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Jobs, Careers, and Becoming a Parent
under State Socialist and Free Market Conditions

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Abstract: This study explores how the relationship between employment and the timing of parenthood changes under conditions of state socialism and a free market economy. Specifically, labor market entrance, duration and career establishment are related to the timing of parenthood over two very different economic contexts—before Estonia’s independence from the Soviet Union and after 1991. The transition to a market economy was accompanied by both greater employment insecurity and opportunities, which were distributed unevenly over the population. We focus on gender and nativity status as two stratifiers in the labor market. Men have postponed parenthood to a greater degree than women, and non-native origin women have postponed parenthood the least of all. Hazard models reveal that in the market economy, it is equally important for women and men to achieve their own security and tenure in the labor market before becoming parents. The importance of an established position in the labor market, measured through tenure and achieving one’s main occupation, also acquire importance to entering parenthood in the market economy. However, non-native origin men and women’s timing appears to have become detached from their career developments, which is interpreted as possible evidence of different age norms.

* This paper is also available in the *Stockholm Research Reports in Demography* series

Introduction

As youth enter adulthood, they are expected to leave the parental home, complete their education if they have not already done so and get a job. Besides finding a partner, these are the basic pre-conditions for childbearing (Hobcraft and Kiernan 1995). Widespread postponement of childbearing has raised questions about why the timing of parenthood is changing. With educational expansion and more years spent in higher education, the average age of women at their first birth necessarily increased if completing education remains a pre-condition for childbearing (Blossfeld and Huinink 1991; Blossfeld 1995). Postponement of parenthood has been argued to be related to other macro-level changes as well. Van de Kaa (1987) has long considered the changing norms and attitudes reflected in more individualized decision-making to be a major force behind delayed parenthood. Widespread postponement has also been argued to begin with a rational response to labor market uncertainty and made more permanent through feedback effects that alter age norms (Kohler et al. 2002). The theme of uncertainty has become increasingly prominent. While Friedman et al. (1994) proposed parenthood as a response to economic uncertainty, recent research across Europe has found that various causes of economic uncertainty suppress fertility (see *Demographic Research Special Collection* edited by Kreyenfeld et al. forthcoming).

While labor market insecurity has become widespread in the EU due to globalized markets and other factors (Blossfeld et al. 2005), the post-socialist members of the EU share a historical anomaly within Europe: before the last two decades, employment was guaranteed in the former command economies. Even if choice was limited and the rewards meager, state socialism provided jobs for life. The transition to free market economies brought new risks and opportunities to these populations. Finding and keeping a job became a much more significant event, particularly in the 1990s when most populations in transition experienced high unemployment rates for the first time. With an interest in the importance of jobs as a pre-requisite to childbearing and recent widespread postponement, we observe how the nature of this relationship differs between the two economic contexts of state socialism and a market economy. That jobs are no longer secure is one of the most fundamental differences between the pre and post-transition contexts. But other contextual differences are also relevant to the work and family nexus; first, new lifestyle and consumption opportunities entail a greater desire to accumulate earnings. Second, the need for earnings became much greater due to wage dispersion and the privatized housing market. Unlike in state socialism where housing was allocated according to certain administrative rules, the privatized housing market requires accumulation of economic resources and a degree of economic independence.

We locate this study in the context of Estonia, which is a particularly interesting place to study employment and the timing of parenthood. The early years of economic transformation were tumultuous, but Estonia eventually became one of the most successful reformers in Eastern Europe to date. Estonia also has a few paradoxical characteristics: The high extent to which Estonian women are engaged full-time in the labor market (Puur 1995), as well as high cohabitation and non-marital childbearing rates, liken this context to Scandinavia. On the other hand, certain aspects of the cultural context in Estonia resemble Russia and Ukraine, such as materialist vs. post-materialist values

(Taagepera 2002).¹ In addition, Estonia also has a large Russian-speaking minority and evidence has emerged that distinct demographic patterns characterize native and non-native origin populations (Katus, Puur and Sakkeus 2000; Sakkeus 2000). This large minority may provide the opportunity to observe how the timing of parenthood varies over groups that have different socio-economic opportunities as well as different norms related to their childbearing culture. How cultural and structural factors interact to influence demographic patterns in Estonia is a main interest in this study.

Our main research question is how labor market debut, career establishment and duration in the labor market are related to the timing of parenthood. The data source on which this study is based offers rich information about occupational histories, including when respondents took their first permanent job as well as the first job in their main occupation. Specifically, we study how this relationship varied over two very different economic contexts. We focus on two stratifiers in the labor market to observe how opportunity and insecurity as well as different age norms may influence the timing of parenthood by looking at gender difference and family of origin differences. In the next section, we outline the theoretical developments in which we situate our research. We then describe the Estonian context in terms of the two time periods, labor market participation of women and men, native and non-native Estonians as well as fertility trends. In the following section, we present the data and methods. The results are then described and the last section discusses the findings.

Theory and past research

Having children dramatically alters the terrain of life for young adults. The age at which men and women begin this process can alter how childbearing and childrearing shape immediate and later life outcomes such as educational attainment (Hofferth et al. 2001), career development and wages (Amuedo-Dorantes and Kimmel 2005), as well as family size (Marini and Hodson 1981). We also know that the timing of parenthood is not random; certain characteristics of men and women tend to be related to earlier or later childbearing such as educational level (Rindfuss and St. John 1983) and family background (Rijken and Liefbroer 2009). How personal characteristics influence parenthood timing differs across countries, which is argued to be due to institutional variation (Mayer 2004). These differences aside, a universal postponement of the timing of parenthood has occurred across Europe. The change in the timing of parenthood has been accompanied by changes in many other life transitions around this age; where a standardized life course used to exist across Europe—which consisted of ordered stages through which young adults passed—a postindustrial life course regime now exists, which is characterized by further educational expansion, precarious employment, a decoupling of marriage and childbearing as well as reversal in the order of these events (Mayer 2004). While all of these facets of young adulthood are relevant to decisions surrounding childbearing, this paper focuses on the role of employment in the process of entering parenthood.

The New Home Economics Theory (Becker 1981) provides the framework for how we understand the relationship between employment and childbearing and how it may differ for men and women.

¹ The analysis by Taagepera is based on the World Value Surveys 1995–1998 rounds. Analysing the same data, Inglehart and Baker (2000) attributed this similarity to the decline of socio-economic security and steep rise in uncertainty during the most turbulent phases of transition.

According to this theory, men and women are expected to divide their contributions within a household on the basis of sex-specific skills and specialization. The cost of children is composed of direct costs in the form of goods and services that must be purchased in the market and indirect costs, which arise from time spent childrearing. As women have long been the main caregivers, indirect costs can be substantial if a mother has invested in a career and her earnings are high. In this way, women's employment reduces the demand for children. Some discussion, however, has illuminated the ways in which the balance between indirect costs and direct costs may shift for women according to their educational level (Oppenheimer 1988; Kravdal 1994) as, particularly for women with high earning potential, having more means to purchase care in the market can be important to childbearing decisions (Martín-García and Baizán 2006). In regards to the timing of parenthood, and following Becker's proposed reasoning based on strict role specialization between men and women, work experience is positively linked to the timing of parenthood for men and negatively linked for women. This is because earnings are assumed to increase with work experience, providing men with more resources to meet direct costs and increasing indirect costs for women. Early childbearing may also offset the human capital depreciation for women that comes with taking time off from the labor market (Happel et al 1984). However, a more nuanced picture emerges if we take a holistic view of women's careers and earnings profile: postponing childbearing until a career has been established can have positive implications for lifetime earnings (Amuedo-Dorantes & Kimmel 2005; Cigno and Ermisch 1989).

Findings from research on the relationship between women's employment and fertility have been mixed. Women's increasing labor force participation previously led to lower fertility, but we now see that countries with the highest female labor force participation also have relatively high fertility rates. Besides the macro-level research on this reversed correlation over time (Rindfuss et al. 2003; Engelhardt et al. 2004; Kögel 2004), a uni-directional relationship has not been unequivocally established in individual-level research on employment and motherhood. Despite the often negative association that appears between work and motherhood, Kreyenfeld (2004) and Róbert and Bukodi (2005) find a positive influence of women's employment on entry into motherhood in East Germany and Hungary, respectively. Matysiak and Vignoli (2008) conducted a meta-analysis of this large literature and their findings support the idea that post-socialist female workers are more positively oriented toward motherhood because women's employment suppressed fertility in post-socialist countries the least — even compared to the social-democratic welfare regimes, which are known for providing strong institutional support for women and mothers in the labor force (Esping-Andersen 1990, 1999). To the best of our knowledge, post-socialist contexts have thus far been excluded from research on the importance of work experience or career establishment to the timing of parenthood. In other European countries, a few general findings have emerged that counter the application of the New Home Economics theory to the timing of parenthood. Both Swedish (Santow and Bracher 2001) and Norwegian (Kravdal 1994) women were more likely to enter motherhood after being in the labor force for two to four years. While a more comprehensive accounting of accumulated career resources in Blossfeld and Huinink's (1991) study of West German women did not find a significant effect on entering motherhood, neither was it negative.

