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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

Forthcoming

Beyhaghi, Mehdi, Chris D'Souza and Gordon S. Roberts, "Funding advantage and market discipline in the Canadian banking sector", Journal of Banking & Finance (Also published as Bank of Canada Working Paper 2013-50)

Sekkel, Rodrigo, "Balance Sheets of Financial Intermediaries: Do They Forecast Economic Acitvity?", International Journal of Forecasting

Sekkel, Rodrigo and Stefan Kloessner, "International Spillovers of Policy Uncertainty", Economics Letters

Diez de los Rios, Antonio, "A New Linear Estimator for Gaussian Dynamic Term Structure Models", Journal of Business and Economic Statistics

Baumeister, Christiane and Lutz Kilian, "Forecasting the Real Price of Oil in a Changing World: A Forecast Combination Approach", Journal of Business and Economic Statistics

Shao, Enchuan, "The Threat of Counterfeiting in Competitive Search Equilibrium", Journal of Economic Dynamics and Control (Also published as Bank of Canada Working Paper 2013-22)

WORKING PAPERS

Ahnert, Toni and Ali Kakhbod, "Information, Amplification and Financial Crisis", Bank of Canada Working Paper 2014-30

Beirne, John and Christian Friedrich, "Capital Flows and Macroprudential Policies – A Multilateral Assessment of Effectiveness and Externalities", Bank of Canada Working Paper 2014-31

Labelle, Nicholas and Varya Taylor, "Removal of the Unwinding Provisions in the Automated Clearing Settlement System: A Risk Assessment", Bank of Canada Discussion Paper 2014-4

Gervais, Olivier and Marc-André Gosselin, "Analyzing and Forecasting the Canadian Economy through the LENS Model", Bank of Canada Technical Report No. 102

ABSTRACTS

Funding advantage and market discipline in the Canadian banking sector

We employ a comprehensive data set and a variety of methods to provide evidence on the magnitude of large banks' funding advantage in Canada, and on the extent to which market discipline exists across different securities issued by the Canadian banks. The banking sector in Canada provides a unique setting in which to examine market discipline along with the prospects of proposed reforms, because Canada has no history of government bailouts. Our results suggest that large banks likely have a funding advantage over small banks after controlling for bank-specific and market risk factors. Working with hand-collected market data on debt issues by large banks, we also find that market discipline exists for subordinated debt and not for senior debt.

Balance Sheets of Financial Intermediaries: Do They Forecast Economic Acitvity?

This paper conducts a real-time, out-of-sample analysis of the forecasting power of various aggregate financial intermediaries balance sheets to a wide range of economic activity measures in the U.S. I find evidence that the balance sheets of leveraged financial institutions do have out-of-sample predictive power for future economic activity, and this predictability arises mainly through the housing sector. Nevertheless, I show that these variables have very little predictive power during periods of economic expansions and that predictability arises mainly during the financial crisis period.

International Spillovers of Policy Uncertainty

Using the Baker et al. (2013) index of policy uncertainty for six developed countries, this paper estimates spillovers of policy uncertainty. We find that spillovers account for slightly more than one fourth of the dynamics of policy uncertainty in these countries, with this share rising to one half during the financial crisis. The U.S. and U.K. are responsible for a large fraction of the spillovers since the financial crisis, while the remaining countries are all net receivers of policy uncertainty shocks during and after this period.

A New Linear Estimator for Gaussian Dynamic Term Structure Models

This paper proposes a novel regression-based approach to the estimation of Gaussian dynamic term structure models. This new estimator is an asymptotic least squares 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.

Forecasting the Real Price of Oil in a Changing World: A Forecast Combination Approach

The U.S. Energy Information Administration (EIA) regularly publishes monthly and quarterly forecasts of the price of crude oil for horizons up to two years, which are widely used by practitioners. Traditionally, such out-of-sample forecasts have been largely judgmental, making them difficult to replicate and justify. An alternative is the use of real-time econometric oil price forecasting models. We investigate the merits of constructing combinations of six such models. Forecast combinations have received little attention in the oil price forecasting literature to date. We demonstrate that over the last 20 years suitably constructed real-time forecast combinations would have been systematically more accurate than the no-change forecast at horizons up to 6 quarters or 18 months. The MSPE reductions may be as high as 12% and directional accuracy as high as 72%. The gains in accuracy are robust over time. In contrast, the EIA oil price forecasts not only tend to be less accurate than no-change forecasts, but are much less accurate than our preferred forecast combination. Moreover, including EIA forecasts in the forecast combination systematically lowers the accuracy of the combination forecast. We conclude that suitably constructed forecast combinations should replace traditional judgmental forecasts of the price of oil.

