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

PUBLISHED PAPERS

In-Press

Xu, Shaofeng, "Interpreting Volatility Shocks as Preference Shocks", Economics Letters, Dec 2016, Volume 149, Pages 135–140

Forthcoming

Halaburda, Hanna, Mikolaj Piskorski & Pinar Yildirim, "Competing by Restricting Choice: The Case of Search Platforms", Management Science

Paligorova, Teodora, & Joao A. C. Santos "Monetary Policy and Bank Risk-Taking: Evidence from the Corporate Loan Market", Journal of Financial Intermediation

Zhao, Guihai, "Confidence, Bond Risks, and Equity Returns", Journal of Financial Economics

STAFF WORKING PAPERS

Cimon, David A., "Broker Routing Decisions in Limit Order Markets", Bank of Canada Staff Working Paper 2016-50

Cociuba, Simona, Malik Shukayev & Alexander Ueberfeldt, "Managing Risk Taking with Interest Rate Policy and Macroprudential Regulations", Bank of Canada Staff Working Paper 2016-47

Dong, Wei, James Fudurich & Lena Suchanek, "The Digital Economy—Insight from a Special Survey with IT Service Exporters", Bank of Canada Staff Discussion Paper 2016-21

Fung, Ben & Hanna Halaburda, "Central Bank Digital Currencies: A Framework for Assessing Why and How", Bank of Canada Staff Discussion Paper 2016-22

Karasik, Leonid, Danny Leung & Ben Tomlin, "Firm-Specific Shocks and Aggregate Fluctuations", Bank of Canada Staff Working Paper 2016-51

Miyamoto, Wataru & Thuy Lan Nguyen, "Business Cycles in Small, Open Economies: Evidence from Panel Data Between 1900 and 2013", Bank of Canada Staff Working Paper 2016-48

Schroth, Josef, "Supervising Financial Regulators", Bank of Canada Staff Working Paper 2016-52

Schroth, Josef, "Capital Flows to Developing Countries: Is There an Allocation Puzzle?", Bank of Canada Staff Working Paper 2016-53

Shukayev, Malik & Alexander Ueberfeldt, "Monetary Policy Tradeoffs Between Financial Stability and Price Stability", Bank of Canada Staff Working Paper 2016-49

ABSTRACTS

Interpreting volatility shocks as preference shocks

This paper examines the relationship between volatility shocks and preference shocks in an analytically tractable endogenous growth model with recursive preferences and stochastic volatility. I show that there exists an explicit mapping between volatility shocks and preference shocks, and a rise in volatility generates the same impulse responses of macroeconomic aggregates as a negative preference shock.

Competing by Restricting Choice: The Case of Search Platforms

We show that a two-sided platform can successfully compete by limiting the choice of potential matches it offers to its customers while charging higher prices than platforms with unrestricted choice. Starting from micro-foundations, we derive the strength and direction of network effect, and find that increasing the number of potential matches not only has a positive effect due to larger choice, but also a negative effect due to competition between agents on the same side. Agents with heterogeneous outside options resolve the trade-off between the two effects differently. For agents with a lower outside option, the competitive effect is stronger than the choice effect. Hence, these agents have higher willingness to pay for a platform restricting choice. Agents with a higher outside option prefer a platform offering unrestricted choice. Therefore, the two platforms may coexist without the market tipping. Our model may help explain why platforms with different business models coexist in markets using the stylized model of online dating.

Monetary Policy and Bank Risk-Taking: Evidence from the Corporate Loan Market

Our investigation of banks' corporate loan pricing policies in the United States over the past two decades finds that monetary policy is an important driver of banks' risk-taking incentives. We show that banks charge riskier borrowers (relative to safer borrowers) lower premiums in periods of easy monetary policy than in periods of tight

monetary policy. This interest rate discount is robust to borrower-, loan-, and bank-specific factors, macroeconomic factors and various types of unobserved heterogeneity at the bank and firm levels. Using individual bank information about lending standards from the Senior Loan Officers Opinion Survey (SLOOS), we unveil evidence that the interest rate discount for riskier borrowers in periods of easy monetary policy is prevalent among banks with greater risk appetite. This finding confirms that the loan pricing discount we observe is indeed driven by the bank risk-taking channel of monetary policy.