As the gender-employment gap was diminishing in most developed countries, it grew in most countries of Eastern Europe in the 1990s. Under state socialism, the working mother became the norm, even as women remained the main care providers in the household as well. This “dual earner/female double-burden model” (Matysiak and Vignoli 2008) was sustained by strong institutional support for mother’s employment before the economic restructuring began. During the difficult years of economic transformation, the post-socialist states retreated somewhat from the business of resolving the conflict between family and work for women (Stropnik 2004), which is a prominent explanation for the decline in female labor force participation in these countries. Whereas Winkler-Dworak and Toulemon (2007) find a convergence between men and women in the pace and timing of early adulthood transition, it may be that a divergence is taking place in post-socialist contexts. But the increasing diversity in gendered employment patterns within the former socialist countries (e.g., Sobotka 2003; 2008) likely precludes a uniform relationship between employment and fertility across the region. Whether a gendered change has occurred in the relationship between employment and entering parenthood is a primary focus of this paper.

Much of the discussion around labor market insecurity has surrounded factors that push back the age at first birth (Sobotka, Skirbekk and Philipov 2010). However, it may be that these push factors are limited depending on the strength of pull factors. One such pull factor to consider is the nature and strength of age norms. Whether age norms matter to life transitions such as parenthood is not a new question (Marini 1984; Settersten 1996) and we have seen a double-standard emerge across various norms related to men’s and women’s family behavior (Liefbroer and Billari 2010). Not only may women be expected to achieve certain life transitions related to family earlier than men, but these expectations may also be more rigid. In the post-socialist setting, multiple pieces of evidence from qualitative research already indicate that childbearing is at least partially governed by age norms. For Ukraine, Perelli-Harris (2005) found early childbearing to be encouraged by norms based both on traditional gender roles in the family as well as health concerns. Potančoková (2009) also discovered age deadlines for childbearing as well as social meaning attached to ages in Slovakia. In Poland, the tension between push and pull factors was evident, as achieving economic security was a main reason for postponing parenthood but this concern appeared to diminish as the age deadline for childbearing (30 years old) was approached (Mynarska 2010). Moreover, a double-standard was revealed, as this age deadline was mostly relevant to women and not to men. These studies potentially give insight into the relatively early age at childbearing in post-socialist Europe, which may be uniquely influenced by biological concerns over childbearing at an age as early as 30.

The Estonian context

After the collapse of state socialist regimes, Central and Eastern European countries opted for different paths towards market economy systems. In that context Estonia represents a case of early and radical liberalisation (Aslund 2007; Lugus and Hatchey 1995). The country made no attempt to postpone unavoidable structural changes and preserve jobs in declining sectors. In the early 1990s, this resulted in the shrinking of gross domestic product by more than 30%, an upsurge of unemployment, and deterioration of living standards. After peaking in 1992, however, the decrease in GDP diminished and after the mid-1990s the economy started to recover. With few barriers to labour market mobility and no

incentive to stay out of employment, set by low levels of unemployment benefits and modest social security provisions, Estonia witnessed a large redeployment of labour out of manufacturing and agriculture towards sectors with increasing labour demand. When measured in terms of net sectoral shift, only Hungary seems to have experienced greater reallocations during the 1990s (Puur 2000).

For most of the period between 1995 and 2008, Estonia featured strong economic growth. It is estimated that in 2001, per capita GDP returned to the 1990 level, and in 2007, it exceeded that benchmark by 63%. At the eve of the current economic recession, the country's per capita gross national product amounted to 66% of the EU average, ranking fourth after Slovenia, the Czech Republic and Slovakia among the East European EU members (UNECE 2012). From an egalitarian wage structure that showed little return to human capital, the wage structure transformed to a typical market pattern during the early phases of transition. The analysis of wages has yielded evidence that younger generations (the "winners" of the transition) took advantage of emerging new employment opportunities and experienced steep increases in wages during their early careers (Noorkõiv et al. 1998).

With respect to female employment, Estonia has ranked high in international comparisons ever since the early 1970s (Puur 1995). In the 1970s and 1980s, the dual-earner family model prevailed and the gender gap in employment rates was almost entirely attributable to women who were currently on maternity and childcare leave. Another factor that contributed to the convergence of employment patterns between men and women was the growth in female educational attainment. The previously existing gender gap in education was closed relatively early in Estonia. In tertiary education, this occurred in the cohorts born in the beginning of 1940s, who completed their studies mainly in the 1960s; in subsequent generations the proportion of university graduates has been systematically higher among women, and the difference has been expanding with younger generations (Loogma et al. 2008).

In the 1990s, the abolition of mechanisms that sustained state-guaranteed full employment implied a steep reduction in employment rates. In Estonia, the scale of the decline was similar across men and women: in 1989–2000, the employment rate (age groups 15–64) was reduced to 77–78% of its pre-transition level for both men and women. In the 2000s, employment rates significantly recovered, reaching 73% for working age men and 66% for women.² Although the share of part-time work in female employment has more than doubled since the early 1990s (14.5% in 2010, second highest among the East European EU countries), full-time employment clearly prevails. On the eve of the 2008 economic recession, the full-time equivalent employment rate of Estonian women (64.1%, 2007) was the highest of all the EU member states (European Commission 2009). On the other hand, whether in spite of, or because of, high female employment, Estonia features a relatively large gender gap in earnings.³

² Except for the early 1990s, unemployment rates have been somewhat lower for women in Estonia.

³ The large gender gap in earnings did not emerge after the transition to market economy in Estonia. The structure of administratively set wages indirectly favoured the sectors and occupations with a largely male workforce, consolidating the role of women as secondary earners. In 1989, women earned an average of 31% less than men, net of human capital characteristics (Noorkõiv et al. 1998). When the previous regulations were abolished, at the turn of the 1990s, the gender gap in wages temporarily decreased.

A specific feature of the contemporary Estonian society relates to the presence of a large foreign-origin population that settled in the country in the aftermath of the Second World War. Immigration in the late 1940s and 1950s, mainly from the neighbouring Russian Federation, was strengthened by forced societal re-arrangements and deportations of the local population (Rahi 2003). Until the late 1980s, migration to Estonia was to an important extent driven by Soviet economic policies and somewhat higher living standards, which made the country attractive for immigrants (Misiunas and Taagepera 1993; Kahk and Tarvel 1997). In some branches, immigrant labor was favoured by means of deliberate personnel policies (Kala 1992). As a result, the foreign-origin population developed a distinct sectoral structure in Estonia: in addition to manufacturing, particularly large industrial enterprises, transport and communication, the above-average proportions also emerged in sectors implementing the Soviet administration, including the Communist party, Ministry of Interior, armed forces etc.

Following the change of societal regime, the foreign-origin population experienced greater difficulties in adapting to the new realities of a market economy (Puur 2000; Luuk 2009). Their employment rates and earnings appear to have been systematically lower and unemployment rates higher than among the native population.⁴ The foreign-origin population is also less frequently employed in managerial and professional positions. Overall, these patterns appear similar to those commonly observed in the immigration countries of Western Europe (Brinkmann 1987; Heath and Cheung 2007). Analyses focusing on factors that affect labour market performance have pointed to the important role of language skills in bringing about these patterns in Estonia. In the late 1980s, only as few as 15% of the foreign-origin population reported the knowledge of Estonian language. An overwhelming majority of immigrants and their descendants had graduated from Russian-language schools, in Estonia or in the regions of departure, and had little, if any, incentive to learn the local language. Although the language skills of the foreign-origin population have significantly improved over the past 20 years, they still tend to pose an obstacle for career advancement, but less so for younger generations (Krusell 2009).