The Threat of Counterfeiting in Competitive Search Equilibrium

This paper studies counterfeiting of bank notes in a monetary model under competitive search. The application of the refinement scheme proposed by Guerrieri et al. (2010) shows that there is no equilibrium with counterfeiting. However, due to the entry margin, counterfeiting poses a threat to the existence of a monetary equilibrium: there is no monetary equilibrium if the cost of producing counterfeits is low enough. Moreover, the threat of counterfeiting can generate an endogenous resalability constraint. An extension of the model is provided which allows the threat of counterfeiting to materialize, in that some buyers cannot observe the offers, and therefore search randomly. Counterfeit notes are produced by those buyers who randomly search.

Information, Amplification and Financial Crisis

We propose a parsimonious model of information choice in a global coordination game of regime change that is used to analyze debt crises, bank runs or currency attacks. A change in the publicly available information alters the uncertainty about the behavior of other investors. Greater strategic uncertainty makes private information more valuable, so more investors acquire information. This change in the proportion of informed investors amplifies the impact of the initial change in public information on the probability of a crisis. Our amplification result explains how a small deterioration in public information can cause a financial crisis.

Capital Flows and Macroprudential Policies – A Multilateral Assessment of Effectiveness and Externalities

This paper assesses the effectiveness and associated externalities that arise when macroprudential policies (MPPs) are used to manage international capital flows. Using a sample of up to 139 countries, we examine the impact of eight different MPP measures on cross-border bank flows over the period 1999-2009. Our panel analysis takes into account the structure of the banking system as well as the presence of potentialcross-country and cross-asset class spillover effects. Our results indicate that the structure of the domestic banking system matters for the effectiveness of MPPs. We specifically find that a high share of non-resident bank loans in the MPP-implementing country reduces the domestic effectiveness of most MPPs, while a high return on assets in the domestic banking system has the opposite effect. Our results on the spillover analysis indicate that both types of spillover can occur. First, we find that a high return on assets in the banking system of countries other than the MPP-implementing one leads to a reduction, and a greater degree of trade integration leads to an increase in spillovers across countries. However, the economic significance of the results suggests that only a limited number of countries will tend to experience substantial geographical spillover effects. Second, we also find some evidence of spillover effects across asset classes within countries.

Removal of the Unwinding Provisions in the Automated Clearing Settlement System: A Risk Assessment

A default in the Automated Clearing Settlement System (ACSS) occurs when a Direct Clearer is unable to settle its final obligation. In August 2012, the Canadian Payments Association amended the ACSS by-law and rules to repeal the unwinding provisions from the ACSS default framework. Without unwinding, payment items are no longer returned by the defaulter to the other participants as a means of reducing the defaulter's final obligation. Instead, the other Direct Clearers (survivors) pay only additional settlement obligations to cover the defaulter's shortfall. To assess the potential exposures of an ACSS default without unwinding, we use simulations to estimate the value of additional settlement obligations for each survivor and compare these exposures to their capital and liquid assets. Results indicate that these exposures are indeed manageable by survivors and, therefore, that the ACSS does not pose systemic risk.

Analyzing and Forecasting the Canadian Economy through the LENS Model

The authors describe the key features of a new large-scale Canadian macroeconomic forecasting model developed over the past two years at the Bank of Canada. The new model, called LENS for Large Empirical and Semi-structural model, uses a methodology similar to the Federal Reserve Board's FRB/US model and the Bank of Canada's projection model of the U.S. economy (MUSE). LENS is based on a system of estimated reduced-form equations that describe the interactions among key macroeconomic variables. The model strikes a balance between theoretical structure and empirical properties, since most behavioural equations combine forward-looking expectations with adjustment costs. Compared to ToTEM, the Bank's main model for projection and policy analysis, LENS is more driven by the empirical properties of the data than economic theory and generally provides better out-of-sample forecast performance. In addition, LENS is more disaggregated, thereby allowing the analysis of a broader set of issues related to the economic outlook. These properties will make LENS a useful complement to ToTEM for constructing economic projections at the Bank of Canada.