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Women's Self-employment in Poland: A strategy for combining work and childcare?

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Women's self-employment in Poland: A strategy for combining work and childcare?**Abstract**

The paper investigates whether self-employment, which generally offers greater flexibility with respect to the hours and place of work, is chosen by women in order to achieve a better balance between paid work and family. The empirical research on this topic has provided conflicting evidence. The shortcomings of previous studies are discussed and accounted for. First, we investigate women's self-employment choices in relationship with childbearing and childrearing, and we apply qualitative methodology to examine the motives that trigger these decisions. Second, in the quantitative part of the study, we investigate the direction of the relationship by analyzing whether self-employment encourages childbearing, or whether motherhood leads women to choose a more flexible form of employment. Finally, we account for the selection of mothers into the group of self-employed due to time-constant unobserved characteristics.

Our results show that self-employment does not affect women's fertility decisions, but it can become an attractive option for women after they have children because of the flexibility it offers. Nevertheless, self-employment does not seem to be preferred to W&S

contracts. Instead, it is seen as an alternative to being jobless or in a "bad job" (i.e., one that is inflexible, stressful, or demanding).

Introduction

In response to the threat of population aging, reconciliation of work and family has become an important topic in economic and demographic research. This issue has been explored in numerous empirical studies, most of which investigated the macro- and micro-level relationships between fertility and women's employment (e.g., Engelhardt et al. 2004; Matysiak and Vignoli 2008) and the impact of public policies on these behaviors (e.g., Rønsen and Sundström 2002; Andersson et al. 2006; Aaberge et al. 2005; Del Boca et al. 2009). These studies mainly focused on women's employment status in general. Recent research on work and family conflict has adopted a more nuanced perspective, devoting more attention to various jobs characteristics, such as the stability of employment contracts (e.g., Blossfeld 2005; Kreyenfeld 2010) or the number of working hours (e.g., Kreyenfeld 2004; Oláh 2003). Researchers have also been showing increasing interest in the role of non-standard forms of employment, especially the relationship between women's self-employment and childbearing.

Interest in women's self-employment is growing for two main reasons. First, many countries have recognized entrepreneurship as the "engine for economic growth" (Aidis and Wetzels 2007): in the EU-27 in 2009, 8.3% of women and 15.8% of men working outside agriculture were self-employed (LFS data provided by Eurostat, authors' calculations). Second, many authors have argued that, as self-employment offers a more flexible working schedule, it is an attractive strategy for achieving work-family balance (Arai 2000; Boden 1999; Carr 1996; Connelly 1992; Wellington 2006). If this is the case, promoting self-employment may lead to a simultaneous increase in fertility and women's labor market participation, both of which are urgently needed in an aging Europe. However, before advocating this approach, we need to establish whether a positive relationship between women's self-employment and fertility really exists.

In the next section we will show that empirical studies have produced conflicting evidence on the issue, particularly for Europe. There are several reasons for this state of affairs. First, the role of self-employment in balancing work and family may be country-specific, and may depend on national regulations, as well as on varying motives among women. Second, the existing studies do not provide a comprehensive picture of the role of self-employment, as they generally look at either the effect of self-employment on fertility, or

on the effect of children on women's self-employment choices, but rarely at both. Finally, the applied statistical methods used in these studies often failed to account for unobserved characteristics (such as a preference for or an aversion to risk) which may have jointly affected women's self-employment and fertility choices, thus resulting in a bias in the estimated relationship between the two variables.

In this paper we seek to overcome these problems. First, we not only investigate women's final self-employment choices and their interrelationship with childbearing and childrearing; we also apply qualitative methodology to look at the motives that trigger these decisions. Such an approach allows us to better understand and interpret women's employment behaviors. Second, as we move on to quantitative methods to establish the relationship between self-employment and motherhood, we focus on two stages in a woman's life course: namely, before and after giving birth. This allows us to verify whether self-employment encourages childbearing, or whether motherhood leads women to choose a more flexible form of employment. Finally, we account for the selection of mothers into the group of self-employed (either positive or negative) due to time-constant unobserved characteristics by modeling fertility and self-employment outcomes jointly.

Our study focuses on Poland. Women of reproductive age in Poland exhibit a strong determination to work (Matysiak 2009; Matysiak and Mynarska 2010), despite the fact that the Polish institutional and cultural context is highly unfavorable to combining work and family (Matysiak 2011; Thévenon 2011). These findings suggest that Polish women must have developed some strategies that allow them to combine childrearing and paid work. Starting their own business might be one such strategy.

Self-employment and motherhood: a literature review

A substantial number of empirical studies conducted in the United States have found that women opt for self-employment in order to balance work and family obligations. Several researchers have found, for example, that having at least one child, especially a young child, increases the probability that a woman will enter self-employment (Boden 1996, 1999; Connelly 1992; Hundley 2000; Wellington 2006; Caputo and Dolinsky 1998). Additionally, a study conducted by Boden (1999) found that women give family-related reasons for choosing this form of economic activity. Thus, in general, few studies challenge the findings on the positive relationship between self-employment and fertility in the United States (e.g. Taniguchi 2002).

The relationship between self-employment and childbearing appears to be far more complicated in the European context. First, several researchers have looked at how self-employment influences the rates of entry into motherhood and the progression to further births. The effect seems to be country-specific, but the available empirical studies are also full of contradictions. No significant effect of self-employment on motherhood have been found for the UK or Germany (Zabel 2006; Del Boca et al. 2004), while a positive, albeit weak, effect has been shown for Spain (Coppola and Di Cesare 2008). For Italy, Del Boca et al. (2004) found that self-employment facilitated childbearing, while the opposite conclusion was reached by Coppola and Di Cesare (2008). Conflicting evidence has also been produced for France: del Boca et al. (2004) found no significant relationship between women's self-employment and fertility, while Breton and Prioux (2009) concluded that women's self-employment hinders motherhood.

