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Breaking the "iron rice bowl:" Evidence of precautionary savings from the chinese state-owned enterprises reform☆

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ABSTRACT

China's large-scale reform of state-owned enterprises (SOE) in the late 1990s provides a natural experiment for estimating precautionary savings. Before the reform, SOE workers enjoyed similar job security as government employees. The reform caused massive SOE layoffs, but government employees kept their "iron rice bowl." The changes in the relative unemployment risks for SOE workers provide a clean identification of income uncertainty. With self-selection biases mitigated by focusing on government assigned jobs, precautionary savings account for about 40 percent of SOE households' wealth accumulation. Moreover, demographic groups more vulnerable to the reform also accumulated more precautionary wealth.

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1. Introduction

Precautionary savings are potentially important for wealth accumulation, especially for an emerging market economy like China that has experienced large structural changes associated with policy reforms, which may have led to substantial increases in economic uncertainty. However, estimating the importance of precautionary savings has been a challenge in the empirical literature. One difficulty is to identify large and exogenous variations in income uncertainty (Carroll and Kimball,

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2008; Lusardi, 1998). The literature typically uses the cross-sectional variances of income as a proxy for income uncertainty (Carroll and Samwick, 1998), and it is well known that such proxies suffer from measurement errors and potential endogeneity biases for estimating precautionary savings (Kennickell and Lusardi, 2004).

A second difficulty stems from a self-selection bias related to job choices. Precautionary savings depend not just on risk, but also on risk preferences (Caballero, 1990; 1991). Risk preferences affect not just saving behaviors, but also job choices. A more risk averse individual would save more for given income risks, but she is also likely to choose a job with lower income risks. The correlations between risk preferences and job choices imply a self-selection bias, and failing to control for this self-selection can lead to a significant downward bias in estimating precautionary savings (Fuchs-Schündeln and Schündeln, 2005).

Partly reflecting the difficulties in measuring income uncertainty and correcting self-selection biases, the existing literature has obtained mixed evidence of precautionary savings. Some studies report weak or no evidence of precautionary savings (Dynan, 1993; Guiso et al., 1992), while some other studies attribute a large fraction (50% or more) of household wealth accumulation to precautionary savings (Carroll and Samwick, 1998; Gourinchas and Parker, 2002).[1]

This paper presents new empirical evidence for precautionary savings using Chinese data. We argue that the Chinese large-scale reform of state-owned enterprises (SOEs) in the late 1990s provides a natural experiment for identifying exogenous variations in income uncertainty. Prior to the reform, workers in the SOEs and the government sector (GOV) enjoyed similar job security, with near-free health care, education, housing, and retirement benefits. In this sense, workers in both sectors held an "iron rice bowl" before the reform. Following the reform, over 27 million SOE workers—equivalent to 27% of SOE employment in 1997—were laid off between 1997 and 2002. Those workers lost not just their jobs, but also the associated benefits. In contrast, few workers in the government sector were affected by the reform; they were able to hold on to their iron rice bowl. The massive layoffs in the SOE sector significantly changed the perceived job security for the remaining SOE workers. The reform was largely unexpected to an individual worker and it created significant variations of unemployment risks for workers across the SOE and GOV sectors. Thus, the reform provides a clean identification of variations in perceived income uncertainty across time and across sectors.

To implement the idea that the SOE reform can be used as a natural experiment for estimating precautionary savings, we use the Chinese Household Income Project (CHIP) survey data and design a difference-in-differences (DID) approach, focusing on urban households in two sectors (SOE and GOV) and two CHIP surveys (1995 and 2002). The large-scale SOE reform started to have significant impacts on SOE employment in 1997, with the effects tapering gradually through 2002. Thus, our sample covers both the pre- and post-reform periods. This data structure allows us to estimate the differences in household savings both across sectors (SOE vs GOV) and across time (before and after the reform). The time variations (between 1995 and 2002) of the relative saving behavior of workers across the two sectors capture the magnitude of precautionary savings caused by the SOE reform.

To mitigate the self-selection bias in estimating precautionary savings, we restrict our sample to those households whose jobs were assigned by the government, following the approach by Fuchs-Schündeln and Schündeln (2005). Similar to the case of the former German Democratic Republic (GDR) studied by Fuchs-Schündeln and Schündeln (2005), job assignments by the Chinese government were often restricted by political considerations and job outcomes were often unrelated to individual preferences. Since the final job outcome was determined by the local governments rather than individual workers, self-selection was unlikely. In practice, however, job assignments by the government were not completely independent of worker preferences because workers could signal their preferred job positions to the government before actual assignments took place. Therefore, focusing on the subsample with government assigned jobs mitigates, but does not eliminate the effects of self-selection. In the subsample with government-assigned jobs and thus with less prevalent self-selection, the estimated magnitude of precautionary savings is significantly greater than that obtained from the full sample without correcting for self-selection. This finding using Chinese data confirms that obtained by Fuchs-Schündeln and Schündeln (2005) from German data.

With changes in income uncertainty for SOE workers identified by the SOE reform and with self-selection mitigated by focusing on government assigned jobs, the estimated precautionary savings are significant both statistically and economically. In particular, precautionary savings account for about 40% of the total financial wealth accumulation for urban SOE households during the period from 1995 to 2002. Moreover, our evidence suggests that self-selection results in a downward bias of the estimated precautionary savings of at least 30%. Thus, both precautionary wealth and self-selection biases are quantitatively important for Chinese households.

Our identification and estimation rely on institutional features in China during a period with large structural transformations. In this sense, this approach is novel and contributes to the literature. The magnitudes of precautionary savings and self-selection biases obtained from the Chinese data turn out to be very similar to what Fuchs-Schündeln and Schündeln (2005) found from the German data. Thus, our study lends further empirical support to the importance of precautionary savings and self-selection biases.

Our study also reveals substantial heterogeneity of precautionary savings across different demographic groups. First, consistent with the life-cycle consumption theory, precautionary savings for younger households (25–44 years) are much stronger than for older households in the CHIP sample, confirming the finding of Gourinchas and Parker (2002) obtained

[1] See Carroll and Kimball (2008) for a survey.

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