0.056***		0.053***
			(0.007)		(0.007)			(0.021)		(0.019)
reg: day care				0.009	0.012				0.084**	0.083**
				(0.017)	(0.014)				(0.038)	(0.036)
reg: unemp / work ratio				-0.001	-0.001				-0.002	-0.001
				(0.001)	(0.001)				(0.002)	(0.002)
reg: gdp per capita				-0.027	-0.035				-0.766**	-0.806**
				(0.135)	(0.123)				(0.373)	(0.362)
reg: gdp growth				0.043	0.033				-0.033	-0.027
				(0.039)	(0.037)				(0.079)	(0.074)
r2_p	0.171	0.198	0.239	0.179	0.269	0.093	0.097	0.128	0.111	0.150
N	2012	2012	2012	2012	2012	1146	1146	1146	1146	1146

Source: Diagnoza Spoleczna, 2007-2015.
Note: Marginal effects, year and regional dummies included. reg: daycare refers to the average number of places in preschool education per one child 3-5 years old; reg: unemp/work refers to the number of unemployed/number of working

Table 6

The impact of having preschool-aged children on the self-employment transition probability (marginal effects, at specific values of other independent variables).

	variable value	Women marg.effect	st.err	Men marg.effect	st.err.
spouse in HH					
	yes	-0.004	0.004	-0.004	0.005
	no	-0.002	0.013	0.011	0.026
grandparent in HH					
	yes	0.009	0.016	-0.004	0.011
	no	-0.005	0.004	-0.008*	0.005
day care					
	0.60	-0.006	0.004	-0.004	0.004
	0.90	-0.004	0.004	-0.009*	0.005
	1.20	0.001	0.007	-0.018*	0.011
	1.50	0.009	0.017	-0.029	0.019
tertiary education					
	yes	0.002	0.004	-0.007	0.008
	no	-0.015***	0.005	-0.007	0.005
savings in 100k PLN					
	0	-0.005	0.003	-0.009**	0.004
	0.1	-0.005	0.004	-0.006	0.004
	0.5	0.002	0.014	0.007	0.014
	1	0.011	0.023	0.013	0.016
	4	0.000	0.000	0.000	0.000
Observations	4582		4986		9568

Source: Diagnoza Spoleczna, 2007-2015.

Note: *Day care* refers to the average number of places in preschool education per one child 3-5 years old. Based on the model specification and the sample presented in table 4 (column 5) and with the interaction term between the preschool-aged children indicator and a particular independent variable.

20
Appendix

Table A1
Sample sizes for transition from other states into self-employment over time for women and men.

	2000 to 2003	2003 to 2005	2005 to 2007	2007 to 2009	2009 to 2011	2011 to 2013	2013 to 2015	Total
Women								
employee	735	883	701	1042	2305	2486	2351	10503
unemployed	184	266	193	239	431	442	414	2169
inactive	219	254	237	302	1012	722	603	3349
Total	1138	1403	1131	1583	3748	3650	3368	16021
Men								
employee	772	892	703	1123	2426	2490	2195	10601
unemployed	97	158	125	87	194	202	208	1071
inactive	37	45	74	49	184	87	98	574
Total	906	1095	902	1259	2804	2779	2501	12246

Source: Diagnoza Spoleczna, 2007-2015.

Table A2

Descriptive statistics of those transitioning to self-employment and comparison of means between women and men.