Aidis and Wetzels (2007) took a different perspective, examining how the number of children and their ages affected women's decisions about whether to become self-employed. Their study also yielded diverse findings, revealing that the probability that a woman would choose self-employment instead of W&S employment increased significantly with the number of children, and declined with the ages of the children in Italy and the Netherlands, but not in Spain.

The hypothesis that self-employment is deliberately chosen by women because it is more compatible with childrearing has also been tested by analyzing the relationship between the amount of time dedicated to childcare and the employment type. Hildebrand and Williams (2003) studied the time spent on childcare in 11 European countries, and found that in six of these countries, there was no difference between the self-employed and other employed; while in three others, the relationship was negative. Only in the Netherlands and the UK were self-employed women found to be spending more time caring for their children. Nonetheless, a more in-depth study for Spain (Gimenez-Nadal et al. 2011) showed that, even if the amount of time dedicated to childcare by self-employed women and contract workers was the same, self-employed mothers were able to organize their time in a more convenient and flexible manner.

Overall, the picture of the relationship between self-employment and fertility in Europe is clearly far from coherent. There might be several reasons for these contradictions.

First, the lack of consistency in the empirical findings on the relationship between women's self-employment and childbearing may result from the fact that that women entrepreneurs are not a "monolithic category" (Sarri and Trihopoulou 2005), and that there are many "push" and "pull" factors (Hughes 2003) encouraging women's self-employment.

These factors may vary not only in different country settings, but also for different categories of women in one country. First, women might be “pushed” into self-employment by discrimination in the labor market, or by the inability to find a job. Some employers might also force workers into self-employment, as they replace W&S employment contracts with self-employment in order to reduce non-wage labor costs (Adserà 2004). This form of self-employment, tied to one contractor, has become particularly common in Southern Europe (*ibid*). It is often involuntary, and rarely provides a secure setting for family formation. The women employed as subcontractors are frequently treated as *de facto* full-time workers and do not benefit from the flexibility offered by self-employment. At the same time, their maternity entitlements may be more limited than those of their W&S employed counterparts and their situation at the company may be less secure, as they are not protected by the labor code. Second, women are also getting “pulled” towards self-employment by the desire for better working conditions, independence, and autonomy (Hughes 2003). This kind of motivation may be expected to dominate in countries that are advanced in the process of the Second Demographic Transition (Lesthaeghe 1995; van de Kaa 1987); that is, in societies in which individuals consider independence, freedom, achievement, and self-fulfillment to be particularly important. Indeed, some micro-level studies have found that women’s self-employment is associated with positive attitudes towards independence (Douglas and Shepherd 2002; Hisrich 1990), use of initiative (Tylor 2004), and an internal locus of control (Le 1999; Sarri and Trihopoulou 2005). Another pull factor may be a desire for a high income, but the evidence indicates that this aspect is not of primary importance for women. Hundley (2000) found that women do not benefit as much as men from becoming self-employed, and Budig (2006a) showed that, for non-professional occupations, self-employment negatively affects women’s earnings. A positive effect was found only for professionals. Importantly, all of the aforementioned factors that encourage women’s self-employment suggest that there is a negative relationship between this form of labor market activity and childbearing. When a woman is pushed into self-employment by labor market conditions, her economic situation might be too unstable for entering motherhood. By contrast, when a woman is pulled towards self-employment by a desire for independence, self-realization, or money, she may want to concentrate on developing her business and to put off having a family, which could lead her to have fewer or no children (Shelton 2006). The only factor that simultaneously pulls women towards self-employment and encourages childbearing is the greater flexibility that self-employment offers with respect to the hours and place of work. With various push and pull factors encouraging female entrepreneurship, it is

important to understand what motives drive women's choices in different contexts. Depending on the labor market structures, the institutional settings, and the meanings women attach to self-employment, we may observe a negative or a positive relationship between this form of economic activity and fertility.

The second group of reasons why empirical studies on the relationship between self-employment and fertility in Europe yield inconsistent results involve the applied research design. First, the available studies usually present a partial approach, as they either look at the effect of self-employment on childbearing (e.g., Coppola and Di Cesare 2008; Del Boca et al. 2004; Zabel 2006) or the effect of fertility on the choice of self-employment (e.g., Aidis and Wetzels 2007; Boden 1996; Caputo and Dolinsky 1998), but seldom at both. In fact, women may choose self-employment before starting a family, and, because of the greater flexibility this work arrangement provides, they may decide to have their children sooner. But it is also possible that the increase in care responsibilities women experience after giving birth encourages them to become self-employed. Hence, looking at only one stage in a woman's life course, such as before or after giving birth, may not tell us the full story about the role of self-employment in balancing paid work and family, and it may even lead us to draw the wrong conclusions. Second, the empirical studies that analyze women's decisions to enter self-employment after giving birth hardly consider self-employment as alternatives to W&S contracts and non-employment, and are often limited to a particular group of women. For instance, Wellington (2006) studied only women who were in W&S employment, and looked at their transitions to self-employment. Budig (2006b) applied a slightly more comprehensive approach, and also included previously non-employed women in her analysis. However, she missed the fact that the women in W&S employment/non-employment may choose not only self-employment, but may also transition to non-employment/W&S employment. Only Taniguchi (2002) investigated the transitions from non-employment to self-employment versus W&S employment, but he limited his sample to previously non-employed women. Third, the inconsistencies in the available empirical findings may result from the failure of most researchers to account for unobserved characteristics of women, such as an aversion to or a preference for risk, which may also affect women's fertility and employment choices. Omitting these characteristics leads to a selection bias in the estimated relationship between women's self-employment and childbearing. To the best of our knowledge, only Wellington (2006) succeeded in controlling for the selection effect caused by the time-fixed unobservable variables.

