Bank of Canada Monthly Research Update

May 2015

This monthly newsletter features the latest research publications by Bank of Canada economists. The report includes papers appearing in external publications and working papers published on the Bank of Canada's website.

WORKING PAPERS

Chen, Heng, and Rallye Shen, "Variance Estimation for Survey-Weighted Data Using Bootstrap Resampling Methods: 2013 Methods-of-Payment Survey Questionnaire", Bank of Canada Technical Report #104

Ehrmann, Michael, Dimitris Christelis, and Dimitris Georgarakos, "Exploring Differences in Household Debt Across Euro Area Countries and the United States", Bank of Canada Working Paper 2015-16

Ehrmann, Michael, and Marcel Fratzscher, "Euro Area Government Bonds—Integration and Fragmentation During the Sovereign Debt Crisis", Centre for Economic Policy Research (CEPR) Discussion Paper #10583

Wong, Russell Tsz-Nga, Guillaume Rocheteau, and Pierre-Olivier Weill, "A Tractable Model of Monetary Exchange with Ex-post Heterogeneity", NBER Working Paper #21179

Zhou, Jie, "Household Stockholding Behavior During the Great Financial Crisis", Bank of Canada Working Paper 2015-15

ABSTRACTS

Variance Estimation for Survey-Weighted Data Using Bootstrap Resampling Methods: 2013 Methods-of-Payment Survey Questionnaire

Sampling units for the 2013 Methods-of-Payment Survey were selected through an approximate stratified random sampling design. To compensate for non-response and non-coverage, the observations are weighted through a raking procedure. The variance estimation of weighted estimates must take into account both the sampling design and the raking procedure. We propose using bootstrap resampling methods to estimate the variance. We find that the variance is smaller when estimated through the bootstrap resampling method than through Stata's linearization method, where the latter does not take into account the correlation between the variables used for weighting and the outcome variable of interest.

Exploring Differences in Household Debt Across Euro Area Countries and the United States

We use internationally comparable household-level data for ten euro area economies and the United States to investigate cross-country

differences in debt holdings and the potential of debt overhang. U.S. households have the highest prevalence of both collateralized and non-collateralized debt, hold comparatively large amounts of loans outstanding, and face a higher debt-service burden. These differences are mainly attributed to the U.S. economic environment, which appears to be more conducive to both types of debt. For instance, differences in the economic environment between the United States and the median European country explain more than 85% of the overall difference in the prevalence of debt holdings. Even though U.S. households have higher income and financial wealth than their European counterparts, their debt burden remains comparatively elevated, primarily because a given level of collateral translates into a higher prevalence of collateralized debt, and larger amounts of it, in the United States. This suggests that U.S. households are relatively more vulnerable to adverse shocks.

Euro Area Government Bonds—Integration and Fragmentation During the Sovereign Debt Crisis

The paper analyzes the integration of euro area sovereign bond markets during the European sovereign debt crisis. It tests for contagion (i.e., an intensification in the transmission of shocks across countries), fragmentation (a reduction in spillovers) and flight-to-quality patterns, exploiting the heteroskedasticity of intraday changes in bond yields for identification. The paper finds that euro area government bond markets were well integrated prior to the crisis, but saw a substantial fragmentation from 2010 onward. Flight to quality was present at the height of the crisis, but has largely dissipated after the European Central Bank's (ECB's) announcement of its Outright Monetary Transactions (OMT) program in 2012. At the same time, Italy and Spain became more interdependent after the OMT announcement, providing our only evidence of contagion. While this suggests that countries have been effectively ring-fenced, and Italy and Spain benefited from the joint reduction in yields following the OMT announcement, the high current degree of fragmentation poses difficult challenges for policy-makers, since it leads to an unequal transmission of the ECB's monetary policy to the various countries.

A Tractable Model of Monetary Exchange with Ex-post Heterogeneity

We construct a continuous-time, pure currency economy with the following three key features. First, our modelled economy incorporates idiosyncratic uncertainty—households receive infrequent and random opportunities of lumpy consumption—and displays an endogenous, non-degenerate distribution of money holdings. Second, the model is tractable: properties of equilibria can be obtained analytically, and equilibria can be solved in closed form in a variety of cases. Third, it admits as a special, limiting case the quasi-linear economy of Lagos and Wright (2005) and Rocheteau and Wright (2005). We use our modeled economy to obtain new insights into the effects of anticipated inflation on individual spending behavior, the social benefits and output effects of inflationary transfer schemes, and transitional dynamics following unanticipated monetary shocks.

Household Stockholding Behavior During the Great Financial Crisis

Using the Panel Study of Income Dynamics, this paper studies household stock market participation and trading behavior in 2007–09, a period that saw a major stock market downswing. The stock market participation rate fell after the market crash. We find evidence that less-educated households, poor households and households with heads belonging to a minority are the ones that dropped out of the market after the market crash. We also find that, of the households that held stocks in non-retirement accounts in 2007, a significant portion reported no stock market activity in non-retirement accounts during the crisis period.