Turning to family policies, since the 1950s public childcare developed rapidly as the main instrument to facilitate the reconciliation between women's employment and family responsibilities. In the 1970s and 1980s, service provision reached high levels by international standards (UNICEF 1999). Other work-related provisions were also gradually extended. Beginning in 1968, women were entitled to take unpaid leave until the child's first birthday, maintaining an uninterrupted employment record. Further extension of provisions came in 1984 when partly paid parental leave (at a flat rate of less than 20% of the average wage) was extended to one year and unpaid leave to 18 months. On the eve of societal transition (1989), an additional extension that allowed mothers to stay on leave until the child's third birthday was introduced. With respect to the timing of childbearing, several authors have noted that early family formation was encouraged by institutional arrangements prevailing in the state socialist period (Vikat 1994; Katus 2003). In particular, the criteria of housing allocation favoured married couples

⁴ In 2000–2010, the deficit in employment rates and excess in unemployment rates among the foreign-origin population ranged (age groups 15–74) between 1.7–4.7 percentage points and 3.3–10 percentage points (ESA 2012). The differences tend to be somewhat more pronounced among women. In labour force participation, these differentials cancel out each other. Net salaries of foreign-origin employees have been 10–15% lower in 1995–2007 (Leping & Toomet 2008).

and families with children, though explicit empirical tests of this assertion are not known to the authors. Another factor that plausibly acted along the same lines was limited access to effective and reliable contraceptives in the former Soviet Union (Avdeev 1994; Davis 1999).

In the early 1990s, it was generally feared that the availability of public childcare would be seriously curtailed as a result of the societal transition. These concerns were partially realised in the first years of transition, particularly for children under three years of age. However, after reaching the lowest point in 1993, childcare enrolment rates started to recover and, before the turn of the 21st century, exceeded the levels attained in the late 1980s.⁵ With regard to childcare enrolment of children under age 3 — the age group in which the variation in enrolment rates is largest — Estonia ranks at the top (first or second to Slovenia, depending on year) among the former state socialist countries (UNECE 2012). With regard to other programs, major improvements have been made to the parental leave scheme since 2004.⁶

Over the long run, the demographic development in Estonia shared several commonalities with the countries of Northern and Western Europe. In terms of nuptiality, the country historically formed the limit of the late and low-prevalence marriage pattern in the East (Hajnal 1965). Together with Latvia, the spread of parity specific family limitation was the earliest among the nations included in the Russian Empire and synchronous with the forerunners of fertility transition in Europe (Coale, Anderson and Härm 1979; Coale and Watkins 1986). However, the similarity of fertility patterns in Estonia, and in Northern and Western Europe was lost in the aftermath of the Second World War, when Estonia was incorporated into the Soviet Union. In the 1950s and 1960s, Estonia failed to experience a baby-boom, unlike other nations that had witnessed below replacement fertility in the inter-war years (Frejka and Sardon 2004). In the late 1960s, contrary to the trends in the pioneering countries of the Second Demographic Transition, fertility rates increased and stayed close to replacement until the beginning of the 1990s. Simultaneously, age at childbearing decreased in the post-war decades, reflecting the disappearance of the West European marriage pattern (the mother's age at the time of the first child's birth decreased from 25–26 years of age in the 1950s to 22–23 years in the 1980s).

As elsewhere in Central and Eastern Europe, the 1990s witnessed a steep downturn in fertility in Estonia. In less than a decade, the period TFR fell below 1.3 children per woman. Very low levels of period fertility reflect to a significant extent the “postponement transition”, the beginning of which closely coincided with the change in societal regime.⁷ After reaching the lowest point in 1991 (22.6 years), the mean age at first birth began persistently increasing and over the past two decades, the

⁵ The gradual increase continued during most of the 2000s: in 2010, 70% of 2 year-olds, 86% of 3 year-olds and 90% of 4–5 year-olds were attending public childcare. Typically, children attend childcare institutions on a full-time basis (35–40 hours per week) in Estonia.

⁶ The renewed scheme in 2004 ensured the payment of an earnings-related parental benefit amounting to 100% of the income earned during the year preceding childbirth, and in 2008 the duration of eligibility increased to 18 month. Following the model of Nordic countries, the parents of more than one child have been entitled to benefits at least as high for subsequent children as for the previous, without returning to the labour market in-between birth, if the births interval was 30 months at least. As a result of these revisions, the Estonian parental leave scheme is currently among the most generous of the OECD countries (OECD 2012).

⁷ After eliminating of the tempo-effect, the total fertility rate in Estonia in the 1990s never decreased below the level of 1.6 children per woman (Klesment, Puur and Valge 2010).

entry into motherhood has been postponed by nearly 4 years (26.3 years in 2010). With regard to levels, Estonia has experienced a relatively strong recovery of fertility rates in the 2000s: since 2001, the country has featured the highest period TFRs among the East European EU member states.

Studies focusing on fertility of foreign-origin population have revealed divergent patterns compared to native Estonians (Katus et al. 2000; Katus, Puur and Põldma 2002). In general, the foreign-origin population has followed the trends characteristic of the Russian Federation, with higher fertility among older cohorts and a decrease to lower levels than among the native population. Childlessness has been lower and motherhood earlier among the foreign-origin population, which is characteristic of patterns east of the Hajnal line. However, due to decreasing levels of childlessness and a trend towards earlier childbearing among native population in the 1970s and 1980s, differentials in the entry into parenthood became rather small during those years. The lower cohort fertility among the foreign-origin population, observed since generations born in the 1930s, mainly stems from the lower probability of having the second and third child among the foreign-origin population (Puur and Klesment 2010; Klesment 2010).

Whereas postponement became fairly evident in Estonia early in the transition from socialism, Russia showed very little increase in the average age at first birth during the 1990s (Philipov and Kohler 2001). If we assume that the differences in the fertility of those with native and non-native origin have a cultural component or reflect norms, we might say that Russian fertility is characterized by wanting fewer children and wanting them early. Puur, Põldma and Sakkeus (2009) show that foreign origin respondents of the Estonian Generations and Gender Survey across almost all cohorts intend to have 1.75 children on average, whereas Estonian-origin respondents intend to have over two.

Our hypotheses

Time period expectations: A main expectation in this study is that finding permanent employment became more important to family formation under market conditions. Likewise, we expect to see that getting a more established and secure position acquires importance under free market conditions. Whereas getting one's foot in the labor market may have sufficed as a marker of adulthood and independence in the former economic system, gaining experience and achieving a stable position should have become more important if security and the need or desire to accumulate economic resources moderate the relationship between employment and parenthood.

Gender expectations: We propose two reasons this overall expectation may be limited to men. First, although women's labor force participation may still be high in Estonia, it may be that women are not as determined as men to establish themselves in the labour market before having their first child. Given the significant gender wage gap, it is likely that men are still regarded as the primary earners. Likewise, if there are different norms about women's appropriate age for having a first child and women enter the labor market later than before due to more years spent in education, women's first birth risks may become detached from their progression in the labor market.

Nativity expectations: If rigidity in age norms plays a role, work experience may also become less important to Russian origin women, for whom a somewhat younger age at motherhood has persisted. However, if the non-native origin population has less access to employment opportunities and greater

labor market uncertainty, the age norm pull effect may be overcome and we may see an even closer link between employment and fertility in the transitioning context.

Data and methods

We use the Estonian Health Interview Survey (EHIS), which was administered in 2006 and 2007 (Oja et al. 2008) and aimed to provide enough information about life histories to allow a longitudinal approach to studying health with cross-sectional data. The sample consists of permanent residents of Estonia, which was drawn with a stratified systematic sampling method and includes over 6434 individuals aged 15-84. The response rate was 60%. We restricted our sample to birth cohorts born from 1945 to 1985 to observe childbearing that mostly occurred in the two decades before and after societal regime change. However, we opt for a period approach instead of a cohort approach in the analysis to more clearly see the differences among childbearing in these different times. Because we begin observing respondents on their 16th birthday, we capture the entire range of years from 1961 to 2005. We excluded individuals who experienced their first childbirth before the age of 16. In total, we are able to analyze the transition to parenthood of 3,472 individuals (1648 men and 1824 women).

We use piecewise constant event history models to analyze the transition to having a first child. Observations are censored eight months before the first child is born to account for gestation, or eight months before the interview to account for the possibility that the respondent was pregnant at the time of the interview.

