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Bank of Canada Monthly Research Update

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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.

PUBLISHED PAPERS

In Press

Allen, Jason, and Teodora Paligorova, "Bank Loans for Private and Public Firms in a Liquidity Crunch", Journal of Financial Stability, Volume 18 (June), 2015, Pages 106-116

Diez de los Rios, Antonio, "A New Linear Estimator for Gaussian Dynamic Term Structure Models", Journal of Business and Economic Statistics, Volume 33, 2015, Pages 282-295

Forthcoming

Alpanda, Sami and Sarah Zubairy, "Housing and Tax Policy", Journal of Money, Credit and Banking

WORKING PAPERS

Ahnert, Toni, and Christoph Bertsch, "A Wake-Up-Call Theory of Contagion", Bank of Canada Working Paper 2015-14

Ahnert, Toni, and Enrico C. Perotti, "Cheap but Flighty: how Global Imbalances create Financial Fragility", CEPR Discussion Paper 10502

Ehrmann, Michael, and Marcel Fratzscher, "Euro Area Government Bonds—Integration and Fragmentation During the Sovereign Debt Crisis", Bank of Canada Working Paper 2015-13

Henry Christopher, Kim Huynh, and Rallye Shen, "2013 Methods-of-Payment Survey Results", Bank of Canada Discussion Paper 2015-4

Vincent, Kyle, "2013 Methods-of-Payment Survey: Sample Calibration Analysis", Bank of Canada Technical Report #103

ABSTRACTS

Bank Loans for Private and Public Firms in a Liquidity Crunch

Bank reliance on short-term funding has increased over time. While an effective source of financing in good times, the 2007 financial crisis has exposed the vulnerability of banks and ultimately firms to such a liability structure. We show that banks dependent on wholesale funding contracted their lending the greatest during the crisis. Our results suggest, however, that in the financial crisis

vulnerable banks passed the liquidity shock only to public firms and not to private firms. Loans to private firms were affected through a different channel, largely through higher retained shares by lead arrangers. Consistent with standard models of financial intermediation with information asymmetry, vulnerable banks increased their monitoring of informationally opaque firms for which the potential for informational rents is the highest.

A New Linear Estimator for Gaussian Dynamic Term Structure Models

This article proposes a novel regression-based approach to the estimation of Gaussian dynamic term structure models. This new estimator is an asymptotic least-square estimator defined by the no-arbitrage conditions upon which these models are built. Further, we note that our estimator remains easy-to-compute and asymptotically efficient in a variety of situations in which other recently proposed approaches might lose their tractability. We provide an empirical application in the context of the Canadian bond market.

Housing and Tax Policy

In this paper, we investigate the effects of housing-related tax policy measures on macroeconomic aggregates using a dynamic general-equilibrium model. The model features borrowing and lending across heterogeneous households, financial frictions in the form of collateral constraints tied to house prices, and a rental housing market alongside owner-occupied housing. Using our model, we analyze the effects of changes in housing-related tax policy measures on the level of output, tax revenue and household debt, along with other macroeconomic aggregates. The tax policy changes we consider are (i) mortgage interest deduction, (ii) taxation of imputed rental income from owner-occupied housing, (iii) property taxation, and (iv) depreciation allowance for rental income. We find that, once normalized to generate the same tax revenue, all four policies lead to significant output losses, with large long-run tax multipliers of around 2. Among them, reducing the mortgage interest deduction is the most effective in raising tax revenue per unit of output lost, while reducing the depreciation allowance for rental income is the least effective. Our experiments also highlight the differential welfare impact of each tax policy on savers, borrowers and renters in the economy.

A Wake-Up-Call Theory of Contagion

We propose a novel theory of financial contagion. We study global coordination games of regime change in two regions with an initially uncertain correlation of regional fundamentals. A crisis in region 1 is a wake-up call to investors in region 2 that induces a reassessment of local fundamentals. Contagion after a wake-up call can occur even if investors learn that fundamentals are uncorrelated and common lender effects or balancesheet linkages are absent. Applicable to currency attacks, bank runs and debt crises, our theory of contagion is supported by existing evidence and generates a new testable implication for empirical work.

Cheap but Flighty: how Global Imbalances create Financial Fragility

We suggest how a wealth shift to emerging countries can lead to instability in developed countries. Investors exposed to expropriation risk seek safety in countries with good property right protection. This induces private intermediaries to raise cheap funding by targeting safe demandable debt to foreigners, leading to increased lending. Because loss-avoiding foreigners escape any risk by running in some good states, more foreign funding causes larger and increasingly frequent runs. Beyond some scale, it induces even risk-tolerant savers to run in good states to avoid dilution. As excess liquidation causes social losses, a domestic planner may seek to limit the scale of foreign inflows.

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.

2013 Methods-of-Payment Survey Results

As the sole issuer of bank notes, the Bank of Canada conducts methods-of-payment (MOP) surveys to obtain a detailed and representative snapshot of Canadian payment choices, with a focus on cash usage. Overall, cash usage at the point of sale has decreased since 2009, constituting 44 per cent of payment volume and 23 per cent in terms of value, and the median value of a cash transaction is about $9. Respondents' perceptions and demographic factors are used to interpret survey data: cash is seen as a convenient, lowcost, secure and widely accepted form of payment, and is used most widely among respondents who are age 55 and above, have an income less than $45,000 or have only a high school education. The paper also provides a comprehensive view of payment innovations, such as stored-value cards, contactless credit/debit cards or mobile payments, which are often perceived as substitutes for cash.

2013 Methods-of-Payment Survey: Sample Calibration Analysis

Sample calibration is a procedure that utilizes sample and national-level demographic distribution information to weight survey participants. The objective of calibration is to weight the sample so that it is demographically representative of the target population. This technical report details our calibration analysis for the 2013 Methods-of-Payment survey questionnaire sample. The analysis makes use of a variety of variables, with corresponding distributions from the 2011 National Household Survey and 2012 Canadian Internet Use Survey. Our primary objective is to seek a sensible set of variables for calibration and to propose a set of final weights that meet a validation criterion.

A raking ratio calibration procedure is used in the analysis. We base calibration on candidate variables and nesting of pairs of variables chosen within the context of the study. An imputation strategy is implemented to account for the relatively few missing observations. Three samples are obtained for the survey and we summarize an analysis that suggests that calibration should be based on the full/collapsed data set. We describe our research on several validation criteria and, after testing the calibration procedure, report our proposed set of final weights.