Borrowing constraints and saving in Turkey

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ABSTRACT

The Turkish macroeconomic experience since 2002 has been characterized by three striking trends: (1) an accelerated growth rate of income, (2) a sharp decline in the real interest rate, and (3) a sustained fall in the saving rate of different age-groups. During the same period, there has also been a significant increase in access to credit by Turkish households. In this paper, we argue that a model which incorporates a borrowing constraint mechanism together with the observed increases in the expected growth rate of income and the substantial declines in the real interest rate is able to explain the change in saving across cohorts in Turkey over the last decade. We provide both micro-level evidence on the age-saving profile for Turkey as well as quantitative results from a simple three-period OLG framework with borrowing constraints to account for the change in the saving rate for different age-groups between 2004 and 2014.

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1. Introduction

The decline in Turkey's saving rate during the last decade has attracted both academic research and substantial daily debate. Since private saving constitutes the major component of total domestic saving in Turkey, understanding the determinants of households' saving decisions is a crucial step in understanding the evolution of the private saving rate. While recent policy initiatives such as the introduction of the privately-funded pension system have sought to increase domestic saving through offering incentives for increased saving by households, we argue that a more fundamental approach is needed to understand the underlying reasons of the decline in the household saving rate of Turkey after 2002. Such an approach must also take into account the accompanying developments in the Turkish macroeconomic experience during this period.

Fig. 1 shows the behavior of the domestic saving rate and its components between 1975 and 2015. This figure shows that

barring the experience of the pre-1980 era, the dramatic decline in the saving rate in Turkey occurs after 2002. Specifically, the private saving rate falls from 19.6% to 11.7% between 2003 and 2014 while the household saving rate experiences a 1 percentage point greater decline than the private saving rate, falling to 8.7% over the same period.[1] To understand the reasons for this decline, we argue that two other trends in the Turkish economy during this period must also be taken into account. These are the huge declines in nominal and real interest rates together with a dramatic increase in the access to credit by Turkish households. As Fig. 2 shows, real interest rates decreased from 21% to 1.8% between 2000 and 2015. At the same time, Fig. 3 shows that the ratio of consumer credit-GDP

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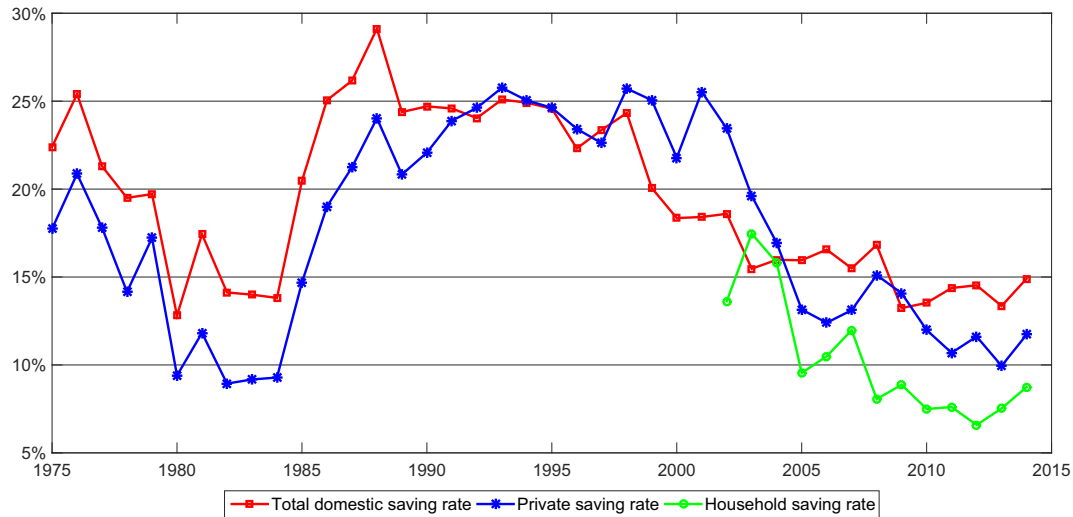Peer review under responsibility of the Central Bank of the Republic of Turkey.

