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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 staff working papers published on the Bank of Canada’s website.

PUBLISHED PAPERS

In Press

Bhatia, Kul & Chris Mitchell, "Household-Specific Housing Capital Gains and Consumption: Evidence from Canadian Microdata", Regional Science and Urban Economics, Volume 56, January 2016, Pages 19-33

Bijsterboschv, Martin & Tatjana Dahlhaus, "Key features and determinants of credit-less recoveries", Empirical Economics, December 2015, Volume 49, Issue 4, Pages 1245-1269

Forthcoming

Chiu, Jonathan, Cesaire Meh & Randall Wright, "Innovation and Growth with Financial, and Other, Frictions", International Economic Review

STAFF WORKING PAPERS

Brunetti, Celso, Bahattin Buyuksahin & Jefferey H. Harris, "Speculators, Prices and Market Volatility", Bank of Canada Staff Working Paper 2015-42

Christoffersen, Peter, Bruno Feunou & Yoontae Jeon, "Option Valuation with Observable Volatility and Jump Dynamics", Bank of Canada Staff Working Paper 2015-39

Charbonneau, Karyne B. & Lori Rennison, "Forward Guidance at the Effective Lower Bound: International Experience", Bank of Canada Staff Discussion Paper 2015-15

Chiu, Jonathan & Tsz-Nga Wong, "On the Essentiality of E-Money", Bank of Canada Staff Working Paper 2015-43

Cunningham, Rose, Christian Friedrich & Kristina Hess, "Monetary Policy and Financial Stability: Cross-Country Evidence", Bank of Canada Staff Working Paper 2015-41

Jackson, Harriet, "The International Experience with Negative Policy Rates", Bank of Canada Staff Discussion Paper 2015-13

Khan, Mikael, Louis Morel & Patrick Sabourin, "A Comprehensive Evaluation of Measures of Core Inflation for Canada", Bank of Canada Staff Discussion Paper 2015-12

Muellbauer, John, Pierre St-Amant & David Williams, "Credit Conditions and Consumption, House Prices and Debt: What Makes Canada Different?" Bank of Canada Staff Working Paper 2015-40

Reza, Abeer, Eric Santor & Lena Suchanek, "Quantitative Easing as a Policy Tool Under the Effective Lower Bound", Bank of Canada Staff Discussion Paper 2015-14

Vardy, Jill, "Reputational Risk Management in Central Banks", Bank of Canada Staff Discussion Paper 2015-16

ABSTRACTS

Household-Specific Housing Capital Gains and Consumption: Evidence from Canadian Microdata

This paper analyzes how household consumption decisions respond to accrued capital gains on owner-occupied housing using Canadian microdata. It makes an important methodological contribution by utilizing a hedonic regression approach to estimate household-specific capital gains instead of relying on house-price indices and other proxy measures that have been widely used in earlier literature. The results suggest that household consumption expenditures are increasing in the level of accrued capital gains on housing, and that the sustainability of these gains is important for the magnitude of this relationship. When the level of accrued capital gains is persistent over time, total household consumption increases by approximately 5.4 cents for every dollar of permanent capital gains and non-durable consumption increases by approximately 3.9 cents. Estimates of marginal propensity to consume for households in different age categories and other subgroups are also presented.

Key features and determinants of credit-less recoveries

This paper aims to shed light on the characteristics and particularly the determinants of credit-less recoveries. After documenting some stylised facts of credit-less recoveries in emerging market economies, this paper uses panel probit models to analyse key determinants of credit-less recoveries. Our main findings are the following. First, our frequency analysis shows that credit-less recoveries are not unusual. Moreover, the frequency of credit-less recoveries doubles after a banking or currency crisis. Second, results from estimated panel probit models suggest that credit-less recoveries are typically preceded by large declines in economic activity and by financial stress, in particular if private sector indebtedness is high and the country is reliant of foreign capital inflows. Finally, our model performs well in predicting the credit-less recoveries experienced by emerging market economies in recent years.

Innovation and Growth with Financial, and Other, Frictions

The generation and implementation of ideas are crucial for economic performance. We study this in a model of endogenous growth, where productivity increases with innovation, and where the exchange of ideas (technology transfer) allows those with comparative advantage implement them. Search, bargaining, and commitment frictions impede the idea market, however, reducing efficiency and growth. We characterize optimal policies involving subsidies to innovative and entrepreneurial activity, given both knowledge and search externalities. The role of liquidity is discussed. We show intermediation helps by financing more transactions with fewer assets, and, more subtly, by ameliorating holdup problems. We also discuss some evidence.