	Women		Men			W-M diff
	mean	sd	mean	sd	b	t
savings 100k PLN	0.114	0.211	0.054	0.134	-0.060*	(-2.075)
debt 100k PLN	0.269	0.542	0.213	0.457	-0.056	(-0.704)
age	40.758	9.814	40.364	9.228	-0.394	(-0.264)
primary	0.167	0.376	0.418	0.496	0.252***	(3.805)
secondary	0.348	0.480	0.264	0.443	-0.085	(-1.168)
tertiary	0.485	0.504	0.318	0.468	-0.167*	(-2.182)
small scale SE	0.106	0.310	0.055	0.228	-0.052	(-1.172)
children under 6	0.197	0.401	0.264	0.443	0.067	(1.027)
spouse present	0.758	0.432	0.927	0.261	0.170**	(2.892)
grandparents present	0.091	0.290	0.127	0.335	0.036	(0.760)
unfair treatment	0.409	0.495	0.518	0.502	0.109	(1.407)
promotion	0.121	0.329	0.118	0.324	-0.003	(-0.059)
promotion missed	0.076	0.267	0.073	0.261	-0.003	(-0.074)
boss problems	0.061	0.240	0.073	0.261	0.012	(0.314)
demoted	0.061	0.240	0.027	0.164	-0.033	(-0.996)
good salary	0.652	0.480	0.782	0.415	0.130	(1.832)
lack of stress	0.530	0.503	0.564	0.498	0.033	(0.427)
employment stability	0.545	0.502	0.573	0.497	0.027	(0.350)
job matching competences	0.212	0.412	0.264	0.443	0.052	(0.781)
personal development opp	0.318	0.469	0.227	0.421	-0.091	(-1.292)
flexible working hours	0.167	0.376	0.118	0.324	-0.048	(-0.872)
independence	0.333	0.475	0.327	0.471	-0.006	(-0.082)
Observations	66		110		176	

Source: Diagnoza Spoleczna, 2007-2015.

Table A3

Determinants of transitioning into self-employment from reduced probit regression for women and men in non-professional occupations (marginal effects).

	Women					Men				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
savings 100k PLN	0.052	0.057	0.047	0.064	0.061	0.119	0.122	0.115	0.116	0.114
	(0.045)	(0.045)	(0.046)	(0.046)	(0.047)	(0.111)	(0.111)	(0.111)	(0.110)	(0.110)
debt 100k PLN	0.020*	0.022*	0.017	0.022*	0.021*	0.004	0.004	0.006	0.003	0.004
	(0.012)	(0.011)	(0.011)	(0.012)	(0.011)	(0.014)	(0.014)	(0.014)	(0.014)	(0.014)
age	0.000	0.000	0.000	0.000	0.000	-0.001**	-0.001**	-0.001**	-0.001**	-0.001**
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
education: secondary										
education: primary	-0.005	-0.006	-0.005	-0.005	-0.005	0.008	0.008	0.008	0.009	0.010
	(0.006)	(0.005)	(0.006)	(0.005)	(0.005)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