[1] Recently, the Turkish Statistical Agency (TurkStat) has updated Turkey's National Income Accounts and has published a revised saving rate based on the TurkStat Institutional Accounts. We compared these data which are available for 2009—2015 with the data for 2009—2014 that was used to generate Fig. 1. In results that are available upon request, we find that the saving rate based on the updated national income accounts tends to be higher than our results. We attribute this result to a new definition of saving based on a revised definition of the "household", namely, Households including Non-Profit Institutions Serving Households (NPISH). However, we also find that our measures of the saving rate are consistent with those used by Van Rijckeghem and Üçer (2009) and Ceritoğlu and Eren (2014). Our results are available upon request.

Fig. 1. Saving rates in Turkey.
Source: Ministry of Development of Turkey, Authors' calculations based on TurkStat Household Budget Survey (2002—2014).
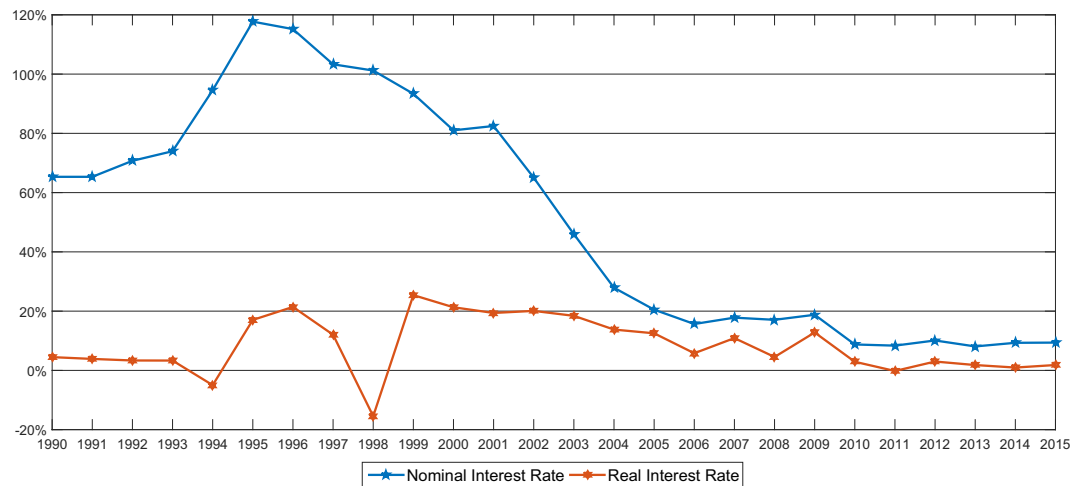

Fig. 2. Nominal and real interest rates (1990—2015).
Source: Central Bank of the Republic of Turkey, World Bank.

increased from 0.48% to 8.45% in this period.

In our analysis, we examine the distribution of saving between different age groups in order to understand how different age groups contributed to the fall in the aggregate saving rate. For this purpose, we use the Household Budget Survey to provide micro-level evidence on saving behavior by age groups. The Household Budget Survey suffers from data availability for consumption at the individual level. As a way of overcoming this problem, Ceritoğlu and Eren (2014) and Cilasun and Kirdar (2009) use the age of the household head to derive age-saving profiles for the 2003—2010 and 2005 periods, respectively. However Deaton and Paxson (2000) assert that if there exist multi-generational households (which is quite common in Turkey), then selection and aggregation biases may arise from this practice. Van Rijckeghem and Üçer (2009) consider the Deaton-Paxson critique and disaggregate total household saving into age groups with a linear regression model. Ceritoğlu and Eren (2014) also consider the age distribution of all family members, and quantify the impact of demographic change on household saving, which is expected to take place in the following years in Turkey. As in Van Rijckeghem and Üçer (2009),

they estimate a simple linear regression model from 2003 to 2010 using the Household Budget Survey. In our analysis, we deal with such biases by estimating corrected age-saving profiles with non-linear least squares estimation by using household specific controls (see Section 3).

The determinants of saving have been studied in the related literature. Özcan et al. (2003) and Van Rijckeghem (2010) find a role for the credit-GDP ratio and the change in the private credit-GDP ratio as significant determinants for private saving in Turkey, respectively. Additionally, Tunç and Yavaş (2016) find a negative effect of mortgage and non-mortgage consumer credit on private saving rates. In earlier work, Modigliani (1986) shows that imperfections in credit markets may prevent households from borrowing, thereby postponing consumption and increasing saving. Deaton (1989) supports this idea by claiming that precautionary motives interact with liquidity constraints because the inability to borrow when times are bad provides an additional motive for accumulating assets when times are good. These studies suggest that loosening of credit constraints may provide a way to explain the declining household saving rates in Turkey.