The main variables of interest in this study are related to respondents' engagement with the labor market. First, a job status variable categorizes whether respondents have not worked yet, have had their first permanent job as well as whether they have begun a job in their main career. This categorical variable is built on multiple questions: 1) "Let's begin with your first permanent occupation. In what year and month did you first go to work?" At the month and year given in this answer, respondents leave the category of "no job" and are categorized as having had their "first job". Temporary contracts are not common in Estonia and "permanent" refers to jobs of at least three months in duration, excluding summer jobs, for example. The question 2) "In what year and month did you start working in your main occupation" provides the information to categorize respondents as having begun their "main job". To summarize, the job status variable is built with three categories in which individuals pass through the first two categories—no job and first job—until they arrive at the third, which is the main job. However, respondents are also asked 3) if their first job was their main occupation during their working life. If this was the case, respondents skip the first job stage and are directly classified as having achieved their main job at this stage. Likewise, respondents may claim the first job was not part of their main occupation even if they also claim they have not had a job in their main occupation yet. To clarify, we are not capturing all the different jobs a respondent had with this information, but rather the times at which key points in an employment history were reached. We use the terms main occupation and career interchangeably, but acknowledge that a career can consist of a random collection of jobs or one stable situation that is desired or undesired even though the term usually brings to mind an order or progression of jobs (Rosenfeld 1992).

We also created an objective measure of labor market experience. As soon as respondents indicate they began their first permanent job, a clock begins that categorizes them into having being in the labor market 0-2 years, 3-6 years and 7 or more years. The survey does not provide information about whether the respondent continually participated in the labor market after they began their first job, but we do know whether they were ever unemployed 12 months or longer as well as the start- and end dates of unemployment spells lasting longer than 12 months. From this information, we created an unemployment status dummy variable in which respondents are coded as being unemployed the entire duration of their unemployment experience. Respondents could pass through multiple unemployment experiences.

Immigrants or persons with a foreign origin can be identified using information on self-defined ethnicity, country of birth and the country of birth of the parents. In our study, the foreign origin population is comprised of respondents who were not born in Estonia or who had parents who were not born in Estonia. All others were categorized as part of the native population. To distinguish return-migrants from immigrants, Estonians born outside the country are also included among the native population.

The EHIS does not include full educational histories of the respondents; rather, it provides the highest level of completed education and the year in which this level was reached. Respondents are classified as having “incomplete education” until June of the year they completed their education. This means we do not know whether they were enrolled the entire time before finishing or whether they continued their education after taking a break. Respondents classified as having a basic education are those who claimed they completed only basic or less education as well as those who received vocational education and completed only basic or less education beforehand. The second educational category includes those who completed secondary education with or without additional vocational or specialized secondary education. All respondents who completed vocational higher education or higher education that resulted in a diploma or graduate degree were categorized as having tertiary education.

We also control for a set of time-constant and time-varying observed characteristics. Among the time-constant characteristics we include dummies for whether respondents were born in an urban or rural residence as well as the respondent’s number of siblings to account for family size predisposition. The time-varying covariates change in monthly increments: respondents are classified as being single or being in a cohabiting partnership, including marriage. Respondents’ age is observed over four-year aggregations.

First, we take a broad view of the events under study by looking descriptively at how young adult life course is structured and whether the timing or order of these events has changed since the economic transformation began. We also descriptively explore the meaning of the subjective employment indicator. In multivariate hazard analyses, we observe how job status and work experience influence first conceptions over all and then how this relationship varies by sex and nativity.

Descriptive results

Figure 1 synthesizes many pieces of information that tell us when events happened and how similar the timing was among men and women. By individually treating education completion, first job attainment,

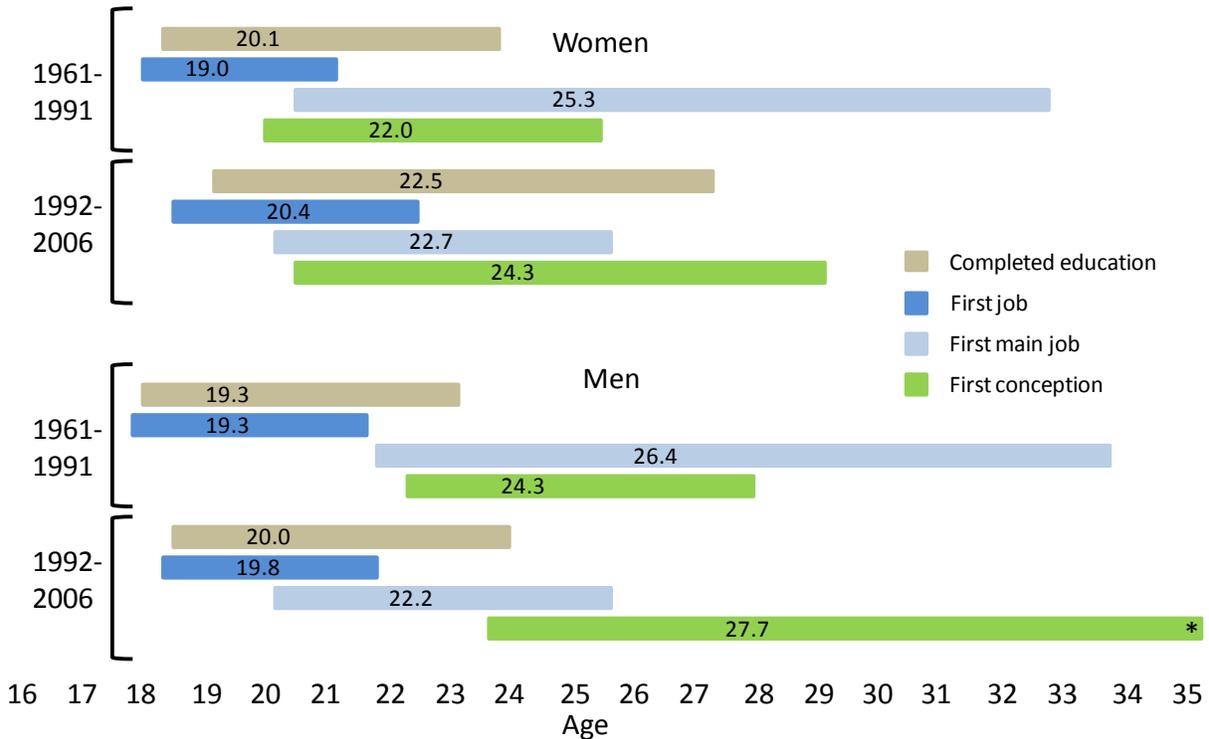
main job attainment and first conception as an event and observing the Kaplan-Meier failure function of each, we know when 25%, 50% and 75% of the population under observation had these experiences. Beginning with 25% of the population achieving the event, Figure 1 maps the span of time that it takes for 75% of the population to achieve it. The median age at which the event was experienced is indicated at the appropriate place in the schedule.

Judging from the medians, the typical order of events for both men and women during the state socialist period was getting a first job, completing education, entering parenthood and getting a job in the main occupation. The median age at achieving the first job was around 19 for both men and women, this timing appeared to be slightly more rigid for women than men; in contrast, the median age at educational completion occurred almost a year later for women. As we would expect, women had their first child before men and the timing dispersion was virtually the same.⁸ Women also reached the first job in their main occupation before men and the dispersion was more or less the same for this event.

Many differences appear when we look at these events following Estonia's societal regime change. Except for entering the main occupation, all events occur later than they did under state socialism. But we also see greater variation in when men and women complete their education as well as enter parenthood. Only the employment events shifted to a more uniform timing. These changes occurred for both men and women; however, women experienced more change over the two time periods in the timing and dispersion of educational completion and entering the labor market for the first time, whereas men experienced more change in regards to obtaining a job in the main career and entering parenthood. For reasons of space, these particular descriptive results are not presented additionally by nativity, although the timing of the most important events to this study are differentiated by nativity and gender later in this section.

⁸ But if we measure dispersion using the difference between when 90% and 10% of men reach first conception, they have twice as large a dispersion as women in the state socialist period,

Figure 1. Age spans showing when 25% to 75% of the relevant population experienced each event, the numbers represent when 50% of the population experienced each event



*maximum % of population that experienced first conception was 70%

Because of the substantial shift in the timing of main job attainment, this subjective indicator is explored further. The finding that younger respondents claim they began a job in their main occupation much earlier than before may be due to a difference in perspectives on one’s working life that results from different ages at interview or from being censored before one has more experience in the labor market. A simple comparison of whether there are substantial changes in what types of jobs these are may signify whether younger respondents appear to choose a job in their employment history that is not comparable to older respondents. We know that the status and wages associated with jobs generally increase in younger years, plateau in the middle-aged working years and begin to decline before retirement (Mincer 1974; Rosenfeld 1980; Sorenson 1975), which leads us to assume the (first) main jobs of younger respondents may be at a lower status than those of the older respondents. Table 1 displays the mean and median International Socio-Economic Index of occupational status (ISEI) for the first and main jobs that respondents reported in the two time periods. ISEI is calculated on the basis of ISCO88 codes and was created as a continuous, rather than categorical, alternative to prestige scores, which is argued to best “measure the attributes of occupations that convert a person’s education into income” (Ganzeboom and Treiman 1996:212). The ISEI ranges from 16-90 and a sweeper, for example, scores 23 whereas a medical doctor scores 88.

