Labour Economics 30 (2014) 265–281

Contents lists available at ScienceDirect

Labour Economics

journal homepage: www.elsevier.com/locate/labeco

Assessing the impact of the maternity capital policy in Russia ☆

Fabián Slonimczyk [a,b,*], Anna Yurko [c]

[a] ICEF and Economics Faculty, NRU Higher School of Economics, Moscow, Russian Federation
[b] IZA, Bonn, Germany
[c] ICEF, NRU Higher School of Economics, Moscow, Russian Federation

HIGHLIGHTS

- We evaluate the effect on long run fertility of a pro-natalist policy
- Women who give birth to a second or higher-order child receive a benefit worth $11,000
- We estimate a dynamic structural model of fertility and labor force participation using panel data
- The policy is included in the model explicitly through the budget constraint
- We find that the program increased long run fertility by 0.15 children per woman

ARTICLE INFO

Available online 18 March 2014

JEL classification:
J13
C61

Keywords:
Fertility
Female labor supply
Structural estimation
Russia

ABSTRACT

With declining population and fertility rates below replacement levels, Russia is currently facing a demographic crisis. Starting in 2007, the federal government has pursued an ambitious pro-natalist policy. Women who give birth to at least two children are entitled to "maternity capital" assistance ($11,000). In this paper we estimate a structural dynamic programming model of fertility and labor force participation in order to evaluate the effectiveness of the policy. We find that the program increased long-run fertility by about 0.15 children per woman.

1. Introduction

For several decades now, economists have theorized fertility decisions as a special case of consumers' utility maximization problem.[1] Children produce certain satisfactions and have a net cost, and couples have to decide on the optimal number of children. A more recent development involves the recourse by a number of governments to the use of direct financial incentives in an attempt to revert declining fertility rates. While the details are different in each case, Australia, France, Germany, Canada (the province of Quebec), and Spain have all offered "baby bonuses" to couples.

Russia is among the countries with very low fertility rates: its total fertility rate (TFR) over the period 2001–2005 was only 1.3.[2] In order to encourage women to have more children, the State Duma (Russian Parliament) passed a law in December of 2006 establishing new measures of government support for families with children, commonly known as the maternity capital (MC) program. According to the law, starting in January 2007 women that give birth to or adopt a second or consecutive child are entitled to special financial assistance. The program is scheduled to expire by the end of 2016.[3]

☆ This paper has been presented at the following venues: IZA-HSE workshop, Royal Economic Society, Atlanta Federal Reserve Bank, Society of Labor Economics, Eastern Economic Association, Asia Meetings of the Econometric Society, European Economic Association, European Labor Economics Association, Lancaster University, University College London, Copenhagen Business School, ZEW Workshop on Family Economics and ASSA Meetings. We are grateful to the participants for their helpful comments and suggestions. In addition, we thank Irina Denisova, Vladimir Gimpelson, Hartmut Lehmann, Sergey Roshin, Judith Shapiro, the Editor, and two anonymous referees for their useful comments. All remaining errors are our own. Anna Yurko acknowledges support from the Center for Advanced Studies at NRU Higher School of Economics (individual research grant).

* Corresponding author at: Shabolovka 26, Office 3430 Moscow, 119049 Russian Federation.
E-mail addresses: fslonimczyk@hse.ru (F. Slonimczyk), ayurko@hse.ru (A. Yurko).

[1] See Becker (1960) for an early formulation. Hotz et al. (1997) and (Arroyo and Zhang, 1997) review the literature.

[2] The TFR is defined as the total number of children born to the average woman over her lifetime. It is computed as the sum of the current age-specific fertility rates. Population size is steady when the TFR is around 2.1. For an overview of recent demographic trends in Russia, see Denisova and Shapiro (2013) and Brainerd (2012).

[3] Currently, there is discussion over whether to extend the program until the end of 2025.

http://dx.doi.org/10.1016/j.labeco.2014.03.004
0927-5371/

MC assistance comes in the form of a certificate that entitles its holder to receive funds in the amount of approximately $11,000 at any time after the child reaches the age of three.[4] The money can be used for a limited number of purposes. Specifically, parents can receive these funds if they intend to spend them on: 1) acquiring housing, 2) paying for children education, or 3) investing in the mother's retirement fund. Women can apply for MC funds only once in their lifetimes.

Through the end of 2012, the Russian government has issued over four million MC certificates.[5] At the approximate value of $11,000 per certificate, total liabilities due to the MC program are growing at a rate above $7 billion per annum, or 2.1% of total federal government expenditures in 2012. In comparison, the fraction of the federal budget dedicated to education was 4.8%. Fortunately for public finances, parents are in no rush to claim and spend the money: out of the issued certificates only 37.4% has been claimed so far (23.9% fully claimed), most of them (over 90%) used on acquiring and improving housing conditions.

How effective is this policy in increasing fertility? In 2006, Gary Becker wrote in his blog on the expected effect of the proposed MC policy: "I would guess that Russian fertility would increase by about 10–20% from current levels, or from the present total fertility rate of 1.28 to perhaps as high as 1.55." Four years into the program Russia's TFR was 1.58. It seems that Becker's prediction has been correct and the policy results in more births (See Becker, 2006).

