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Financial globalization, domestic financial freedom and risk sharing across countries

Zhongda Li [a], Lu Liu [b,*]

[a] Department of Economics, Jinan University, Guangzhou, China
[b] Department of Economics, University of California, Los Angeles, USA

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ABSTRACT

In theory, integrated global financial markets facilitate the diversification of consumption risks by decoupling consumption volatility from country-specific income fluctuations. However, the degree of risk sharing across countries is rather limited despite the recent waves of financial globalization. In this paper, we investigate an alternative avenue through which agents smooth their consumption volatility. We have noticed that apart from financial openness, domestic financial freedom is also a critical factor that determines a country's ability to insure against consumption risks. To motivate our analysis, we first develop a modified model of intranational and international risk sharing. We then examine the relative importance of domestic financial freedom and financial globalization in shaping the risk sharing outcomes using a large cross-country panel dataset. Our empirical findings suggest that for most countries in the world, domestic financial environment matters more in stabilizing consumption fluctuations than financial integration. We also show that agents are willing to give up a large amount of their consumption to achieve complete intranational or international risk sharing.

1. Introduction

The global economy has witnessed an unprecedented integration of financial markets in recent decades. A striking aspect of financial globalization is the rapid surge in cross-border capital flows. Kose et al. (2003a) and Lane and Milesi-Ferretti (2007) have documented the dramatic increase in cross-country holdings of financial positions for the major industrial countries, as well as emerging and developing countries. In particular, the ratio of gross external assets and liabilities to GDP has increased from 100% in 1987 to over 300% in 2004. These salient developments of modern world economy have intensified the interest in the discussion on how financial globalization has affected household consumption smoothing. In theory, financial integration provides better opportunities for countries to hedge against consumption risks. However, a number of empirical studies have found evidence of limited international risk sharing in the real world despite the tremendous wave of financial globalization. In this paper, we examine an alternative mechanism through which economic agents smooth their consumption volatility. We argue that countries that are more engaged in domestic financial transactions also exhibit higher degrees of risk sharing. We characterize this positive relationship in the data and quantify the welfare gains from complete intranational risk sharing.

* Corresponding author at: Department of Economics, UCLA, 405 Hilgard Ave., Los Angeles, CA 90095, USA.
E-mail address: luliu@ucla.edu (L. Liu).

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Specifically, we have noticed that apart from financial openness, domestic financial freedom may also serve as a critical factor that determines the extent of risk sharing. To the best of our knowledge, theoretical or empirical contributions in the risk sharing literature focus predominantly on the impact of financial globalization (Backus et al., 1992; Bai and Zhang, 2012; Evans and Hnatkovska, 2014; Kose et al., 2009; Pakko, 1998), while no evidence has been provided on the role of domestic financial freedom. In an effort to fill this gap, we first develop a model in which economic agents participate in risk sharing by allocating a fraction of their income streams to the domestic or international financial markets. One important feature of our model is that both the degree of risk sharing and the channels to pool risks are chosen by a representative agent in the economy. We also assume that the fraction of income contributed by each agent to the pooled resources is the same within a particular risk sharing group but is allowed to differ across groups. Under this specification, the fractions devoted to the domestic and international financial markets measure the degree of intranational and international risk sharing, respectively. The implications are two-folded. Firstly, perfect risk sharing is achieved only when a representative agent invests all of her income streams between the domestic and international markets. Secondly, domestic financial freedom plays a central role in promoting risk sharing if agents depend primarily on the intranational markets to insure against consumption risks.

The main objective of this paper is to shed new light on the issue of risk sharing across countries by testing the hypotheses derived from our model. Before proceeding to the formal quantitative analysis, we begin by revisiting the stylized evolutionary patterns of risk sharing among different economies over a long period from 1950 to 2014. This large panel dataset offers sufficient variations in both cross-sectional dimension and time-series dimension. Particularly, we study 69 countries with highly diverse levels of domestic financial development, ranging from the most advanced industrial economies where an effective domestic financial system has been established, to the least developed non-industrial economies with severe distortions on domestic financial markets. The sample period spans the less-integrated era 1950–1986 and the more-integrated era 1987–2014, which allows us to keep track of the long-term trend of risk sharing as well as the possible structural changes induced by the increased financial globalization. To measure the degree of risk sharing over time, we estimate the sensitivity of consumption growth to idiosyncratic output fluctuations year by year. Consistent with the previous literature, we show that the extent of risk sharing is significantly higher among industrial countries than non-industrial countries. More importantly, we find little evidence of improvement in the ability to smooth consumption for non-industrial countries, while by contrast industrial countries have seen a steady and modest rise in the degree of risk sharing during the sample period.

In light of our model predictions and the better performance of developed countries in risk sharing, we may naturally ask: is the quality of domestic financial institutions a more crucial component that determines a country's risk sharing capability relative to capital account openness? To address this question, we then turn to systematically assess the relative importance of financial globalization and domestic financial freedom in explaining the risk sharing outcomes using regression analysis. In order to conduct our tests, we construct novel proxies for domestic financial freedom for each country-year observation by exploiting the economic freedom indices released by the *Heritage Foundation*. The *de jure* and *de facto* indicators in Kose et al. (2009) are adopted to evaluate the extent of capital account liberalization. Based on an augmented risk sharing regression model, our findings suggest that domestic financial freedom appears to be more important than financial integration in reducing the comovement between national consumption growth and output growth. To be more precise, we show that on the whole financial globalization does not yield significant positive effects on consumption risk sharing once the factor of domestic financial environment is adjusted for.

The consumption-based measure of risk sharing is possibly subject to measurement error, and also rests on the assumption of exogenous production process. Kim (2014) shows that previous estimates based on consumption are likely to be biased downward, and thus suggests evaluating the degree of risk sharing from the production side. As robustness checks, we take advantage of the income smoothing perspective and the testable implications from the production-based risk sharing model. The results turn out to be very similar to those obtained from the consumption measure, lending further credence to our proposed hypothesis regarding the dominance of domestic financial freedom over financial integration. We have also verified the existence of threshold effect of domestic financial freedom on risk sharing: countries are in a better position to diversify away their idiosyncratic consumption risks when they have a more developed domestic financial market. We finally explore the potential welfare gains from improving risk sharing both internationally and intranationally. Our estimates demonstrate that a representative agent is willing to give up at least 4.99% of her consumption for achieving perfect international risk sharing while 4.57% for complete intranational risk sharing.

Our work complements the literature that seeks to provide explanations for the lack of international risk sharing across countries. Some notable theoretical contributions include extending the standard model to allow for nontradable goods, market incompleteness (Bengui et al., 2013), or transaction costs associated with international trade of assets (Obstfeld and Rogoff, 2000). Although these extensions make the standard model closer to the real world, not all of them can successfully replicate the low degree of international risk sharing as indicated by the existing evidence. On the other hand, a strand of promising current empirical literature has provided additional insights on the limited international risk sharing. One of the useful attempts is to examine the composition of capital flows, which implies that the heavy reliance on less stable bank loans and debts has restricted the potential capability to share risk for the developing countries. Others include trying to interpret the anomaly from the threshold effects of financial globalization on risk sharing (Kose et al., 2011), or developing a new measure that captures how far away a country is from the ideal state of efficient risk sharing (Flood et al., 2012). Our

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