Understanding the rural and urban household saving rise in China

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ABSTRACT

This paper analyzes the different factors that drive saving rate rises of both rural and urban households in China. Using data from the Chinese Household Income Project 1995 and 2002, I first show that the whole saving rate distribution shifts up for both rural and urban households. The shift, however, differs between rural and urban households and is heterogeneous across the distribution: while rural saving increased the most at lower percentiles, urban saving experienced a larger shift at higher percentiles. Moreover, decomposition in the saving distribution shows that most of the increase in the rural saving rate is due to rising income. In contrast, only a small portion of the increase in the urban saving rate can be explained by changes in household characteristics including income. The rising urban saving rates are instead explained by changes in quantile regression coefficients over time, especially at the top of the saving distribution.

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1. Introduction

China's national saving rate has increased sharply in the last two decades and has now reached 50%. As rising household saving is one of the main contributors to the high rate of national saving, it has attracted the attention of policy makers and academic scholars. Important identified determinants of the high saving rate include the increasing proportion of working age population, which induces saving rate rises according to the life cycle theory (Modigliani and Cao, 2004), the precautionary saving motive, amplified by the underdeveloped financial system (Chamon and Prasad, 2010; Wen, 2009; Feng et al., 2011), the competitive saving motive under unbalanced sex ratio (Wei and Zhang, 2011), and the status seeking motive proposed by Jin et al. (2011). However, most household-level empirical research along these lines has studied aggregate saving determinants and has limited focus on heterogeneities, especially regional differences, in analyzing the dynamics of the saving rate. In particular, despite the large rural–urban disparity, there has been no rigorous analysis in the literature of the different forces driving the rise in household savings. This paper attempts to fill this critical gap in the literature by analyzing the driving forces of the saving rates for rural and urban areas separately. To the best of my knowledge, this is the first detailed examination of the difference in reasons behind the rising rural and urban household saving rates in China.

It is important to examine the saving determinants for rural and urban saving increase separately given the great differences between rural and urban households in China.[1] One the one hand, more often than not these households are subject to different government policies and face different constraints. While urban residents enjoy a series of social benefits such as unemployment insurance, health care and pension, rural residents generally do not. Moreover, policy reforms in China tend to be sector-specific. For instance, the health care and pension reforms in late 1990s only targeted urban residents, with limited influence on rural residents. In addition, the relaxed migration restriction provided rural residents new income-earning channels by allowing them to work temporarily in cities as migrant workers. All these factors can potentially lead to differences in saving incentives and behaviors between rural and urban households. On the other hand, there is a significant income gap between rural and urban households. This substantial difference in income, combined with the nonlinear relationship between income and marginal propensity to save documented in Mian et al. (2013), may also lead to different rural and urban saving rates. In addition, rural and urban households are expected to respond differently to nationwide reforms, such as the dramatically increased college tuition in mid 1990s, with different income levels. All these disparities are likely to result in a difference between the forces that drive

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[1] The persistent rural–urban divide is made possible by the household registration system (the Hukou system), which tightly restricts permanent rural–urban migration (Wu and Treiman, 2004; Chan, 2009).

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the urban saving rate from those that drive the rural saving rate. In this case, there needs to be some revision of policy implications arising from previous literature, particularly that which concerns the "rebalance" of China's growth by boosting domestic consumption.

This paper also contributes to the literature by analyzing the contribution of each individual factor in boosting the household saving rate. While each of the proposed saving incentives has been documented to play a role in explaining the saving rate rise in China, their relative importance has not been systematically studied. Furthermore, the relative importance of these saving incentives may differ between rural and urban households. Using decomposition methods, I am able to examine the contribution of each saving determinant in explaining the household saving rise, for rural and urban areas separately. Unlike most related studies that focus on the determinants at either the mean or median of the saving distribution, I perform the decomposition analysis across the whole saving distribution. This distributional analysis allows me to check if the rural–urban differences are driven by outliers, to uncover possible heterogeneities in the relative importance of each saving determinant across the saving distribution, and to provide a correct interpretation of the results.
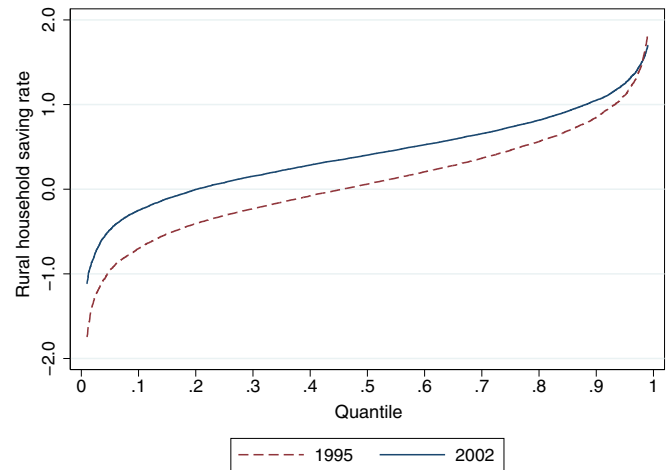
Using data from the Chinese Household Income Project (CHIP), I show that there are indeed dramatic differences between rural and urban saving rate dynamics across the saving distribution. To provide visual evidence of these differences, I plot the saving distributions in 1995 and 2002 for rural and urban households separately. As shown in Fig. 1, while rural saving increased the most in lower percentiles, urban saving experienced a larger shift in higher percentiles during this period.