education: tertiary	0.004	0.003	0.000	0.005	0.001	0.006	0.006	0.006	0.005	0.007
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.010)	(0.010)	(0.010)	(0.010)	(0.010)
small scale SE	0.000	0.000	0.000	0.000	0.000	0.015	0.014	0.015	0.016	0.016
	(.)	(.)	(.)	(.)	(.)	(0.019)	(0.018)	(0.019)	(0.018)	(0.018)
children under 6	-0.012	-0.011	-0.010	-0.011	-0.009	-0.009	-0.009	-0.009	-0.010*	-0.010*
	(0.008)	(0.008)	(0.007)	(0.008)	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
spouse in HH	-0.001	-0.000	-0.000	-0.001	-0.000	0.002	0.001	0.001	0.003	0.002
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)
grandparent in HH	0.006	0.006	0.006	0.006	0.006	0.003	0.003	0.004	0.005	0.005
	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
demoted		0.004			0.003		0.020			0.021*
		(0.012)			(0.012)		(0.013)			(0.012)
promotion missed		0.002			0.000		-0.007			-0.006
		(0.010)			(0.010)		(0.010)			(0.010)
promotion		-0.003			-0.004		0.003			0.003
		(0.011)			(0.011)		(0.009)			(0.009)
boss problems		0.009			0.010		0.007			0.006
		(0.010)			(0.010)		(0.009)			(0.009)
unfair treatment		-0.007			-0.006		0.002			0.002
		(0.005)			(0.004)		(0.004)			(0.004)
lack of stress			-0.003		-0.003			0.003		0.003
			(0.005)		(0.005)			(0.005)		(0.005)
independence			0.002		0.002			0.010*		0.010*
			(0.007)		(0.006)			(0.006)		(0.006)
development opp			0.009		0.009*			-0.003		-0.003
			(0.005)		(0.005)			(0.007)		(0.007)
matching competences			0.005		0.004			0.005		0.005
			(0.006)		(0.006)			(0.005)		(0.005)
employment stability			-0.005		-0.005			0.007		0.007
			(0.006)		(0.005)			(0.005)		(0.005)
flex working hours			-0.009		-0.009			-0.000		-0.001
			(0.007)		(0.007)			(0.007)		(0.007)
good salary			-0.002		-0.002			0.004		0.003
			(0.005)		(0.005)			(0.006)		(0.006)
reg: day care				0.000	0.001				0.007	0.005
				(0.015)	(0.014)				(0.013)	(0.012)
reg: unemp / work ratio				-0.001	-0.001				-0.000	-0.000
				(0.001)	(0.001)				(0.001)	(0.001)
reg: gdp per capita				-0.290	-0.262				0.129	0.128
				(0.216)	(0.211)				(0.224)	(0.225)
reg: gdp growth				-0.045	-0.047				0.013	0.014
				(0.041)	(0.039)				(0.032)	(0.031)
r2_p	0.102	0.109	0.122	0.110	0.137	0.049	0.055	0.057	0.054	0.066
N	2221	2221	2221	2221	2221	3477	3477	3477	3477	3477