Notably, the relationship between women's self-employment and childbearing has never been analyzed in post-socialist countries. Yet this form of economic activity might be particularly helpful in combining work and family in this part of Europe, where women face exceptionally large conflicts between paid work and childbearing, but continue to report a strong desire to work for pay (Matysiak 2009; Kanjuo Mrčela and Černigoj Sadar 2011; Hobson et al. 2011). However, before we advocate that the government encourage women's entrepreneurship (e.g., by reducing taxes imposed on self-employed parents) to make it easier for women to balance work and family, as well as to increase both women's labor force participation and fertility, we have to understand how self-employment and childbearing are related in this particular context. In this paper, we take a first step towards understanding the role that self-employment plays in family planning in the post-socialist context by exploring the relationship between self-employment and childbearing in Poland.

Context of Poland

Empirical studies have repeatedly shown that Poland is the country in the EU with the worst conditions for work and family reconciliation (Matysiak 2011; Thévenon 2011; Szelewa and Polakowski 2008). This is due to the fact that childrearing is still mainly perceived as the mother's responsibility, and combining work and family is weakly supported by public institutions (Heinen and Wator 2006). The state provision of childcare in Poland is the worst in the EU, and, even if the private sector is included, the country performs badly in the area of formal childcare. In 2008, only 7.9% of children under age three and 47.3% of children aged 3-5 used childcare facilities, whereas for all OECD countries, the average participation rates were as high as 30% and 77.3%, respectively (OECD 2011). The inadequate childcare provision is compensated for by long parental leaves of up to three years. These leaves are, however, unpaid except for mothers in very adverse financial circumstances. Polish women rarely take advantage of the full leave period, and instead return to work (Matysiak and Vignoli 2010). The high opportunity costs of childbearing in Poland are further exacerbated by a scarcity of part-time jobs (around 10% of all jobs held by women since the early 1990s) and a high degree of rigidity in working hours (Eurostat 2007).

Despite the pronounced difficulties in combining paid work and childcare, young women in Poland appear to be very determined to find a job and remain employed (Matysiak 2009; Matysiak and Steinmetz 2008; Matysiak and Vignoli 2010). Financial necessity is not the only motive for this strong determination among women to participate in paid employment. In a recent study, Matysiak and Mynarska (2010) showed that women view

labor market work not only as a source of income, but also as an attractive activity that provides them with a break from domestic chores, gives them the opportunity to do something interesting and challenging, and allows them to be around people. Interestingly, the same authors demonstrated that Polish women are not interested in pursuing a professional career in the sense of earning a high income and winning promotions. The study found that, while women want to participate in the labor market and combine economic activity with childrearing, they clearly do not want to have a professional career, as they believe this would make it impossible to have a balanced family life.

Against this background, Poland seems to be an interesting case study for investigating how women's choices to have children and to become self-employed are interrelated. In 2009, the self-employed accounted for 8% of all women working in all sectors except agriculture. This gives Poland a middle position in the EU. As the findings of Matysiak and Mynarska (2010) suggest that this phenomenon is unlikely to have been caused by a desire among women to pursue a professional career, we must consider other explanations for it. The high incidence of self-employment among women may be the result of limited employment opportunities for women who are determined to remain active in the labor market, and who choose this alternative in order to avoid non-employment. Nevertheless, it is also possible that establishing their own business is a deliberate strategy employed by women who struggle to combine childrearing with paid work in an unfriendly institutional setting. Our study seeks to find out if this is the case.

Research objectives and design

Our aim is to provide a comprehensive test of the role of self-employment in balancing economic activity with childbearing and childrearing in Poland. We do this in two steps. First, we look at the meaning women attach to self-employment, as well as the motives for women's final choices between self-employment and W&S employment in connection with childbearing and childrearing. This approach allows us to gain greater insight into the push and pull factors that encourage women's employment, and thus to better understand women's final choices. Second, we investigate whether self-employed women are more likely to decide to have children than women on W&S contracts, or whether it is the increase in family responsibilities after giving birth that causes women to enter self-employment. In other words, we look at the role of self-employment at two stages of a woman's life course: before and after giving birth.

To achieve our research goals, we use a combination of qualitative and quantitative methods. The mixed-method approach has been increasingly advocated in population studies (e.g., Bernardi and Hutter 2007; Hantrais 2005; Knodel 1997), as well as in social science research in general (e.g., Bryman 1988; Giele and Elder 1998; Sale et al. 2002). Using different approaches, as well as different methods and datasets within each paradigm (methodological triangulation), allows us to formulate more accurate and in-depth interpretations of social phenomena. More specifically, by using qualitative methods, we can explore the meanings women attach to self-employment, investigate women's motives for their final employment choices in connection with childbearing and childrearing, and formulate specific hypotheses on the role of women's self-employment at the early stages of family formation. These hypotheses are further tested in the quantitative part of our study, in which we establish a quantitative relationship between women's self-employment and fertility on a representative dataset.

Qualitative study

In our qualitative study, we employ explorative, qualitative approach, analyzing a set of in-depth, semi-structured interviews conducted in 2004/2005 with 26 young Polish women aged 20-30. We also include interviews with the women's partners in our analyses, as certain meanings associated with women's self-employment will be more apparent when we contrast them with men's perspectives. In total, we have at our disposal 48 interviews conducted in 2004-2005 with women aged 20-30 and men aged 20-35. The respondents were childless or had one child. Even though we lack respondents with two or more children, some women in the sample were at the stage of their life, when they considered having second child. Thus, the sample appears sufficient to gain the first insights into women's motives for self-employment and how these motives are intertwined with childbearing. We interviewed women living in Warsaw, with medium to high levels of education, as women self-employed in non-agricultural sectors in Poland are rarely characterized by low education (Lisowska and Sawicka 2009). In general, the sample consists of information rich cases, given our research aims. The respondents were selected from a qualitative survey database (details on the sampling procedure and field work can be found in: Mynarska 2009).

