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From pro-natalist rhetoric to population policies in Turkey? An OLG general equilibrium analysis

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ABSTRACT

We build an overlapping generation (OLG) general equilibrium model of Turkey with survival rates and endogenous labour supply to simulate the economic, fiscal, welfare, and intergenerational redistribution impacts of the medium and high fertility demographic scenarios projected by the United Nations. We assume that the high fertility variant is a realistic demographic proxy for pro-natalist policies in Turkey. Our results show that on a purely economic basis, a higher fertility scenario in Turkey appears open to criticisms as it cannot offset the social security pressures of ageing, and it also involves intergenerational welfare redistributions so that current young adults are unlikely to endorse natalist rhetoric and policies.

1. Introduction

Until recently Turkey was typically viewed as a relatively young economy when compared to an ageing Europe. Indeed, the fertility rate was around 4.0% in early 1980s, and even recently (2013), with a rate of around 2.0%, Turkey remains one of OECD members where the fertility rate is the highest, albeit in sharp decline from the 1980s and at the brink of minimum level required for reproduction of one generation. As elsewhere, the decline in fertility in Turkey has been attributed to the social and economic changes. Demographic transition theory and economic theories of fertility decline suggest that the changing relationship between the costs and benefits of having children is the main driving force to fertility change. According to Yavuz (2008), Turkey's modernization, socioeconomic development and accompanying social change came into a new phase with the 1980s. This period was characterized by the development of a free market economy, volatile economic growth during the 1990s, globalization with its social and cultural dimensions, urbanization and massive migration from East to West Turkey where better job opportunities have favoured women labour force participation. These various societal changes have exerted an impact on fertility behaviour, amplified by the poor quality of public primary and secondary education which has led families to opt for costly private education and to choose "quality" over "quantity".

Against this backdrop, the current pro-natalist rhetoric in Turkey originated in a speech given by then Prime Minister Recep Tayyip Erdoğan in 2008, on Woman's Day, advising women to give birth to at least three children. The latest offering in this vein of glorified motherhood was given by Health Minister Mehmet Müezzinoğlu during a visit to the first baby born on January 1, 2015, in Istanbul, and giving advice to women:

> "Mothers have the career of motherhood, which cannot be possessed by anyone else in the world. Mothers should not put careers other than motherhood at the center of their lives. They should make raising good generations the center of their attention."[1]

Since 2008, the Turkish government has been studying a number of policies to increase population growth rates. The Minister for Family and Social Policies announced a pilot project in early 2013 to provide fertilization treatment to 2500 low-income families having no children. About 2.5 million families are also in the process of being evaluated to join the project at a later stage. Other policies that are currently explored is to raise maternity leave from 16 to 24 weeks, and to offer incentives to encourage families to have more children, giving a monthly baby bonus of 300 Turkish Lira (TL).[2]

Although some of the aspects of the pro-natalist rhetoric have recently been discussed in the general press as opinion pieces, little

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[1] Hürriyet Daily News, January 02, 2015.
[2] About US$ 100 in average in 2015.

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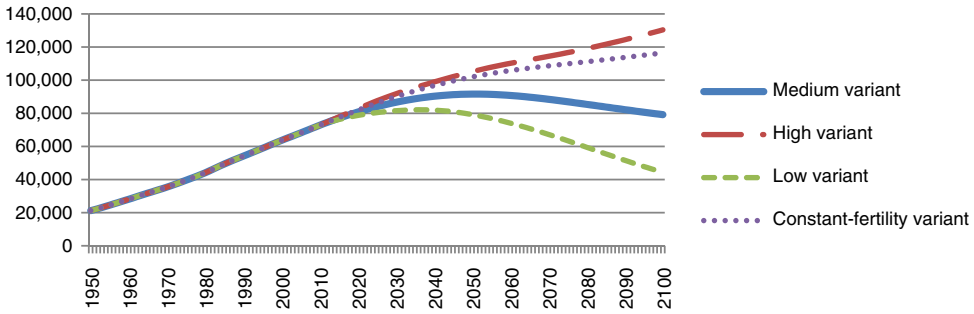

Source: Compiled by the authors using UN Population Division data – World Population Prospects, the 2010 Revision (esa.un.org/unpd/wpp/unpp/panel_indicators.htm)

Fig. 1. UN population projections for Turkey (in thousand) — medium vs. other variants.

academic research has attempted to gauge their possible impacts, and none in a general equilibrium context. Several reasons can explain the muted reaction of academics. First, demographers believe that a target of at least 3 children per family is unrealistic given the current fertility rate in Turkey (Türkyılmaz et al., 2013). Second, economists believe that agents act on incentives not on rhetoric, but the announced policies appear timid and exploratory. Third, for most economists, pro-natalist policies are seen as an attempt to change the relative sizes of various cohorts as current low fertility rates threaten the long run financial viability of pension schemes and health care systems. But, it is argued, these are not the best available policies to deal with the demographic transition. As a matter of fact, if the Turkish government was serious about the eventual ageing problem and the sustainability of pension plans, then reforms of the social security, not fertility policies, should be undertaken (Sayan, 2013; Şirin and Janssen, 2013). If the government was serious about family policies, it should try to favour a concomitant increase in women's fertility and their participation in the labour market through child care facilities. More generally, a pro-natalist policy does not make economic sense in the face of low labour participation rates, a high pool of unskilled labour, and high unemployment. And if sustained growth instead of ageing per se was the preoccupation of policy makers, then the priority should be technological progress as a major source of economic growth in the upcoming decades (Attar, 2013).