Source: Diagnoza Spoleczna, 2007-2015.
Note: Marginal effects, year and regional dummies included. reg: daycare refers to the average number of places in preschool education per one child 3-5 years old; reg: unemp/work refers to the number of unemployed/number of working

Table A4

Determinants of transitioning into self-employment from reduced probit regression for women and men aged 20 to 40 (marginal effects).

	Women					Men				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
savings 100k PLN	0.067**	0.066*	0.066**	0.057*	0.055*	0.066*	0.065*	0.062*	0.063*	0.059
	(0.033)	(0.035)	(0.028)	(0.033)	(0.031)	(0.036)	(0.037)	(0.036)	(0.037)	(0.036)
debt 100k PLN	0.029***	0.029***	0.027***	0.028***	0.028***	0.023*	0.023*	0.021	0.022	0.023
	(0.007)	(0.007)	(0.008)	(0.008)	(0.008)	(0.013)	(0.013)	(0.013)	(0.014)	(0.014)
age	-0.001	-0.001	-0.002	-0.001	-0.002	-0.001	-0.001	-0.000	-0.001	-0.001
	(0.002)	(0.001)	(0.001)	(0.002)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)	(0.001)
education: secondary										
education: primary	-0.030**	-0.031**	-0.028*	-0.029**	-0.028*	0.008	0.008	0.010	0.010	0.013
	(0.015)	(0.015)	(0.016)	(0.015)	(0.015)	(0.010)	(0.009)	(0.010)	(0.010)	(0.009)
education: tertiary	-0.005	-0.007	-0.003	-0.006	-0.005	0.010	0.010	0.007	0.009	0.007
	(0.009)	(0.009)	(0.010)	(0.009)	(0.010)	(0.010)	(0.010)	(0.011)	(0.010)	(0.010)
small scale SE	0.053***	0.054***	0.056***	0.052***	0.055***	0.051**	0.053**	0.046**	0.049**	0.046**
	(0.018)	(0.018)	(0.019)	(0.018)	(0.018)	(0.022)	(0.022)	(0.022)	(0.022)	(0.022)
children under 6	-0.000	0.001	-0.003	0.000	-0.000	-0.010	-0.009	-0.010	-0.008	-0.009
	(0.008)	(0.007)	(0.008)	(0.008)	(0.008)	(0.008)	(0.007)	(0.007)	(0.008)	(0.007)
spouse in HH	-0.005	-0.004	-0.004	-0.002	0.000	0.017	0.015	0.014	0.019	0.013
	(0.010)	(0.010)	(0.010)	(0.011)	(0.010)	(0.016)	(0.016)	(0.015)	(0.016)	(0.015)
grandparent in HH	-0.013	-0.012	-0.014	-0.009	-0.010	0.002	0.001	0.001	0.006	0.004
	(0.012)	(0.012)	(0.012)	(0.013)	(0.012)	(0.011)	(0.011)	(0.010)	(0.011)	(0.010)
demoted		0.040**			0.038**		0.021			0.018
		(0.019)			(0.019)		(0.024)			(0.024)
promotion missed		-0.023			-0.025		-0.000			0.001
		(0.020)			(0.021)		(0.015)			(0.014)
promotion		0.014			0.013		-0.006			-0.008
		(0.011)			(0.012)		(0.013)			(0.013)
boss problems		0.003			0.008		0.016			0.019
		(0.019)			(0.018)		(0.014)			(0.013)
unfair treatment		-0.010			-0.010		0.003			0.004
		(0.007)			(0.007)		(0.007)			(0.006)
lack of stress			0.006		0.010			0.013		0.013
			(0.008)		(0.008)			(0.009)		(0.008)
independence			0.028***		0.026***			0.034***		0.035***
			(0.009)		(0.010)			(0.009)		(0.009)
development opp			-0.006		-0.009			0.011		0.010
			(0.011)		(0.011)			(0.009)		(0.009)
matching competences			-0.004		-0.002			0.005		0.007
			(0.011)		(0.012)			(0.010)		(0.010)
employment stability			-0.000		0.001			0.012		0.010
			(0.008)		(0.009)			(0.009)		(0.008)
flex working hours			0.005		0.005			0.003		0.002
			(0.010)		(0.009)			(0.013)		(0.012)
good salary			-0.001		0.001			0.016		0.015
			(0.009)		(0.009)			(0.010)		(0.010)
reg: day care				0.020	0.028				0.043**	0.045**
				(0.023)	(0.020)				(0.021)	(0.021)
reg: unemp / work ratio				-0.003	-0.002*				0.000	0.000
				(0.002)	(0.001)				(0.001)	(0.001)
reg: gdp per capita				-0.188	-0.207				-0.114	-0.233
				(0.172)	(0.175)				(0.223)	(0.210)
reg: gdp growth				-0.030	-0.035				-0.015	-0.016
				(0.058)	(0.053)				(0.052)	(0.053)
r2_p	0.198	0.224	0.234	0.213	0.274	0.072	0.078	0.097	0.079	0.111
N	1399	1399	1399	1399	1399	1960	1960	1960	1960	1960

Source: Diagnoza Spoleczna, 2007-2015.

Note: Marginal effects, year and regional dummies included. reg: daycare refers to the average number of places in preschool education per one child 3-5 years old; reg: unemp/work refers to the number of unemployed/number of working

Table A5

Determinants of transitioning into self-employment from reduced probit regression for women and men (marginal effects, household level cluster).