The interview guideline covered numerous questions on childbearing intentions or experiences, employment, and work and family reconciliation. In the narrative material, we explore respondents' opinions on women's self-employment and analyze women's intentions to start their own business, as well as their arguments for or against this decision. To better

understand what meaning is attached to women's entrepreneurship, we compare opinions on women's self-employment with those on men's. We also pay particular attention to how the respondents view women's self-employment in relation to the couple's reproductive decisions.

Quantitative study

The next part of our study aims at establishing a quantitative relationship between women's self-employment and fertility based on representative data for Poland. We develop an analytical model that makes up for the methodological shortcomings of previous studies on the topic enumerated in Section 2 of the paper. Specifically, it allows us to investigate the interrelationship between women's self-employment and fertility at two stages in a woman's life course: before and after she gives birth. We treat self-employment as competing with W&S employment and non-employment. We do not exclude any particular group of women, and control for women's unobserved time-fixed characteristics that jointly affect fertility and employment processes. The model consists of six equations (the subscripts for an individual were suppressed for the sake of simplicity):

$$\ln\{h^{B1}(t)\} = \sum_i age_i(t) + \alpha^{B1} emplst(t) + \sum_j \beta_j^{B1} x_j + \sum_k \gamma_k^{B1} w_k(t) + \varepsilon \quad (1)$$

$$\ln\{h^{B2+}(t)\} = \sum_i ageych_i^{B2+}(t) + \alpha^{B2+} emplst(t) + \sum_j \beta_j^{B2+} x_j + \sum_k \gamma_k^{B2+} w_k(t) + \varepsilon \quad (2)$$

$$\ln\{h^{W\&S \rightarrow SE}(t)\} = \sum_i twse_i(t) + \alpha^{W\&S \rightarrow SE} fertility(t) + \sum_j \beta_j^{W\&S \rightarrow SE} x_j + \sum_k \gamma_k^{W\&S \rightarrow SE} w_k(t) + \xi^{W\&S \rightarrow SE} \quad (3)$$

$$\ln\{h^{W\&S \rightarrow NE}(t)\} = \sum_i twse_i(t) + \alpha^{W\&S \rightarrow NE} fertility(t) + \sum_j \beta_j^{W\&S \rightarrow NE} x_j + \sum_k \gamma_k^{W\&S \rightarrow NE} w_k(t) + \xi^{W\&S \rightarrow NE} \quad (4)$$

$$\ln\{h^{NE \rightarrow SE}(t)\} = \sum_i tne_i(t) + \alpha^{NE \rightarrow SE} fertility(t) + \sum_j \beta_j^{NE \rightarrow SE} x_j + \sum_k \gamma_k^{NE \rightarrow SE} w_k(t) + \eta^{NE \rightarrow SE} \quad (5)$$

$$\ln\{h^{NE \rightarrow W\&S}(t)\} = \sum_i tne_i(t) + \alpha^{NE \rightarrow W\&S} fertility(t) + \sum_j \beta_j^{NE \rightarrow W\&S} x_j + \sum_k \gamma_k^{NE \rightarrow W\&S} w_k(t) + \eta^{NE \rightarrow W\&S} \quad (6)$$

In the first two equations, we model the effects of self-employment on fertility: namely, on the hazard of a transition to a first birth, $h^{B1}(t)$; and on the hazard of a transition to a second or third birth, $h^{B2+}(t)$. We start observing each woman from the age of 15, when she first becomes at risk of conceiving her first child. After the first child is born, the woman is at risk of conceiving a second child, and after the second child has been born, she is at risk of a third conception. Transitions to a second or a third child were specified within one hazard function, separately from the transitions to a first child. Women who gave birth to more than three children were censored at the fourth conception. The baseline log hazard of the

transition to the first conception is defined as the time since the age of 15 ($\text{age}(t)$), and it is modeled as a piecewise linear spline function. Time since previous birth ($\text{ageych}(t)$) constitutes the baseline log hazard in the model for the transition to a second and a third child. The major explanatory variable in these models is a woman's employment status ($\text{emplst}(t)$), which assumes three categories: non-employment, self-employment, and W&S employment (our reference category). Additionally, we controlled for a set of j time-constant x and k time-varying $z(t)$ covariates. In the first group, we included variables that describe a woman's family of origin: i.e., the educational level of the woman's parents, a dummy variable indicating whether she had siblings, and her place of residence at the age of 15. Moreover, the model for the transition to a second or a higher order birth includes a variable that indicates a woman's age at the birth of her first child. The time-varying covariates cover a woman's educational attainment, her partnership status, and the calendar time. Finally, ε denotes a woman's specific unobserved heterogeneity term fixed over her lifetime. It is assumed to follow a normal distribution with a zero mean and a standard deviation σ_ε , and it describes a woman's unobserved time-invariant taste for children.

The effects of fertility on self-employment are studied within equations (3)-(6). More specifically, equations (3) and (4) represent a competing risk model of transitions from W&S employment to self-employment, $h^{W\&S \rightarrow SE}(t)$, versus non-employment, $h^{W\&S \rightarrow NE}(t)$; whereas equations (5) and (6) model a transition from non-employment to self-employment, $h^{NE \rightarrow SE}(t)$, versus W&S employment, $h^{NE \rightarrow W\&S}(t)$. Such an approach prevents us from limiting our sample only to women who were in one employment state before they experienced the transition, and treats the entry into self-employment as an event that competes with the entry into any other state the woman was not in before she experienced the transition. The $\text{twst}(t)$ in equations (3) and (4) denotes the time since the entry into W&S employment, and the $\text{tne}(t)$ in (5) and (6) stands for the time since the entry into non-employment. They both constitute baseline log hazards, and are modeled as piecewise linear spline functions. Each woman is observed since she entered W&S employment (equations (3) and (4)) or non-employment (equations (5) and (6)) until the survey date, until she experienced an employment transition, or until she conceived a child, whichever came first. The age of the youngest child and the number of children capture the effect of fertility on employment choices. The age of the youngest child is modeled with the use of a conditional piecewise linear spline function, which switches on at conception and changes proportionally with each