Predictably, the government attributes the higher birth rates to its policies, specifically to the MC program. Russian demographers are more skeptical, however, noting that the TFR has been increasing since 2000 at approximately constant rates and that TFR and other aggregate measures of fertility are very unreliable indicators of actual fertility behavior (Zakharov, 2012).

There are some previous studies that investigate the effect of financial incentives on fertility. For example, González (2013) finds that a €2500 universal child benefit introduced in Spain in 2007 increased fertility by about 6%. Similarly, Cohen et al. (2013) find a positive effect on fertility of a child subsidy in Israel. Using three substantial changes in tax policy in France, Chen (2011) finds mixed evidence that fertility responds to positive and negative changes in tax incentives. Finally, Milligan (2005) finds that the introduction of a pronatalist transfer policy in the Canadian province of Quebec had a strong effect on fertility.

Assessing the effect of the MC policy is challenging for two main reasons. First, there is the classic issue of confounding factors. In particular, the Russian government made changes to maternity leave and child benefits around the same time the MC policy was introduced. A second challenge is that the fertility decisions of the women affected by the program will only be fully observable after they complete their fertile period. Without further assumptions it is not possible to distinguish an increase in completed fertility from a shift in the timing of births.

In order to investigate whether the MC program has been successful in increasing fertility rates while addressing these challenges, in this paper we estimate a dynamic stochastic discrete choice model of fertility and employment. We then use the estimates of the structural parameters to analyze the effect of the policy. The model we estimate builds on previous dynamic fertility models such as Wolpin (1984), Francesconi (2002) and Keane and Wolpin (2007), and explicitly accounts for the differential costs and benefits of first vis a vis higher order births. We also let the utility associated with births to differ in the post-reform period to control for changes in maternity leave and child benefits. The MC benefit is explicitly included in through the budget constraint, thus allowing the model to exploit variation in income to identify the effect of the program. Finally, because women in the model are forward looking and rational, we are able to distinguish increases in long run fertility from shifts in the timing of births.

Based on model simulations, we find that the MC policy has modest long-run effects on fertility (about 0.15 children per woman). As expected, the main effect on fertility has been to increase the fraction of women who choose to have two or more children. The model confirms that a significant fraction of observed increases in fertility rates right after the reform was implemented are due to short-run rescheduling of births rather than actual increases in long-run fertility. The MC policy has had heterogeneous effects. Specifically, we find that the increases in birth rates are larger among women who are married or cohabiting with a spouse. There are no significant differences between observable skill levels, rural and urban areas or by employment status.

The paper is structured as follows. The next section provides a detailed discussion of the methodological challenges associated with evaluating the MC policy and our strategy to overcome them. Section 3 presents diverse descriptive evidence on the effectiveness of the policy, including results from a 2008 poll, data on aggregate fertility rates from different sources, and results for before–after and difference-in-differences experiments. This descriptive evidence provides a benchmark against which we assess the estimates based on the structural model. Section 4 describes the model and the estimation method. Section 5 provides details on the estimating sample. Section 6 presents estimation results and evaluates the ability of the model to fit the data. In section 7 we present simulation-based estimates of the short- and long-run effects of the MC program. Section 8 concludes.

2. Evaluating the MC policy: methodological challenges

This section provides details regarding the changes to fertility-related policies in Russia. It then discusses the methodological challenges associated with evaluating the effect of the MC policy on fertility and our proposed strategy to overcome them.

2.1. The maternity capital program

Maternity capital is a federal program that became effective in January 2007 and is set to expire by the end of 2016.[6] Women that give birth to or adopt a second or consecutive child are entitled to special financial assistance. This assistance comes in the form of a certificate that entitles its holder to receive a certain amount of funds. The amount — on average about 11,000 dollars — is indexed annually to compensate for inflation. The last column of Table A.1 presents the MC benefit amount since the program was implemented. Women can apply to receive the certificate at any point after giving birth to an eligible child, but only once in their lifetimes. In case of the mother's death the certificate passes to the father, and if he dies as well — to the child him- or herself.

According to the original design, the family could use the funds only after the eligible child reaches the age of three and only for one (or a combination) of three purposes: 1) purchasing housing; 2) children education; and 3) investment in mother's pension fund.[7] The funds are transferred directly from the Pension Fund — the administrator of the program — to the seller of the property, the mortgage holder, the educational institution, or the mother's pension fund account, depending on the purpose.

[4] The amount in Russian rubles is revised annually to adjust for inflation. See Table A.1 in the appendix. For comparison, Russia's average GDP per capita in the period 2007–2011 was $10,691 (current US dollars).

[5] Source: Pension Fund of the Russian Federation. Annual Report 2012.

[6] The statute that created the policy is entitled "Of the Additional Measures of Support for Families with Children", number N 256-FZ from December 29th 2006.

[7] Several changes have been made since the law was first enacted. First, beginning in January 2009 the funds can be used for mortgage payments immediately after the birth of the eligible child (i.e. without the three year waiting period). Second, since August 2010 the funds can also be used for construction of housing. In this case the money is either transferred directly to the construction company or to the certificate holder if she is doing the construction herself and after the proper paperwork is submitted to the Pension Fund. Finally, from 2009 to the end of the first quarter of 2011, maternity capital certificate holders were allowed to withdraw 12,000 rubles in cash.