	Women					Men				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
savings 100k PLN	0.033**	0.033**	0.029**	0.031**	0.029**	-0.008	-0.009	-0.010	-0.012	-0.014
	(0.014)	(0.014)	(0.013)	(0.014)	(0.013)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
debt 100k PLN	0.014***	0.014***	0.012**	0.013**	0.012**	0.017**	0.017**	0.017**	0.016**	0.016**
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
age	-0.000*	-0.000	-0.001*	-0.000*	-0.000*	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
education: secondary										
education: primary	-0.002	-0.002	-0.002	-0.002	-0.001	0.001	0.001	0.002	0.002	0.004
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
education: tertiary	-0.005	-0.005	-0.005	-0.005	-0.006	0.006	0.005	0.005	0.005	0.004
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
small scale SE	0.038***	0.038***	0.038***	0.038***	0.037***	0.027**	0.028**	0.025**	0.027**	0.025**
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.012)	(0.012)	(0.011)	(0.012)	(0.011)
children under 6	-0.004	-0.004	-0.005	-0.004	-0.004	-0.008	-0.008	-0.008	-0.008	-0.008
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
spouse in HH	-0.003	-0.003	-0.002	-0.002	-0.001	0.007	0.007	0.006	0.008	0.008
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.009)	(0.009)	(0.009)	(0.009)	(0.008)
grandparent in HH	-0.001	-0.001	-0.001	-0.000	0.000	-0.002	-0.002	-0.002	0.000	0.000
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
demoted		0.023***			0.022***		0.007			0.008
		(0.009)			(0.008)		(0.014)			(0.013)
promotion missed		0.000			0.001		-0.001			0.001
		(0.008)			(0.007)		(0.008)			(0.008)
promotion		0.005			0.003		0.004			0.005
		(0.006)			(0.006)		(0.007)			(0.007)
boss problems		0.003			0.004		0.010			0.009
		(0.008)			(0.008)		(0.008)			(0.008)
unfair treatment		-0.007*			-0.006*		-0.000			-0.001
		(0.003)			(0.003)		(0.004)			(0.004)
lack of stress			-0.001		-0.001			0.008*		0.008*
			(0.004)		(0.004)			(0.005)		(0.005)
independence			0.013***		0.013***			0.017***		0.016***
			(0.005)		(0.005)			(0.005)		(0.005)
development opp			-0.001		-0.002			0.004		0.003
			(0.005)		(0.005)			(0.006)		(0.006)
matching competences			-0.005		-0.005			0.007		0.007
			(0.005)		(0.005)			(0.005)		(0.005)
employment stability			-0.000		-0.000			0.006		0.005
			(0.004)		(0.004)			(0.005)		(0.005)
flex working hours			-0.001		-0.002			0.003		0.002
			(0.005)		(0.005)			(0.007)		(0.007)
good salary			-0.001		-0.000			0.012**		0.012**
			(0.004)		(0.004)			(0.006)		(0.006)
reg: day care				0.006	0.008				0.022*	0.021
				(0.011)	(0.010)				(0.014)	(0.013)
reg: unemp / work ratio				-0.000	-0.000				-0.000	-0.000
				(0.001)	(0.001)				(0.001)	(0.001)
reg: gdp per capita				-0.013	-0.021				-0.035	-0.050
				(0.112)	(0.114)				(0.174)	(0.171)
reg: gdp growth				-0.016	-0.018				0.004	0.004
				(0.030)	(0.029)				(0.028)	(0.028)
r2_p	0.102	0.116	0.120	0.105	0.135	0.043	0.045	0.054	0.048	0.061
N	4582	4582	4582	4582	4582	4986	4986	4986	4986	4986

Source: Diagnoza Spoleczna, 2007-2015.

Note: Marginal effects, year and regional dummies included. reg: daycare refers to the average number of places in preschool education per one child 3-5 years old; reg: unemp/work refers to the number of unemployed/number of working

Table A6

Determinants of transitioning into self-employment from reduced probit regression for women and men (marginal effects, individual level cluster).