parity. In all employment models, we controlled for time-varying covariates ($w(t)$), which include a woman's educational level and calendar period. Moreover, in equations (3) and (5), we controlled for the probability that a woman's parents were self-employed, as an intergenerational transmission of self-employment from parents to their children is an established finding in the literature on self-employment (Andersson and Hammarstedt 2011; Colombier and Masclet 2008). This variable was constructed on the basis of the woman's parents' occupations when she was 15 years old. It assumed a value of one if at least one of the parents worked in an occupation commonly associated with self-employment, and a value of zero otherwise. Additionally, equations (3) and (4) contain a variable indicating whether the woman worked in the public or private sector. Finally, as in the fertility models, we also controlled for a woman's time-constant unobserved propensity to experience certain employment transitions $(\xi^{W\&S \rightarrow SE}, \xi^{W\&S \rightarrow NE}, \eta^{NE \rightarrow SE}, \eta^{NE \rightarrow W\&S})$. These unmeasured heterogeneity terms are assumed to be normally distributed, with zero means and standard deviations $\sigma_{\xi^{W\&S \rightarrow SE}}, \sigma_{\xi^{W\&S \rightarrow NE}}, \sigma_{\eta^{NE \rightarrow SE}}, \sigma_{\eta^{NE \rightarrow W\&S}}$, respectively.

Finally, we also accounted for a possible selection of mothers into a group of the self-employed or of the W&S-employed. To this end, we allowed for pairwise correlations between a woman's unobserved taste for children, ε , and a woman's unobserved propensity to experience certain employment transitions, $\xi^{W\&S \rightarrow SE}, \xi^{W\&S \rightarrow NE}, \eta^{NE \rightarrow SE}, \eta^{NE \rightarrow W\&S}$. This led us to model the equations (1)-(6) jointly, assuming the following joint distribution of the unobserved heterogeneity terms:

$$\begin{pmatrix} \varepsilon \\ \xi^{W\&S \rightarrow SE} \\ \xi^{W\&S \rightarrow NE} \\ \eta^{NE \rightarrow SE} \\ \eta^{NE \rightarrow W\&S} \end{pmatrix} \sim N \left(\begin{pmatrix} 0 \\ 0 \\ 0 \\ 0 \\ 0 \end{pmatrix}, \begin{pmatrix} \sigma_{\varepsilon}^2 & \rho_{\varepsilon \xi^{W\&S \rightarrow SE}} & \rho_{\varepsilon \xi^{W\&S \rightarrow NE}} & \rho_{\varepsilon \eta^{NE \rightarrow SE}} & \rho_{\varepsilon \eta^{NE \rightarrow W\&S}} \\ \rho_{\varepsilon \xi^{W\&S \rightarrow SE}} & \sigma_{\xi^{W\&S \rightarrow SE}}^2 & 0 & 0 & 0 \\ \rho_{\varepsilon \xi^{W\&S \rightarrow NE}} & 0 & \sigma_{\xi^{W\&S \rightarrow NE}}^2 & 0 & 0 \\ \rho_{\varepsilon \eta^{NE \rightarrow SE}} & 0 & 0 & \sigma_{\eta^{NE \rightarrow SE}}^2 & 0 \\ \rho_{\varepsilon \eta^{NE \rightarrow W\&S}} & 0 & 0 & 0 & \sigma_{\eta^{NE \rightarrow W\&S}}^2 \end{pmatrix} \right) \quad (7)$$

Although pairwise correlations between the random terms in equations (3)-(6) might be expected to differ from zero, they were intentionally fixed at zero due to the computational complexity of the model. This decision was made based on a sensitivity test, which consisted of an estimation of more simple models (consisting of two birth equations and two employment equations) with and without any assumptions on the correlation between the

unobserved heterogeneity terms in the employment equations. This test uncovered no substantial differences in the effects of our interest—namely, the effect of self-employment on fertility and vice versa—between the models assuming no correlation and a non-zero correlation.

Our estimates were obtained by maximizing the joint marginal likelihood, which is defined as an integral of the joint conditional likelihoods for each model (1) to (6) times the marginal density of the unobserved heterogeneity components. The integration was performed numerically by using Gauss-Hermite quadrature (Lillard and Panis 2003). The identification of the model parameters was ensured by the fact that the analyzed events are repeated. However, as the analyzed women may easily experience numerous transitions between non-employment and W&S employment, they are less likely to experience a significant number of recurring transitions out of and into self-employment. For this reason, the identification of the model was additionally enhanced by the use of instrumental variables. More specifically, we instrumented fertility with a binary variable indicating whether a woman had any siblings, and with the woman's partnership status. Self-employment was instrumented with a binary indicator of whether one of the woman's parents was self-employed. This variable turned out to be highly correlated with a woman's transitions to self-employment, and to be uncorrelated with her fertility behavior in our data.

The model was estimated based on data from the first wave of the Polish Generations and Gender Survey, GGS (UNECE 2006). This survey was conducted at the turn of 2010 to 2011 on a representative sample of 18-79-year-old women and men. The GGS provided us with the full partnership, fertility, and employment histories of our respondents, including information about whether the respondent was self-employed (in or outside agriculture) or in W&S employment. The GGS also included a considerable amount of information on the respondents' family of origin. The shortcomings of the dataset are that it does not provide longitudinal data on the partner's employment history, and that it contains no information about the nature of the non-employment spells. Thus, while we know that a woman did not have a job during a certain period, we do not know whether she was unemployed or inactive.