Table 1. Summary statistics for ISEI of first and main jobs, by sex, nativity and time period

	First job		Main job	
	median	mean	median	mean
Native origin men				
1961-1991	37	39	39	43
1992-2006	35	38	40	43
Non-native origin men				
1961-1991	39	40	39	41
1992-2006	38	37	37	39
Native origin women				
1961-1991	42	43	47	46
1992-2006	40	41	48	46
Non-native origin women				
1961-1991	38	41	37	41
1992-2006	32	37	42	42

Despite reaching their main job at much earlier ages, younger respondents achieved jobs in their main occupation that were remarkably similar to the main jobs the older respondents had in Soviet years. Looking first at the ISEI of the main job, which is the one in question, Table 1 shows that a small loss over the time periods in mean ISEI scores of main jobs occurred only for non-native men; the scores remained the same or increased for all others by a few points, whether measured at the mean or median.⁹ Turning to the ISEI scores of men's and women's first job, for which there is no reason to expect a reporting or censoring bias over the two time periods, we see a more consistent pattern in which men and women of both nativity statuses entered the labor force at a slightly lower median or mean score in the free market economy. This is an interesting development given that we know these first jobs were achieved at an older age, even if the postponement was minor.¹⁰

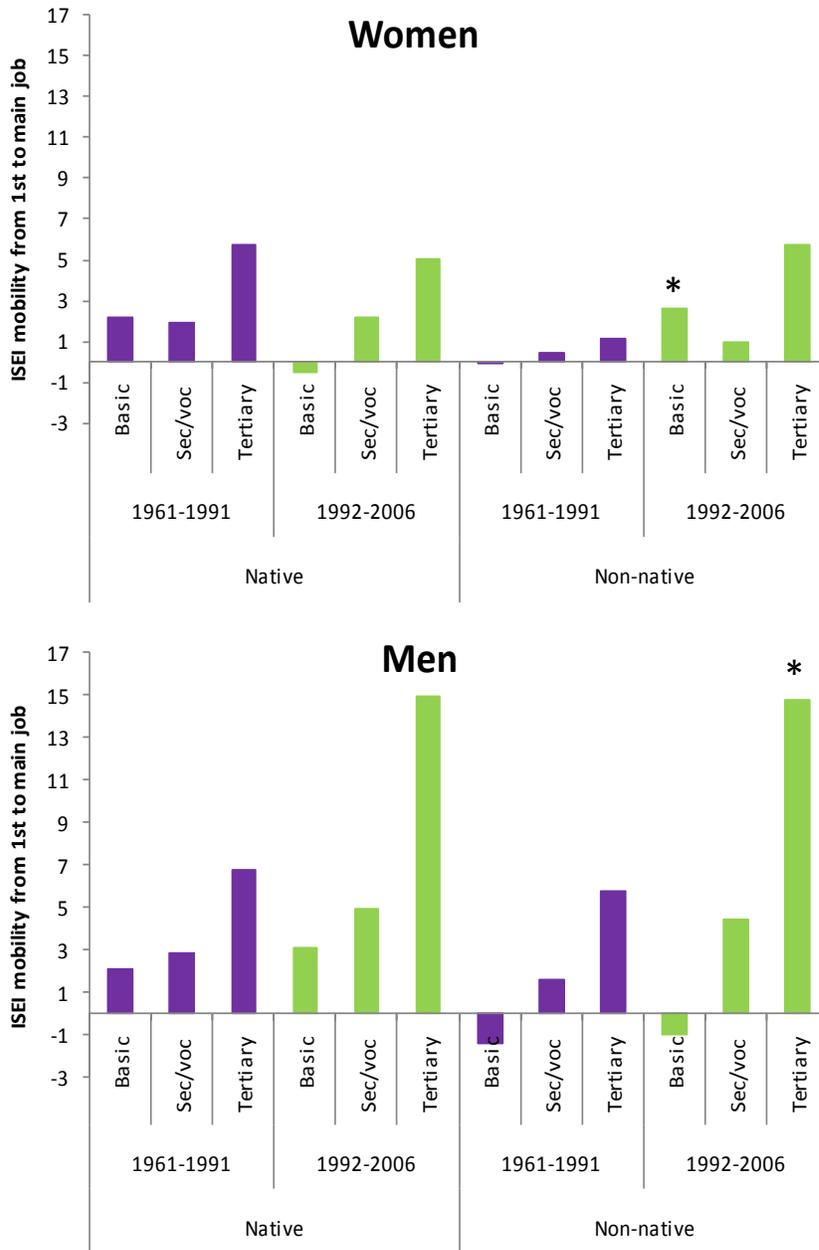
If we look more in-depth at how ISEI scores developed from the first job to the main job according to educational level, we see that in some cases the growth in ISEI was higher than before, despite being achieved at a younger age in the recent time period. For native-origin men, Figure 2 shows unusually positive developments over time: the difference between the ISEI of the first and the main jobs

⁹ Although very little difference in ISEI emerged over the two time periods, it may be worth considering the secular trend in the occupational structure. LFS data show that from 1989 to 2010, the proportion of jobs in managerial, professional and semi-professional occupations increased from 35% to 43% and the proportion of jobs in manual occupations has decreased from 52% to 38% over the same period. If we consider a period starting in the early 1960s, the changes are even larger. This shift evidently works in favour of younger generations.

¹⁰ One plausible reason may be the increasing propensity of young people to combine studies with some sort of employment (ca 50% students pay for tuition in Estonia). Jobs in which students work may be of somewhat lower status.

increased for every educational group. For non-native men we also see some improvement in ISEI development, even if it is still below 0 on average for men with only a basic level of education. The ISEI development for native-origin women has remained stable or slightly declined over the two time periods. However, non-native origin women—particularly those with higher education—are faring better in the market economy in terms of achieving a higher status when they reach the first job in their main occupation.

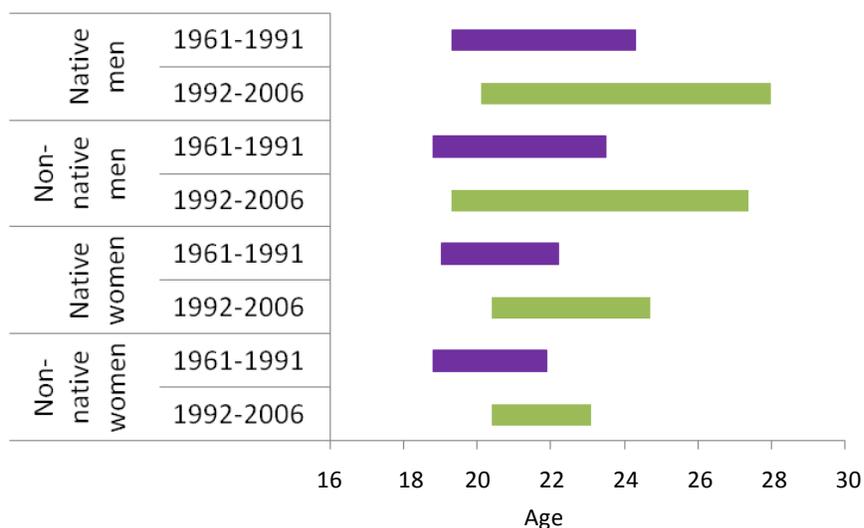
Figure 2. The change over time periods in ISEI mobility between 1st and main jobs, by subgroups



Note: * indicates less than 25 people in the sample.

Simplifying the progression of important experiences leading up to the first child and focusing our attention on the differences between native and non-native origin men and women, Figure 3 shows only the median ages when respondents first entered the labor market and conceived their first child. Some striking similarities and differences appear; non-native origin men continue to enter the labor market earlier than native origin men and the number of years until they have their first child remains constant. Under state-socialism, the median amount of time passed between the two events was 5.0 for native men and 4.7 for non-native origin men. After 1992, this time span increased to 7.9 for native and 8.1 for non-native origin men. In contrast, the difference between patterns for native and non-native women has increased; before 1992, the time span was 3.2 for native and 3.1 for non-native women and after 1992 the time span was 4.3 for native and 2.7 for non-native women. As seen before, women have postponed labor force entrance more than men, and the duration between this event and first conception has increased for all but the non-native origin women. Although first conceptions were also delayed for these women, the timing of parenthood appears to be much more malleable for native origin women.