Speculators, Prices and Market Volatility

We analyze data from 2005 through 2009 that uniquely identify categories of traders to assess how speculators such as hedge funds and swap dealers relate to volatility and price changes. Examining various subperiods where price trends are strong, we find little evidence that speculators destabilize financial markets. To the contrary, hedge funds facilitate price discovery by trading with contemporaneous returns while serving to reduce volatility. Swap dealer activity, however, is largely unrelated to both contemporaneous returns and volatility. Our evidence is consistent with the hypothesis that hedge funds provide valuable liquidity and largely serve to stabilize futures markets.

Option Valuation with Observable Volatility and Jump Dynamics

Under very general conditions, the total quadratic variation of a jump-diffusion process can be decomposed into diffusive volatility and squared jump variation. We use this result to develop a new option valuation model in which the underlying asset price exhibits volatility and jump intensity dynamics. The volatility and jump intensity dynamics in the model are directly driven by model-free empirical measures of diffusive volatility and jump variation. Because the empirical measures are observed in discrete intervals, our option valuation model is cast in discrete time, allowing for straightforward filtering and estimation of the model. Our model belongs to the affine class, enabling us to derive the conditional characteristic function so that option values can be computed rapidly without simulation. When estimated on S&P500 index options and returns, the new model performs well compared with standard benchmarks.

Forward Guidance at the Effective Lower Bound: International Experience

Forward guidance is one of the policy tools that a central bank can implement if it seeks to provide additional monetary stimulus when it is operating at the effective lower bound (ELB) on interest rates. It became more widely used during and after the global financial crisis. This paper reviews the international experience, based on the six central banks that have used forward guidance when operating at the ELB, in order to assess its effectiveness and the potential risks associated with its implementation. We distinguish between three distinct types of forward guidance (qualitative, time contingent and state contingent) and discuss the channels through which forward guidance operates. Overall, we find that forward guidance can be an effective tool at the ELB when clearly communicated and perceived as credible. Though evidence from the literature is somewhat mixed—since the specific effects vary across economies, episodes and type of guidance—it has generally been found to be effective in (1) lowering expectations of the future path of policy rates, (2) improving the predictability of short-term yields over the near term and (3) changing the sensitivity of financial variables to economic news. However, as with other monetary policy tools, the benefits of forward guidance need to be weighed against the costs. Those costs are mainly associated with potential loss of credibility and increased financial stability risks. Moreover, the international experience with forward guidance under conditions of negative ELBs and interest rates is limited to date.

On the Essentiality of E-Money

Recent years have witnessed the advances of e-money systems such as Bitcoin, PayPal and various forms of stored-value cards. This paper adopts a mechanism design approach to identify some essential features of different payment systems that implement and improve the constrained optimal resource allocation. We find that, compared to cash, emoney technologies allowing limited participation, limited transferability and non-zerosum transfers can help mitigate fundamental frictions and enhance social welfare, if they satisfy conditions in terms of parameters such as trade frequency and bargaining powers. An optimally designed e-money system exhibits realistic arrangements including nonlinear pricing, cross-subsidization and positive interchange fees even when the technologies incur no costs. Regulations such as a cap on interchange fees (à la the Dodd-Frank Act) can distort the optimal mechanism and reduce welfare.

Monetary Policy and Financial Stability: Cross-Country Evidence

Central banks may face challenges in achieving their price stability goals when financial stability risks are present. There is, however, considerable heterogeneity among central banks with respect to how they manage these potential trade-offs. In this paper, we review the institutional and operational policy frameworks of ten central banks in major advanced economies and then assess the effect of financial stability risks on their monetary policy decisions according to these frameworks. To do so, we construct a time-varying financial stability orientation (FSO) index that quantifies a central bank's policy orientation with respect to financial stability that spans the major viewpoints of the literature: "leaning against the wind" versus "cleaning up after the crash." The index encompasses three dimensions: (i) the nature of the statutory frameworks, (ii) the extent of the regulatory tool kit, and (iii) the prominence of financial stability references in central bank monetary policy statements. We then include our FSO index in a modified Taylor rule, which is estimated using a cross-country panel of up to ten central banks for the period from 2000Q1 to 2014Q4. We find that in episodes of high financial stability risks, measured by a strongly positive credit to GDP gap, "leaning-type" central banks, i.e., those with a high FSO index value, appear to account for financial stability considerations in their monetary policy rate decisions. For "cleaning-type" central banks, we do not find this to be the case. Our baseline specification suggests that a representative leaning-type central bank's policy rate is about 0.3 percentage points higher when financial stability risks are present than the policy rate of a representative cleaning-type central bank. We also find that the strength of this response increases in the additional presence of a house price boom but not so for the simultaneous occurrence of an equity price boom.