Our study was conducted on a sample of 4,442 women born in 1965-1993. We selected these cohorts because they were still young when Poland's socialist regime ended, and they therefore spent the majority of their fertility and employment careers under the market economy. At the same time, those born in the 1960s and most of the 1970s were old enough to have experienced more than one birth.

We focused only on self-employment in the non-agricultural sector, and excluded any self-employment spells in agriculture. Women on maternity or parental leave were treated as employed. Altogether, in our sample we observed 277 transitions to self-employment, of which 195 were transitions from non-employment and 82 were transitions from W&S employment. Among self-employed women, we observed 47 first births and 52 second or higher order births.

Results

Qualitative study: the meaning of women's self-employment

Over the course of the interview, each respondent was asked several questions about employment and about the relationship between employment and childbearing. The interviewees discussed their experiences and their expectations with respect to work and family. While there was no direct question on self-employment in the interview guideline, this topic was discussed in some detail in 24 interviews (out of 48). As eight respondents were self-employed at the time of the interview (six men and two women), the subject came up mainly when they were asked about their labor market status. In the remaining cases, the subject was brought up when the respondents discussed their plans, perceived opportunities, or aspirations.

The topic of self-employment was mentioned just as often by male and female respondents, and it was discussed in relation to men's and women's professional careers. There were, however, clear qualitative differences in the meaning assigned to this form of economic activity in men's and women's lives.

For men, self-employment was generally associated with better financial prospects. While the men recognized that starting a business entails initial investments and certain risks, they also emphasized the prospect of higher earnings and future material stability and prosperity. They did not see W&S employment as similarly attractive. As one respondent put it: *"working for somebody else, I doubt we will ever become wealthy."* Another respondent made a similar observation:

"You have to start something. In a regular job, you will not make any real money. There's no future there. And, okay, some may say that I have a tough job now, but I earn a lot. But then it is all for nothing if the boss doesn't give me any time off or fires me." (W107, Male, 24, 1 child)

Interestingly, in discussions on women's self-employment, the financial benefits were hardly mentioned. Moreover, in several cases the respondents said explicitly that self-employment for a woman would be an option only if the couple is financially secure; for example, if the husband earns enough money to support his wife while she is starting her own business.

Other aspects of self-employment that were considered equally important by both men and women were independence and self-reliance. However, a careful reading of the interviews showed that independence has a different meaning for men and women. The male respondents emphasized that being independent of an employer gives them an opportunity to shape their professional career, develop in any direction they desire, and to "*work for myself.*" Feelings of accomplishment were mentioned, too, as in the following statement:

"A big advantage [of self-employment] is that I have this inner satisfaction, some kind of 'power;' the feeling that I am doing something on my own, that this is my business, that I don't work for anybody else." (W102, Male, 29, 1 child)

By contrast, the female respondents associated independence above all with flexibility in the hours and place of work (an opportunity to work from home). These features of self-employment were not discussed by men. This statement is representative of the views of the women interviewed:

"I don't like being subordinate. And if were to work for some company, I would need to be subordinate [...] An advantage of having my own business is that I can go to work when I want to and not when they tell me to." (W102, Fem, 26, 1 child)

The opportunity to be their "*own boss*" and to shape their own career were also cited by women as attractive features of self-employment, but they did not seem to be as important to women as they were to men. In short, it appears that self-employment gives men the freedom to do *what* they want, *the way* they want; whereas for women, freedom is more closely related to time and space (*when* and *where*).

The differences in the meaning assigned to male and female entrepreneurship, as described above, translate into the ways in which self-employment is discussed in relation to family planning. Men's self-employment is described as an opportunity to provide housing and secure financial conditions for marriage and childbearing. Women's self-employment was mentioned above all in relation to work and family balance. However, the interviews revealed the presence of three distinct patterns or themes.

First, women perceive self-employment as an alternative to being a housewife. Almost all of the women interviewed declared that, even if they could afford to stay home and their financial situation was secure (e.g., by the husband's high income), they would still want to combine work with family and childbearing. In such a case, however, they seem to prefer self-employment over W&S contracts. If the financial motivation is diminished, self-employment appears to be an attractive option for staying active in the labor market without sacrificing too much time with the family. Self-employment would allow them to fulfil their professional aspirations, but also to work less (part time), with flexible hours and at home. As one interviewee put it:

"I would not like to spend my whole life at home, to be a housewife. No, no, no. It's not what I studied for (...) I have also thought about starting a business with R. [husband]. We would have something of our own. I could work from home then, too." (W003, Fem, 26, childless)

Notably, the preference among women for self-employment in the context of imagined financial security suggests that this form of economic activity is not perceived as a viable source of income. When providing for a family is a priority, W&S contracts seem to be preferred. This is echoed in the second theme that appeared in the interviews. It was related to women's difficulties in finding W&S employment. Some respondents perceived self-employment as the only option for participating in the labor market, where the barriers to employment for mothers are high, and women are pushed out of jobs. One respondent, a young mother who had not been able to find a job for four years after she had a child, said she considered self-employment to be the only feasible option *"given what market has to offer."* Other women mentioned it as an option for the future if they were to have problems at their job. One interviewee said:

"If I were to take parental leave and for some reason could not come back to my job – if they were to terminate my contract or there were some disaster – I think I would start my own business, be self-employed, and would manage somehow." (W023, Fem, 26, childless)

In the two themes mentioned above, self-employment was not the women's first choice. It is instead something they would consider if they could afford it, if they had no other employment options, or if their employment options were perceived as problematic. One respondent said she had considered self-employment because she could not handle the strained atmosphere and *"the rat race"* at work. In our sample, however, there were also

women for whom setting up their own business was a carefully considered alternative. They became self-employed well before they got pregnant, but the prospect of having flexible working hours and the ability to combine work and childcare more easily were key factors in their decision. When asked how she intended to combine work and childcare, one respondent who was still childless at the time of the interview said:

“This is why I wanted to have my own business, so that I don’t have to go to work every day. Nobody controls me: I come when I want to, I work when I want to.” (W004, Fem, 25, childless)

These considerations were echoed in the interview with her husband, who also described how they had arranged everything and how they planned to organize their work and family life after having a child.

