

Bank of Canada Monthly Research Update

August 2016

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

Forthcoming

Chen, Heng, Chris Henry, Kim P. Huynh, Rallye Shen, and Kyle Vincent, “[Measuring Consumer Cash Holdings: Lessons from the 2013 Bank of Canada Methods-of-Payment Survey](#)”, Survey Practice

STAFF WORKING PAPERS

Allen, Jason, Timothy Grieder, Brian Peterson & Tom Roberts, “[The Impact of Macprudential Housing Finance Tools in Canada: 2005–10](#)”, Bank of Canada Staff Working Paper 2016-41

Bauer, Gregory, Gurnain Pasricha, Rodrigo Sekkel & Yaz Terajima, “[The Global Financial Cycle, Monetary Policies and Macprudential Regulations in Small, Open Economies](#)”, Bank of Canada Staff Working Paper 2016-38

Brouillette, Dany, Olena Kostyshyna & Natalia Kyui, “[Downward Nominal Wage Rigidity in Canada: Evidence from Micro-Level Data](#)”, Bank of Canada Staff Working Paper 2016-40

Bolt, Wilko & Maarten van Oordt, “[On the Value of Virtual Currencies](#)”, Bank of Canada Staff Working Paper 2016-42

Davison, Matt, Darrell Leadbetter, Bin Lu & Jane Voll, “[Are Counterparty Arrangements in Reinsurance a Threat to Financial Stability?](#)”, Bank of Canada Staff Working Paper 2016-39

Gorea, Denis, Oleksiy Kryvtsov & Tamon Takamura “[Leaning Within a Flexible Inflation-Targeting Framework: Review of Costs and Benefits](#)”, Bank of Canada Staff Discussion Paper 2016-17

ABSTRACTS

Measuring Consumer Cash Holdings: Lessons from the 2013 Bank of Canada Methods-of-Payment Survey

This article discusses the methodology used in the 2013 Bank of Canada Methods-of-Payment Survey to measure cash and non-cash payments. Measuring cash holdings is particularly difficult due to the anonymous nature of cash and the fact that some subpopulations are difficult to recruit into the survey. We use a variety of methods in survey design, weighting, and variance estimation to estimate a measure of cash holdings while ensuring the sample is proportionally representative of the Canadian population.

The Impact of Macroprudential Housing Finance Tools in Canada: 2005–10

This paper combines loan-level administrative data with household-level survey data to analyze the impact of recent macroprudential policy changes in Canada using a microsimulation model of mortgage demand of first-time homebuyers. Policies targeting the loan-to-value ratio are found to have a larger impact than policies targeting the debt-service ratio, such as amortization. This is because there are more wealth-constrained borrowers than income-constrained borrowers entering the housing market.

The Global Financial Cycle, Monetary Policies and Macroprudential Regulations in Small, Open Economies

This paper analyzes the implications of the global financial cycle for conventional and unconventional monetary policies and macroprudential policy in small, open economies such as Canada. The paper starts by summarizing recent work on financial cycles and their growing correlation across borders. The resulting global financial cycle may be followed by a financial crisis that is quite costly. The cycle causes time variation in global risk premia in fixed income, equity and foreign exchange markets. In turn, time-varying global risk premia affect the transmission mechanisms of both conventional and unconventional monetary policies in small, open economies. While there are large costs associated with financial crises, the paper summarizes new work showing that the central banks' leaning against the effects of the global financial cycle would typically be too costly. The paper concludes with some suggestions for the formation of macroprudential policies that are designed to offset the financial imbalances that grow during the boom phase of the cycle.

Downward Nominal Wage Rigidity in Canada: Evidence from Micro-Level Data

We assess the importance of downward nominal wage rigidity (DNWR) in Canada using both firm- and worker-level microdata. In particular, we analyze employer-level administrative data from the Major Wage Settlements (MWS) and household-based survey data from the Survey of Labour Income Dynamics (SLID). MWS data cover large unionized firms in Canada, while SLID is a rich rotating panel representative of the employed population in Canada. Combining both sources of information allows for a more extensive analysis of DNWR in the Canadian labour market. The results suggest that, on average, the effects of DNWR added about 0.2 to 0.4 percentage

points to wage growth between 1994 and 2011; as well, the estimated effects increased in the years following the Great Recession in 2008–09. That includes a higher proportion of workers affected by DNWR (which rose from 16 to 32 per cent) and a larger impact on average wage growth. DNWR's effects on average wage growth were also much stronger during periods of lower CPI inflation in Canada and are positively related to provincial unemployment rates. Finally, we provide an extensive analysis of the heterogeneity in the effects of DNWR. For example, its impact is more pronounced among smaller firms, lower occupational levels, immigrants and older workers. Overall, population ageing and an increasing proportion of immigrants may continue to increase the effects of DNWR in Canada, while the continuing shift toward service industries, declining unionization rates and the increasing educational attainment of the Canadian population may reduce them.

On the Value of Virtual Currencies

This paper develops an economic framework to analyze the exchange rate of virtual currency. Three components are important: first, the current use of virtual currency to make payments; second, the decision of forward-looking investors to buy virtual currency (thereby effectively regulating its supply); and third, the elements that jointly drive future consumer adoption and merchant acceptance of virtual currency. The model predicts that, as virtual currency becomes more established, the exchange rate will become less sensitive to the impact of shocks to speculators' beliefs. This undermines the notion that excessive exchange rate volatility will prohibit widespread use of virtual currency.

Are Counterparty Arrangements in Reinsurance a Threat to Financial Stability?

Interconnectedness among insurers and reinsurers at a global level is not well understood and may pose a significant risk to the sector, with implications for the macroeconomy. Models of the complex interactions among reinsurers and with other participants in the financial system and the real economy are at a very early stage of development. Parts of the market remain opaque to both regulators and market participants, particularly the counterparty arrangements among reinsurers through retrocession agreements. The authors create several plausible networks to model these relationships, each consistent with the financial statement data of the reinsurer. These networks are stress-tested under a series of severe but plausible catastrophic-loss scenarios. This analysis contributes to the literature

by (i) applying a network-model approach common in the banking literature to the insurance industry; (ii) assessing the interconnections among reinsurers through potential claims rather than premiums; and (iii) investigating the most opaque part of the global insurance market, namely, counterparty arrangements among global reinsurers (retrocession). The authors find that contagion in the global reinsurance market is plausible and that the size of the potential market disruption is sensitive to (i) the distribution of risk among counterparties, (ii) the trigger for financial distress, (iii) the time horizon for claims resolution and (iv) the degree of loss netting. The findings suggest that further study of industry practices in these four areas would improve our ability to assess risk in the insurance sector and promote financial stability.

Leaning Within a Flexible Inflation-Targeting Framework: Review of Costs and Benefits

This note examines the merits of monetary policy adjustments in response to financial stability concerns, taking into account changes in the state of knowledge since the renewal of the inflation-targeting agreement in 2011. A key financial system vulnerability in Canada is elevated household indebtedness: as more and more households are nearing their debt-capacity limits, the likelihood and severity of a large negative correction in housing markets are also increasing. Adjusting the path of policy rates can be effective in reducing the buildup of household debt and the likelihood of a house price correction over the medium term. Such adjustments can also generate a fall in inflation and in output over the short term compared with the case without a policy-rate adjustment. Overall, the estimated benefits of a leaning adjustment tend to be smaller than its social losses, since its impact on the buildup of vulnerabilities is modest and the reduction in the incidence of house price corrections or financial crises is limited.