Yet, the muted reaction referred above is also a missed opportunity. Instead of an outright dismissal of natalist policies, we could benefit from a better understanding of their economic, fiscal, and social security impacts relative to the currently expected demographic changes in Turkey.[3] The objective of this paper is therefore to study the impacts of a realistic policy-supported change in fertility by comparing two "likely" projections, the medium and high variants of the United Nations Population Division (UN Population Revision, 2010) over the demographic transition. We gauge the economic, fiscal, social-security, and welfare impacts of both scenarios and highlight the magnitude of the economic cost, in terms of living standards, of a pro-natalist policy. To do this we have built an overlapping-generation applied general equilibrium model of the Turkish economy (TOLGAGEM). The model is in the Auerbach and Kotlikoff (1987) tradition and introduces age-specific mortality following Börsch-Supan et al. (2006) with perfect annuity markets, that is, with accidental bequests distributed implicitly, as in the life insurance framework by Yaari (1965). The remainder of this paper is organized as follows. Section 2 illustrates in more details the UN demographic projections for Turkey and the assumptions underlying the medium and high variants. Section 3 outlines the structure of TOLGAGEM which models key features of the Turkish economy and discusses how the model is calibrated. A series of simulations using TOLGAGEM are carried out in Section 4 and results are discussed. We will see that a higher fertility rate is unlikely to solve, by itself, the social security pressures of ageing. Section 5 concludes.

2. UN demographic projections: medium and high fertility variants

Fig. 1 compares four population scenarios projected by the United Nations for Turkey — the medium, high, constant and low fertility variants. In the following we will concentrate on the medium versus high variants. From about 77 million now, the population could reach 130 million by the end of the century in the high fertility variant compared to 80 million in the medium variant scenario. This section provides underlying assumptions made by the UN Population Division so as to project population estimates (Fig. 1), in particular, assumptions regarding future trends in fertility, mortality and international migration. Because future trends in fertility cannot be known with certainty, a number of projection variants are produced. Fig. 2 shows historical figures and projections on the fertility rates in Turkey for the four variants. The constant fertility variant assumes that the number of children per women remains constant from 2010 to 2100 at its level of 2.15 children per woman for the period 2005–2010. The medium fertility variant is the median of 100,000 projected trajectories for the fertility rate (until 2100).[4] Under the high variant, fertility is projected to remain 0.5 children above the fertility in the medium variant over most of the projection period. That is, as Turkey reaches a total fertility of 1.82 children per woman in the medium variant in 2020–2025, it has a total fertility of 2.32 children per woman in the high variant during that period. Under the low variant, fertility is projected to remain 0.5 children below the fertility in the medium variant over most of the projection period (i.e., a total fertility of 1.32 children per woman in the 2020–2025 horizon).

UN assumptions for life expectancy, under-five mortality and migration are the same across all variants and Fig. 3 gives the historical data and projections. Life expectancy at birth was 73 years (both sexes combined) in 2005–2010 and is projected to reach 84.5 at the end of the century. Under-five mortality was 34 per 1000 in 2005–2010 down from 293 in 1950 and is projected to reach 2 deaths per 1000 in 2100. The net migration rate fell from −2.1 per 1000 in 1960–1965 (about

[3] See Hoşgör and Tansel (2010) for a study of the effects of demographic changes in Turkey on several sectors of the economy. Alper et al. (2012) provide historical background, demographic projections, and fiscal and social security implications of ageing in Turkey. Kenc and Sayan (2001) show within an OLG-CGE model that the spillovers of the demographic shock in Europe would intensify the changes that Turkey would experience from its own demographic transition. Attar (2013) stresses that priority should be given to technological progress instead of pro-natalist policies. He uses a reduced form model with no prices and, essentially, no market for goods, labour and capital. Thus the model ignores the general equilibrium interactions between factor prices and capital accumulation. Furthermore, without pension system and with no government and no age sensitive public spending (health and education spending), the model does not offer a framework that permits the analysis of the challenges associated with demographic changes per se.

[4] See the UN 2010 Population Division web-site for further details on the stochastic simulation model that generates the 100,000 projections underlying the medium variant.