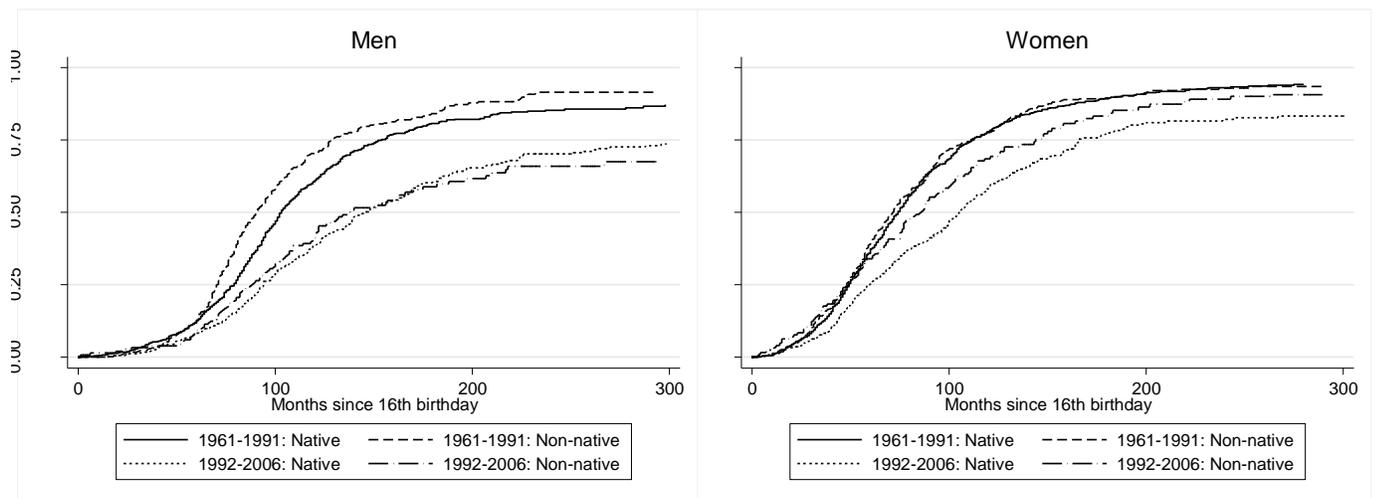
Figure 3. Timing and duration between labor market entrance and first conception: Median ages, by nativity status and sex



The next descriptive results present similar information about the timing of first conception but also tell us about overall transition rates to parenthood and more nuanced information about the timing. Figure 4 shows Kaplan-Meier failure functions by sex and nativity status as well as time period. Because some respondents are under observation in both time periods, synthetic cohorts are created and each respondent contributes to a time periods' intensity while progressing through those years. Men display more postponement of childbearing than women after 1992 as well as higher childlessness. By the age of 46, 12% of native origin men were childless under state socialism, whereas 26% were childless in the

new market economy. The increase of non-native origin men who appear to forego parenthood altogether is even more dramatic: 9% were childless at age 46 before and 33% after economic restructuring. Men are more likely than women to enter parenthood beyond this age, but we do not continue observing them because those who would contribute to the 1992-2006 time period at such older ages would be from the older birth cohorts and we are interested here in the changes in the younger cohorts. Although non-native origin men used to be characterized by earlier parenthood, their timing now appears more similar to native origin men. Native and non-native origin women's patterns were inseparable before 1992; in contrast, native origin women have postponed to a much greater extent than non-native origin women. In addition, there is some evidence that childlessness is on the rise for native origin women: at the age of 46, 6% were childless before 1992 vs. 17% after. In contrast, 7% of non-native origin women remained childless before 1992 vs. 9% after. An important caveat to these findings on childlessness is that many men and women in the 1992-2006 time period are still at very young ages, so the share of childlessness may be upwardly biased by continued postponement; childlessness estimated with a cohort approach, rather than our synthetic period approach would yield more reliable estimates.

Figure 4. The change over time periods in Kaplan-Meier failure estimates for first conception, by sex and nativity status



Multivariate Results

Turning to the regression analyses, we first show the impact of the job and work experience indicators for the entire sample, followed by interactions of these variables with sex and nativity. The control variables are displayed in Table 2 but not discussed. For the two periods combined, the job and work experience variables, introduced separately into the models, improved the fit of the model, were statistically significant and had the expected effect. Obtaining a first job increased the risk of conception by 98% and achieving a job in one's main career more than doubled the risk. Relative to not having worked yet, 0-2 years in the labor market increased the risk of conception by 214%, followed by a

decline in the positive influence to 95% in both the 3-6 year time period and when having worked seven years or more.

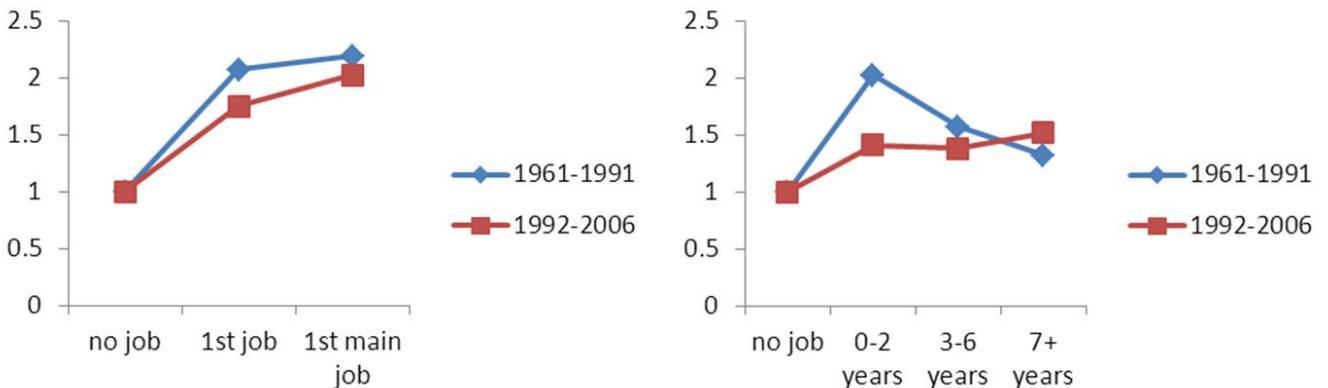
Table 2. Full model results for first conception

	First birth risks			
	Relative Risk	Standard Error	Relative Risk	Standard Error
Job status				
no job	1			
1st job	1.98 ***	0.12		
1st main job	2.15 ***	0.14		
Work experience				
has not worked			1	
0-2 years			2.14 ***	0.14
3-6 years			1.95 ***	0.13
7+ years			1.95 ***	0.17
Age				
16-19	0.64 ***	0.04	0.41 ***	0.02
20-24	1		1	
25-29	0.85 ***	0.05	0.89 +	0.06
30-34	0.49 ***	0.04	0.52 ***	0.05
35-39	0.15 ***	0.03	0.16 ***	0.03
40-44	0.04 ***	0.02	0.05 ***	0.02
45-49	0.01 ***	0.01	0.01 ***	0.01
Sex				
men	1		1	
women	1.73 ***	0.07	1.73 ***	0.07
Birthplace				
urban	1		1	
rural	1.14 **	0.06	1.15 **	0.06
Education				
incomplete	0.67 ***	0.03	0.67 ***	0.03
basic	0.87 *	0.03	0.88 *	0.07
sec/voc	1		1	
tertiary	0.99	0.07	0.97	0.07
Siblings				
0	1		1	
1	0.98	0.06	0.98	0.06
2	1.00	0.07	1.00	0.07
3	1.04	0.08	1.04	0.08
4+	1.02	0.08	1.01	0.08
Nativity status				
Native origin	1		1	
Non-native origin	1.10 *	0.05	1.11 *	0.05
unemployment status				
not unemployed	1		1	
unemployed	0.80	0.22	0.79	0.21
Number of subjects				
	3471		3471	
Number of failures				
	2651		2651	
Number of observations				
	44951		44951	
Time at risk				
	385952		385952	
Log likelihood				
	-3558.84		-3558.71	

Note: Statistical significance: +<10%, * <5%, **<1%, ***<0.1%

All interaction terms presented in the following figures tested statistically significant, although they are occasionally not statistically different from the reference category, which is noted in each figure. Only selected results are presented and all control variables shown in Table 2 were also included in these models. The first figure (5) displays the simple interaction of time period and the employment indicators for the full sample. Before 1992, the highest risk of conception occurred when respondents reached their first job, but the risk associated with reaching the first main occupation was similarly high. In contrast, the main job acquired more importance than the first job in the market economy. Similarly, if we look at the effect of years spent in the labor market, the early years of working were associated with the highest risk of conception under state socialism. The recent time period shows a cross-over effect in which an initial increase in conception risk during the first years in the labor market levels out, but slightly rises again when respondents have worked at least seven years. These initial findings lend support to the idea that employment stability and tenure matter more to childbearing in the market economy context.