In sum, the analysis of the qualitative interviews indicates that women’s self-employment is perceived differently than men’s. For men, this form of economic activity is mainly seen as a way of pursuing an independent professional career with good financial prospects. For women, self-employment is attractive mainly because it offers flexible working hours and an opportunity to work from home. These aspects are appealing in relation to work and family balance. Self-employment can be an attractive alternative to being “*only a housewife,*” or it can offer the opportunity to stay active in an adverse labor market. It is also attractive for women with childcare responsibilities.

These findings suggest that self-employment may be an efficient strategy for balancing work and motherhood. However, we need representative, carefully crafted quantitative analyses to determine how entrepreneurship among women fosters or hinders childbearing, and how childbearing affects a woman’s propensity to start her own business.

Quantitative results

In the first step, we refer to our findings on the effects of women’s self-employment on fertility. Holding all of the observed and the unobserved time-fixed characteristics of women constant, we find no significant effect of self-employment on first, second, or third births. Compared to W&S employment, self-employment neither facilitates nor hinders childbearing (upper panel of Table 1).

Table 1. Effects of self-employment on fertility and effects of the number of children on employment transitions, results of the multi-process hazard model

Type of the effect	coeff. (st. error)	relative risk
Effects of self-employment on fertility (vs. W&S employment)		
first birth	0.019 (0.23)	1.019
second or higher order birth	0.09* (0.05)	1.09
Effects of the second or higher order birth on employment transitions (ref=one child)		
transition from non-employment to self-employment	0.13 (0.25)	1.14
transition from non-employment to W&S employment	-0.80*** (0.05)	0.45
transition from W&S employment to self-employment	-0.14 (0.38)	0.87
transition from W&S employment to non-employment	-0.17*** (0.06)	0.84

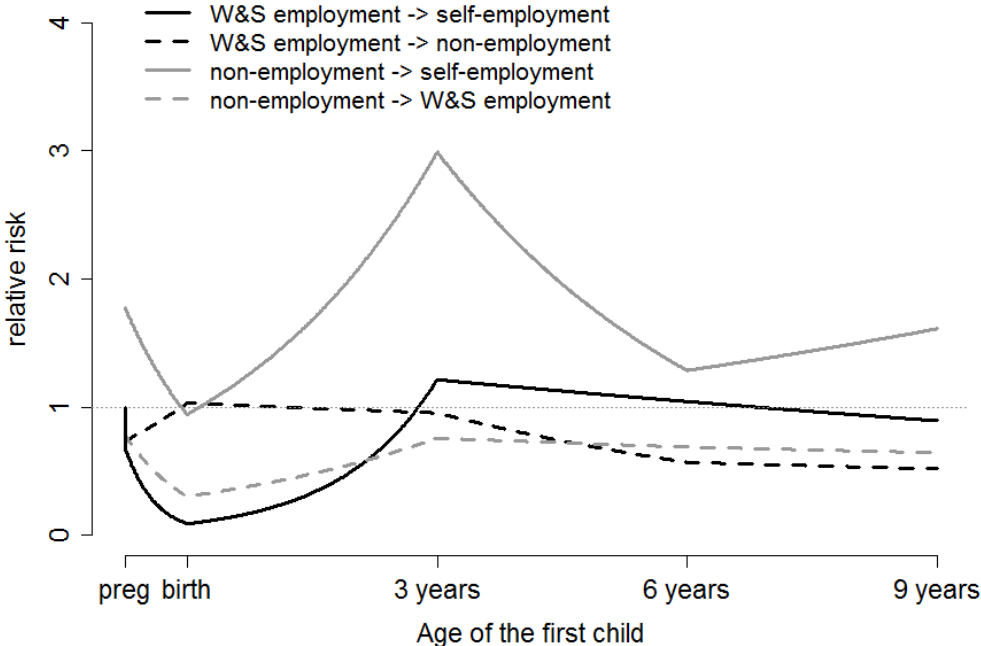
* < 0.1, ** <0.05, *** <0.01

We do, however, find an increased tendency to enter self-employment among first-time mothers, though mainly among those mothers who were non-employed at the time of the pregnancy (Figure 1). The risk of entering self-employment in this group of women starts to increase very strongly after they give birth, and reaches a maximum when the child is three years old. At this point, women who were non-employed at the time of first conception are nearly three times more likely to enter self-employment than they were just before they became pregnant. Moreover, they are four times less likely to enter W&S employment than self-employment. These findings suggest that self-employment is an attractive form of employment for women who did not have a job before they became mothers, and is much more attractive than W&S employment.

The pattern of entering self-employment among women who were on W&S contracts around the time of first conception is different from the pattern found among women who were non-employed. These women were highly unlikely to take a risk and exchange W&S employment for self-employment. At the same time, they were unlikely to become non-employed before their first child was three years old. This is likely due to the fact that some of these women were on parental leave, while others who returned to work after taking leave had guaranteed jobs. These results suggest that women who were on W&S contracts before they

became pregnant were the most likely to remain in this form of employment after giving birth. Only after the child reached the age of three or more did the risk of moving from W&S employment to self-employment exceed that of the pre-pregnancy period, but this difference was found to be rather small and hardly significant.