Can the increase in the saving rate and the difference in saving increase patterns between rural and urban households be explained by changes in household characteristics? If this is the case, then to what extent does it hold true? In order to address these questions, I adopt the semi-parametric reweighting method proposed by DiNardo et al. (1996) (DFL) to decompose the total saving rate increase into two parts for rural and urban households separately. The first of these parts is attributed to changes in household characteristics (hereafter referred to as "endowment effect") while the other is attributed to changes in "returns" to these characteristics (hereafter referred to as "return effect"). I further perform a detailed decomposition based on the unconditional quantile regression proposed by Firpo et al. (2009) to examine the contribution of each single household characteristic to the total saving change.
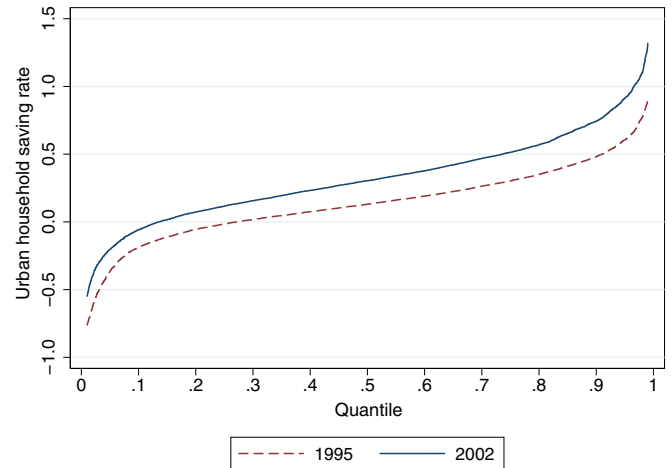
An interesting figure emerges from the comparison between urban and rural decomposition analysis. With respect to rural households, a dominant portion of the rise in rural saving rate from 1995 to 2002 can be explained in terms of changes in household characteristics, mainly the rising income. With respect to urban households, however, only a small portion of the shift in saving can be attributed to changes in household characteristics. The more considerable return effect is likely to be driven by precautionary saving for education, housing, health services and old-age security, especially at the higher quantiles. The contrasting results of decomposition analysis highlight the differences between the underlying forces that drive rural and urban saving increases, thus providing a more comprehensive understanding of saving rate rises in China.

This study also provides important policy implications for contemporary China. China's growth has become consumption-led rather than investment-led or export-led. In 2014, consumption contributed to more than 50% of China's growth, surpassing the contribution of investment.[2] Given the importance of consumption, unleashing domestic demand has been a longstanding goal of Chinese government. However, Chinese consumers often prefer to save and the saving rate in China remains high.[3] Understanding the relative importance of the

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[2] Source: 2014 Statistics Report: Comments, National Bureau of Statistics of China.
[3] Source: The Economist, November 2008, "China Seeks Stimulation".

(a) Rural Saving

(b) Urban Saving

Note: Household saving rate is defined as $ln(income/consumption)$.

Fig. 1. Distribution of household saving rate.

saving determinants and the differences between the underlying forces that drive rural and urban saving increases can potentially help better design consumption stimulating policies.

The rest of this paper is organized as follows. Section 2 discusses the data used in this study and Section 3 introduces aggregate (DFL) and detailed decomposition methodologies. The aggregate decomposition results are presented in Section 4, with further detailed decomposition results reported in Section 5. Section 6 concludes.

2. Data and variables

The data used in this study come from the 1995 and 2002 Chinese Household Income Project (CHIP). The rural sample covers 19 provinces and the urban sample covers 11.[4] To ensure their representativeness, both the rural and urban samples were selected from parent samples drawn by the National Bureau of Statistics (NBS). The two rounds of the survey collected basic demographic characteristics of individuals and their families, as well as information about household income and

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[4] Two additional provinces, Guangxi and Xinjiang, are covered in the 2002 rural sample.