Figure 5. Relative risks of interactions showing the changing influence of job status and duration in the labour market on first conception



The remaining figures show how the importance of these employment experiences varies for men and women or for native and non-native origin respondents. The three-way interaction results in Figure 6 show that the previous results are shaped by the pattern observed among women. In contrast, men do not show a cross-over effect, in which the conception risk of main job attainment or working more than seven years in the 1992-2006 time period surpasses the respective relative risk in the 1961-1991 time period. We do see a positive impact of the importance of the job to one's career and the length of time in the labor market to first conception risks, however, in contrast to a previous plateau. These findings indicate that job security or career establishment is more important now than simply getting a foot in the labor market for both men and women. We also observe that the societal regime change has brought greater change to the employment-parenthood nexus among women. As a result, the patterns characteristic of men and women have become more similar over time.

Figure 7 presents the interactions of time period, nativity and the employment variables. Pooling native origin men and women together, we see that the impact of entering the labor market is exactly the

same in the two different economic contexts. It is when native origin respondents achieve the first job in their main occupation that their conception risk becomes significantly higher than it was before. To the contrary, the effect of job status in the market economy loses all of its importance to non-native origin respondents' first conception risk. The same findings emerge in the results for years accumulated in the labor market. After the conception risk peaks in the first two working years during the state socialist era for native origin men and women, a swift decline occurs, which is replaced by an increase in conception risk in the market economy that peaks at the longest duration class (7+ years). Again, labor market tenure appears unrelated to first conceptions for non-native origin respondents in the market economy context.

Figure 6. Relative risks of interactions showing the changing influence of job status and duration in the labour market on first conception for men and women

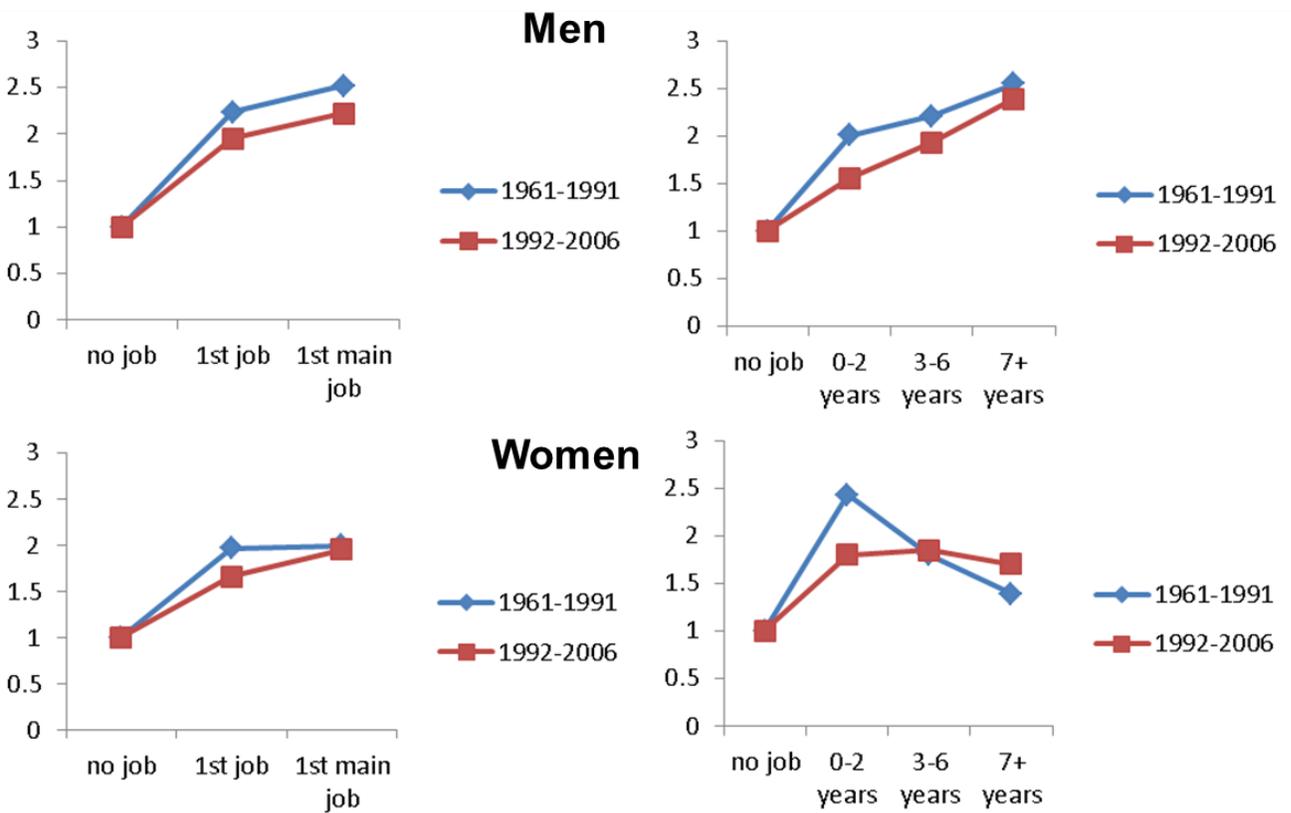
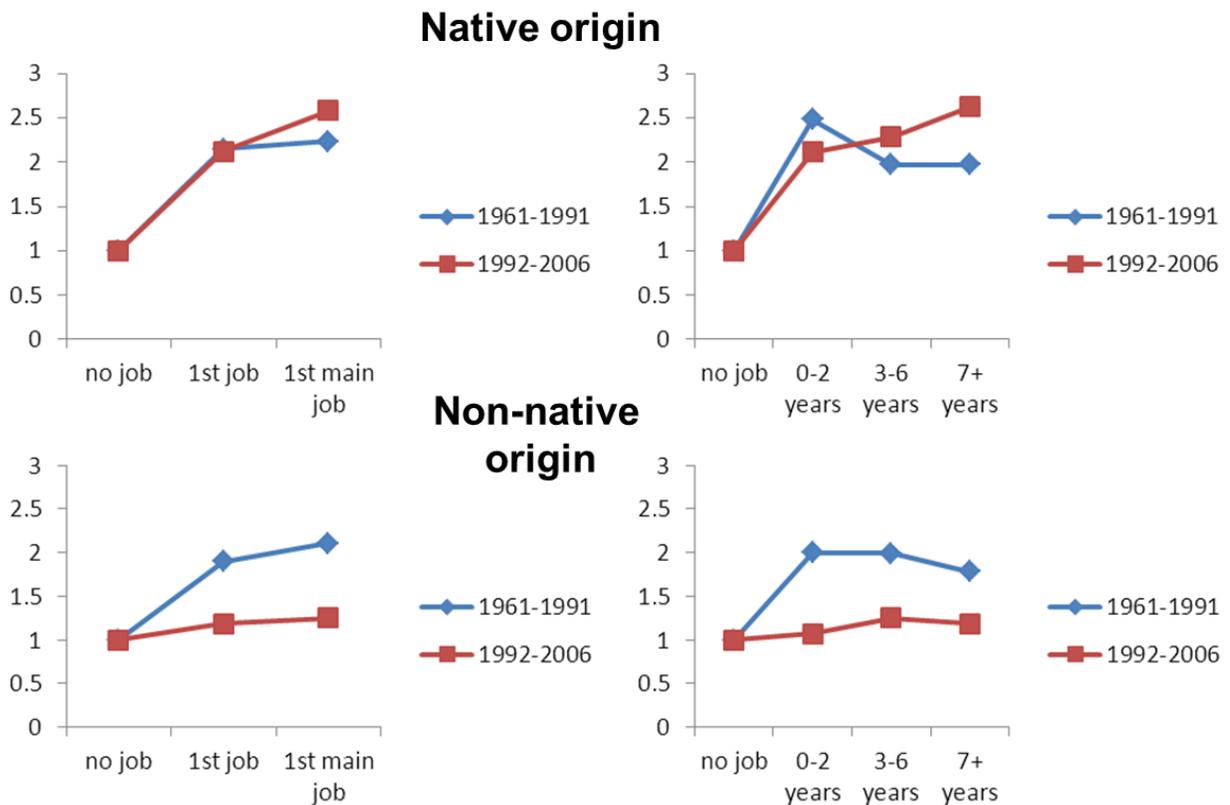


Figure 7. Relative risks an interaction showing the changing influence of job status and duration in the labour market on first conception by nativity



Note: odds ratios for non-native origin 1st and 1st main job and all durations in 1992-2006 were not significant.