Figure 1: Employment transitions by age of the first child, relative risks



The effect of the age of the first child on women’s employment transitions shifts proportionally with a second or higher order birth. The magnitude of this shift is presented in the lower panel of Table 1. Again, the findings for women who were non-employed around the time of conception suggest that, compared to the first birth, a higher order birth lowers the risk of entering W&S employment (by 55%), and has no effect on entering self-employment. An increase in family size has less effect on the employment transitions of the women who became pregnant while holding W&S contracts: namely, it does not affect the risk of entry into self-employment, and it slightly lowers the risk of entering non-employment. Although the latter finding might be surprising, it is most likely attributable to the fact that pregnant women and women on leave are legally protected from dismissal.

Overall, our findings suggest that, while self-employment does not affect childbearing, it is an attractive form of employment for women who became mothers while out of employment, and it is much more attractive than W&S employment. Our qualitative outcomes suggest several explanations for these trends. One of them might be that self-employment is

chosen by mothers because of the flexibility it offers in selecting the hours and place of work. Another explanation, which seems to be more plausible with respect to this particular group of women, is that the mothers who did not have jobs before starting a family were unable to enter the labor market after their children were born, and the only solution for them was to start their own business.

Discussion and conclusions

Interest in the interrelationship between women's self-employment and fertility has been growing. On the one hand, self-employment may conflict with childbearing and childrearing, as running a business might be demanding, unstable, or indicative of a desire to have a professional career. On the other hand, self-employment may provide more flexibility than a W&S contract, and could therefore offer favorable conditions for combining work and family. The results of empirical studies designed to test these hypotheses are, however, full of contradictions. We identified several reasons for these inconsistencies, and discussed some of the shortcomings of the previous studies.

In this study, we sought to address these problems. In a first step, we looked at the meaning women attach to entrepreneurship using qualitative in-depth interviews. Our qualitative findings allowed us to generate some hypotheses about the type of relationship between self-employment and childbearing we might expect to see in the Polish context. These results also informed our interpretations of the quantitative findings. The hypotheses were tested in a second step on representative survey data. The analytical model was designed to investigate the effect of self-employment on fertility, and vice versa. It allowed for several possible employment transitions, and accounted for the selection of mothers into particular labor market states due to time-invariant unobserved characteristics. Thus, our study constitutes an important step forward in the research on the role of self-employment in balancing work and family.

Our qualitative analyses suggest that, in the Polish context, self-employment has a different meaning for women than it does for men. For women, self-employment is less about income, as has been found in research in other countries (e.g., Hundley 2000); and it is less about developing a professional career. These two aspects appear to be crucial for men. Moreover, we found that the independence offered by self-employment is understood differently by male and female respondents. For women, self-employment primarily means choosing when and where they work. It seems that entrepreneurship gives women another form of independence as well: it allows them to be less reliant on a labor market that might be

hostile to young mothers. Moreover, our female respondents believe that self-employment might be an attractive alternative to being a housewife, even if they do not need income. In sum, it seems that, for women, setting up their own business is a strategy for remaining economically active after starting a family.

This hypothesis has been confirmed in our quantitative analyses. Having a child increases the probability that a woman will become self-employed, especially if she was unemployed before her pregnancy. In light of our qualitative findings and our previous research (Matysiak 2009; Matysiak and Mynarska 2010), we see two possible patterns of behavior. First, if a woman had been involuntarily unemployed and was looking for a job before she got pregnant, being a mother did not improve her position in the labor market. However, because having a child produces additional expenses, her income might become more important for the family budget, especially if it is a second or a third child. In such a case, starting a business might be the only option for her to earn money. Second, if a woman does not have to work and is financially secure (e.g., because of her husband's income), self-employment might provide a welcome break from domestic chores. For these women, having their own business might be far more attractive than W&S employment, as they consider it less demanding. They believe that being self-employed would enable them to work fewer or more flexible hours, and would allow them (at least partially) to work from home. At the same time, they believe that self-employment would give them the opportunity to use and develop their professional skills, be active, meet people, and do something other than taking care of their house and children (to learn more about Polish women's negative attitudes towards being a house-wife see also: Matysiak and Mynarska 2010).

In our qualitative sample, we also found female respondents who had started a business before entering motherhood. For them, self-employment was the most attractive option for developing professionally, while also raising a family. The decision to have children might have been easier for this group of respondents than for women in less flexible W&S employment. However, this mechanism was not confirmed by our quantitative analyses: being self-employed was not shown to increase the probability of becoming a mother. There are several possible explanations for this finding. First, it could be that this strategy is chosen by relatively few women, and that W&S contracts are preferred overall. Second, it is possible that self-employment is far more demanding than women imagine. Thus, after starting their own business, these women may find that balancing work and family is as difficult for them as it is for their counterparts in W&S employment. Finally, some of the women who choose self-employment may be career-oriented and do not plan to have children

(or have postponed motherhood); in this case, the effect of self-employment on fertility would level out. To shed more light on this issue, it would be useful to consider the effect of self-employment in different occupations and in managerial and non-managerial positions. As Budig has shown (Budig 2006a, b), having children increases women's propensity to enter only non-professional self-employment, while professionals follow "a careerist model of self-employment" (Budig 2006b).

Our results support a general view that self-employment is perceived by women as offering more flexibility and greater scope for balancing work and family life. Nevertheless, an important conclusion of our study is that self-employment does not seem to be the first or the most favored choice for women. It is, rather, an alternative to being unemployed, to being in a "bad job" (cf. Budig 2006b), or to being a housewife. Our findings complement those of Hughes (2003), who pointed out that the factors that "push" women into self-employment are generally underestimated. Entrepreneurship is not the most attractive option for women; it is simply better than being in an insecure, stressful, demanding, and inflexible W&S job; or it is better than being a housewife. Given these findings, promoting self-employment might have a positive impact on the labor force participation of mothers. In the current situation, it is, however, doubtful that encouraging self-employment will increase fertility in Poland. Instead, efforts to improve the situation of women's in W&S jobs, and to allow these women to better combine work and motherhood, would likely be more effective.

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