The International Experience with Negative Policy Rates

A key issue in the renewal of the inflation-control agreement is the question of the appropriate level of the inflation target. Many observers have raised concerns that with the reduction in the neutral rate, and the experience of the recent financial crisis, the effective lower bound (ELB) is more likely to be binding in the future if inflation targets remain at 2 per cent. This has led some to argue that the inflation target should be raised to reduce the incidence of ELB episodes. Much of this debate has assumed that the ELB is close to, but not below, zero. Recently, however, a number of central banks have introduced negative policy interest rates. This paper outlines the concerns associated with negative interest rates, provides an overview of the international experience so far with negative policy rates and sets out some general observations based on this experience. It then discusses how low policy interest rates might be able to go in these economies, and offers some considerations for the renewal of the inflation-control agreement.

A Comprehensive Evaluation of Measures of Core Inflation for Canada

This paper evaluates the usefulness of various measures of core inflation for the conduct of monetary policy. Traditional exclusion-based measures of core inflation are found to perform relatively poorly across a range of evaluation criteria, in part due to their inability to filter unanticipated transitory shocks. In contrast, measures such as the trimmed mean and the common component of CPI perform favorably, since they better capture persistent price movements and tend to move with macroeconomic drivers. All measures of core inflation, however, have limitations – consequently, there is merit in monitoring a set of measures. Moreover, core inflation measures are best viewed as complements to, rather than substitutes for, the thorough analysis of inflation and capacity pressures that informs the monetary policy process.

Credit Conditions and Consumption, House Prices and Debt: What Makes Canada Different?

There is widespread agreement that, in the United States, higher house prices raise consumption via collateral or possibly wealth effects. The presence of similar channels in Canada would have important implications for monetary policy transmission. We trace the impact of shifts in non-price household credit conditions through joint estimation of a system of error-correction equations for Canadian aggregate consumption, house prices and mortgage debt. We find strong evidence that, after controlling for income and household portfolios, easier credit conditions raise house prices, debt and consumption. However, unlike in the United States, housing collateral effects on consumption are absent. Given credit conditions, rising house prices increase the mortgage down-payment requirement and reduce consumption, although there is evidence for some attenuation of this effect over the 2000s. We also find that high and rising levels of both house prices and debt since the late-1990s can be mostly explained by movements in incomes, housing supply, mortgage interest rates and credit conditions, suggesting that the outlook for house prices and debt could depend mainly on the future paths of these variables.

Quantitative Easing as a Policy Tool Under the Effective Lower Bound

This paper summarizes the international evidence on the performance of quantitative easing (QE) as a monetary policy tool when conventional policy rates are constrained by the effective lower bound (ELB). A large body of evidence suggests that expanding the central bank's balance sheet through large-scale asset purchases can provide effective stimulus under the ELB. Transmission channels for QE are broadly similar to those of conventional policy, notwithstanding some important but subtle differences. The effectiveness of QE may be affected by imperfect pass-through to asset prices, possible leakage through global capital reallocation, a reduced impact through the bank lending channel, and diminishing returns to additional rounds of QE. Although the benefits of QE appear, so far, to outweigh the costs, at some point this may be reversed. The exact "effective quantitative bound" where the costs of QE become larger than the benefits is as yet unknown. The summary of the evidence, however, suggests that QE is indeed an "adequate" substitute for monetary policy at the ELB, rather than a "perfect" one.

Reputational Risk Management in Central Banks

This paper discusses reputational risk in the context of central banking and explains why it matters to central banks. It begins with a general discussion of reputational risk within the broader framework of risk management. It then outlines how central banks define, measure, monitor and manage reputational risk, citing examples from central banks around the world, including the Bank of Canada. Finally, it presents a model for integrating reputational risk into policy analysis and operational planning—an "embedded communications" approach that ensures such considerations are brought into the core of central bank decision making.