Discussion

In this study, we investigated how employment developments matter to entering parenthood under state socialism and the free market economy. We propose three important contextual differences in the latter time period that may moderate the relationship between employment and entering parenthood: 1) jobs were no longer guaranteed and secure, 2) new consumption opportunities increased the desire to accumulate earnings, and 3) wage dispersion and the private housing market increased the need to accumulate earnings. While we cannot distinguish between the contribution of these three contextual changes, we believe this study contributes to the wider literature on economic uncertainty as an important factor to childbearing trends across Europe (Kreyenfeld et al. 2012). In contrasting these time periods, we also observed concurrent changes in the early adulthood life course regime in Estonia. We juxtaposed these changes between men and women as well as between native and non-native origin respondents to see how socio-economic opportunities as well as cultural factors operate in the relationship. Gender and being of native or non-native origin are two important divisions in Estonia that reflect different opportunities and risks in the free market economy as well as potentially different age norms and differential strength of these norms.

The pre-conditions for childbearing have indeed altered since the time period when jobs were provided for life. Our analysis of the timing and dispersion of the main early adulthood transitions yielded some interesting descriptive information: a contraction occurred in the interval between when they entered the labor force and began their main occupation. The need for getting established in the labor market became consolidated, even if prolonged education meant entering the labor market slightly later. Conversely, the timing of when most men and women finished their education and had their first child became less uniform. Perhaps the most dramatic change in early adult life transitions was an earlier entrance into the main occupation. While this measure may be somewhat biased by the short employment histories of younger respondents, comparing the socio-economic status of these jobs between the younger and older cohorts shows strong similarities. Women and men now begin their main occupations before entering parenthood, whereas men and women were parents before they were established in their main occupation in the Soviet era. This shift may reflect a more aggressive approach toward career establishment in the younger cohorts as well as greater incentives and new opportunities. In addition, these new opportunities appear to be unevenly distributed and the greatest improvements in upward mobility were observed for native origin men. Women began postponing labor market entrance to a greater degree than men after 1991, but the postponement of parenthood was much more pronounced among men. The change in the timing differential between native and non-native origin men of when they entered the labor market and parenthood were negligible. However, non-native origin women in Estonia appear to be following a distinct path to motherhood from native-origin women; they were the only group for which the duration between entering employment and entering parenthood declined in the new economy.

In the multivariate analyses, our expectations were partially confirmed. In particular, whereas simply entering the labor market used to be the threshold to entering parenthood in the socialist time period, men and women both appear to prefer gaining some security in the free market economy first, which was measured by reaching one's main occupation. We did not find evidence of a gendered divergence in parenthood trends, which was expected if delayed entry into employment made women less committed to beginning a career before motherhood because men may be perceived as the main earners and there are stronger age norms for women. Whereas job security measured through acquiring experience in the labor market showed an increasingly positive relationship for men, women maintained an equally high risk of entering parenthood over time once they had experienced a few years of employment. This finding supports both Kravdal's (1994) findings for Norwegian women and Santow and Bracher's (2001) findings for Swedish women.

Our findings of convergence between men's and women's childbearing and employment patterns support similar findings in France (Winkler-Dworak and Toulemon 2007). We interpret this convergence in two possible ways: First, the working mother norm does not appear to have lessened. But our findings show that employment is even more important to women when entering motherhood in the free market economy, which would mean that the norm is even stronger or more prevalent now. It is perhaps more likely that wage dispersion, new consumption opportunities and the shift to a private housing market has brought with it both the need and the desire for more income in a household before starting a family. Recent analyses have also revealed that the introduction of income-related parental

leave scheme in 2004 increased the motivation of women to acquire a secure position in the labour market and decent earnings (Vörk, Karu and Tiit 2009). However, for the results observed in the present study the contribution of a new parental leave scheme is limited. These interpretations align with those of Matysiak and Vignoli (2008) in which they argue that an income effect likely drives the post-socialist positive relationship between employment and motherhood: the low wages in these countries may prohibit single-earner households.

The finding that an established position in the labour market appears to acquire importance under free market conditions is reflected again when we look only at native-origin men and women. However, although non-native origin men and women share a very similar relationship to their native origin counterparts between employment and parenthood under state socialism, the same cannot be said of the relationship that appears after 1991. Employment experiences—whether just entering the labor market, acquiring years of experience, or entering the main career—are no longer statistically related to becoming a parent for non-native origin men and women.

We can only speculate about the vast differences that emerged between native and non-native origin respondents as well as between non-native origin men and women. Without a doubt, the timing of parenthood for non-native men and women has become detached from the timing of employment after 1992. In the case of men, there is a strong likelihood that the relative risks inform us not only about timing, but also about whether parenthood is ever entered, due to markedly increased levels of childlessness. In either case, it appears that non-native origin men and women have experienced opposite forces of detachment. Whereas the timing of childbearing for non-native origin men appears to be pulling further away from a relatively early entrance into the labor force, for women it appears to be pushing against postponed labor force entrance. This may mean that these men are not achieving their desired employment position until much later, particularly for non-native men with only a basic education, who still have very poor upward mobility prospects by the time they enter their main occupation. In contrast, non-native origin women's upward mobility prospects appear to be on par with native origin women's.

A likely explanation therefore may be that non-native origin women have a stronger commitment to age norms even in the face of changing opportunities and risks or have different age norms from native origin women. The non-native population is mostly comprised of Russian speaking individuals who migrated from Russia or had a parent who migrated from Russia. The finding that Russian women consistently enter parenthood early is not a new one. Changes in the first birth timing and rates only became evident for the cohort born in the late 1970s (Zakharov 2008). Even if Russian fertility is low, early childbearing has largely persisted. Outside of Russia, this is the reason Russian women's first birth risks can be higher than the titular majority's (Nedoluzhko and Andersson 2007; Abuladze 2011) even if their overall fertility is lower. As discussed earlier, it is a strong possibility that age norms and the strength of these norms play a role in when women become mothers. Indeed, simple tabulations of age norms from the Estonian Generations and Gender Survey reveal an age gap in which non-native origin women born 1965-1983 believe the most appropriate age to enter motherhood is 22.7 (mean), whereas the appropriate age for their native origin counterparts is 23.6. Perhaps the most telling difference is in the maximum age reported, which was 30 for non-native origin women and 35 for native origin women.

The gendered double-standard emerged for non-native origin respondents as well, in which the maximum age non-native origin men reported was 40, whereas it was 35 for native-origin men. While these findings lend some support for an explanation based on the nature of age norms, the differences in mean ages reported are perhaps not large enough to explain the strongly divergent findings we have. Another explanation may be that the gendered double-standard for non-native origin men and women and the gender-equal standard for native men and women point toward differences in gender roles, which may be reflected in the more equal emphasis on labor market careers of native origin men and women.

In search of explanations, it is also important to note that differentials in childbearing patterns by nativity are not limited to first births. A recent study of educational differentials in childbearing (Klesment and Puur 2010; Klesment 2010) based on GGS data demonstrated a consistently positive and statistically significant effect of high educational attainment on the intensity of second births among the native population in Estonia, before as well as after the societal transition of the 1990s. However, this positive educational gradient for second births was not characteristic of the post-war immigrants to Estonia and their descendants. The pattern observed for the foreign origin population resembled that found in the Russian Federation (Rieck 2006).

An important implication of our findings is that women and men are now more likely to wait until achieving their own security and tenure in the labor market before becoming parents. Future research on the importance of employment and labor market security to parenthood should, however, address a few shortcomings of this study. The small sample size of this study prohibited an analysis of how the relationship between employment and entering parenthood changed by time period, sex, nativity status and education. Educational level must be brought into the analysis more than we managed, because education is a strong indicator of socio-economic opportunities and making it more operational would provide richer information on how varying levels of opportunity are important. Likewise, being able to capture all unemployment spells, not just those over 12 months, may introduce important information that was unobserved in our study. Finally, we need data that provides information on fertility and detailed employment histories in order to fully explore how a tension may arise between employment insecurity and feelings of pressure to enter parenthood.

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