	Women					Men				
	(1)	(2)	(3)	(4)	(5)	(1)	(2)	(3)	(4)	(5)
savings 100k PLN	0.033**	0.033**	0.029**	0.031**	0.029**	-0.008	-0.009	-0.010	-0.012	-0.014
	(0.014)	(0.014)	(0.013)	(0.014)	(0.013)	(0.024)	(0.024)	(0.024)	(0.024)	(0.024)
debt 100k PLN	0.014***	0.014***	0.012**	0.013**	0.012**	0.017**	0.017**	0.017**	0.016**	0.016**
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.007)	(0.007)	(0.007)	(0.007)	(0.007)
age	-0.000*	-0.000	-0.001*	-0.000*	-0.000*	-0.001***	-0.001***	-0.001***	-0.001***	-0.001***
	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)	(0.000)
education: secondary										
education: primary	-0.002	-0.002	-0.002	-0.002	-0.001	0.001	0.001	0.002	0.002	0.004
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
education: tertiary	-0.005	-0.005	-0.005	-0.005	-0.006	0.006	0.005	0.005	0.005	0.004
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
small scale SE	0.038***	0.038***	0.038***	0.038***	0.037***	0.027**	0.028**	0.025**	0.027**	0.025**
	(0.009)	(0.009)	(0.009)	(0.009)	(0.009)	(0.012)	(0.012)	(0.011)	(0.012)	(0.011)
children under 6	-0.004	-0.004	-0.005	-0.004	-0.004	-0.008	-0.008	-0.008	-0.008	-0.008
	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)	(0.005)
spouse in HH	-0.003	-0.003	-0.002	-0.002	-0.001	0.007	0.007	0.006	0.008	0.008
	(0.004)	(0.004)	(0.004)	(0.004)	(0.004)	(0.009)	(0.009)	(0.009)	(0.009)	(0.008)
grandparent in HH	-0.001	-0.001	-0.001	-0.000	0.000	-0.002	-0.002	-0.002	0.000	0.000
	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)	(0.006)
demoted		0.023***			0.022***		0.007			0.008
		(0.009)			(0.008)		(0.014)			(0.013)
promotion missed		0.000			0.001		-0.001			0.001
		(0.008)			(0.007)		(0.008)			(0.008)
promotion		0.005			0.003		0.004			0.005
		(0.006)			(0.006)		(0.007)			(0.007)
boss problems		0.003			0.004		0.010			0.009
		(0.008)			(0.008)		(0.008)			(0.008)
unfair treatment		-0.007*			-0.006*		-0.000			-0.001
		(0.003)			(0.003)		(0.004)			(0.004)
lack of stress			-0.001		-0.001			0.008*		0.008*
			(0.004)		(0.004)			(0.005)		(0.005)
independence			0.013***		0.013***			0.017***		0.016***
			(0.005)		(0.005)			(0.005)		(0.005)
development opp			-0.001		-0.002			0.004		0.003
			(0.005)		(0.005)			(0.006)		(0.006)
matching competences			-0.005		-0.005			0.007		0.007
			(0.005)		(0.005)			(0.005)		(0.005)
employment stability			-0.000		-0.000			0.006		0.005
			(0.004)		(0.004)			(0.005)		(0.005)
flex working hours			-0.001		-0.002			0.003		0.002
			(0.005)		(0.005)			(0.007)		(0.007)
good salary			-0.001		-0.000			0.012**		0.012**
			(0.004)		(0.004)			(0.006)		(0.006)
reg: day care				0.006	0.008				0.022*	0.021
				(0.011)	(0.010)				(0.013)	(0.013)
reg: unemp / work ratio				-0.000	-0.000				-0.000	-0.000
				(0.001)	(0.001)				(0.001)	(0.001)
reg: gdp per capita				-0.013	-0.021				-0.035	-0.050
				(0.112)	(0.114)				(0.174)	(0.171)
reg: gdp growth				-0.016	-0.018				0.004	0.004
				(0.030)	(0.029)				(0.028)	(0.028)
r2_p	0.102	0.116	0.120	0.105	0.135	0.043	0.045	0.054	0.048	0.061
N	4582	4582	4582	4582	4582	4986	4986	4986	4986	4986

Source: Diagnoza Spoleczna, 2007-2015.
Note: Marginal effects, year and regional dummies included. reg: daycare refers to the average number of places in preschool education per one child 3-5 years old; reg: unemp/work refers to the number of unemployed/number of working