Confidence, Bond Risks, and Equity Returns

We show that investor confidence (size of ambiguity) about future consumption growth is driven by past consumption growth and inflation. The impact of inflation on confidence has moved considerably over time and switched on average from negative to positive in 1997. Motivated by this evidence, we develop and calibrate a model in which the confidence process has discrete regime shifts, and find that the time-varying impacts of inflation on confidence enables the model to match the bond risks over different subperiods. The model can also account for stock and bond return predictability, correlation between price-dividend ratios and inflation, and other moments.

Broker Routing Decisions in Limit Order Markets

The primary focus of this paper is to study conflict of interest in the brokerage market. Brokers face a conflict of interest when the commissions they receive from investors differ from the costs imposed by different trading venues. I construct a model of limit order trading in which brokers serve as agents for investors who wish to access equity markets. I find that brokers preferentially route marketable orders to venues with lower liquidity demand fees, driving up the execution probability at these venues and lowering adverse selection costs. When fees for liquidity supply and demand are sufficiently different, brokers route liquidity supplying orders to separate venues, where investors suffer from lower execution probability and higher costs of adverse selection.

Managing Risk Taking with Interest Rate Policy and Macroprudential Regulations

We develop a model in which a financial intermediary's investment in risky assets—risk taking—is excessive due to limited liability and deposit insurance and characterize the policy tools that implement efficient risk taking. In the calibrated model, coordinating interest rate policy with state-contingent macroprudential regulations, either capital or leverage regulation, and a tax on profits achieves efficiency. Interest rate policy mitigates excessive risk taking by altering both the return and the supply of collateralizable safe assets. In contrast to commonly used capital regulation, leverage regulation has stronger effects on risk taking and calls for higher interest rates.

The Digital Economy—Insight from a Special Survey with IT Service Exporters

Information technology (IT) is an increasingly integral part of everyday business and personal life reflecting the ongoing and accelerating digital transformation of the economy. In this paper, we present information gathered from a survey with export-oriented firms in the Canadian IT service industry and consultations with industry associations aimed at shedding light on this small but highly dynamic sector. Our main findings from this survey are: (i) IT service firms experience strong sales growth and tend to be very positive about their outlook, driven by the solid exports that comprise the majority of their sales; (ii) in this context, firms overwhelmingly view the weaker Canadian dollar as favourable, boosting their margins on foreign sales; (iii) because of the knowledge-intensive nature of the industry, firms report investing in human capital more than in physical capital. This often comes with strong employment and R&D investment intentions, although firms in some regions face difficulties in recruiting qualified staff. The survey results provide initial insight in the context of our broader agenda to better understand the implications of digitalization for the Canadian economy.

Central Bank Digital Currencies: A Framework for Assessing Why and How

Digital currencies have attracted strong interest in recent years and have the potential to become widely adopted for use in making payments. Public authorities and central banks around the world are closely monitoring developments in digital currencies and studying their implications for the economy, the financial system and central banks. One key policy question for public authorities such as a central bank is whether or not to issue its own digital currency that can be used by the general public to make payments. There are several public policy arguments for a central-bank-issued digital currency. This paper proposes a framework for assessing why a central bank should consider issuing a digital currency and how to implement it to improve the efficiency of the retail payment system.

Firm-Specific Shocks and Aggregate Fluctuations

In order to understand what drives aggregate fluctuations, many macroeconomic models point to aggregate shocks and discount the contribution of firm-specific shocks. Recent research from other developed countries, however, has found that aggregate fluctuations are in part driven by idiosyncratic shocks to large firms. Using data on Canadian firms, this paper examines the contribution of large firms to industry-level fluctuations in gross output, investment and employment in the manufacturing sector. The data suggest that shocks to large firms can explain as much as 46% and 37% of the fluctuations in gross output and investment, respectively, but do not contribute to fluctuations in employment.

Business Cycles in Small, Open Economies: Evidence from Panel Data Between 1900 and 2013

Using a novel data set for 17 countries dating from 1900 to 2013, we characterize business cycles in both small developed and developing countries in a model with financial frictions and a common shock structure. We estimate the model jointly for these 17 countries using Bayesian methods. We find that financial frictions are an important feature for not only developing countries but also small developed countries. Furthermore, business cycles in both groups of countries are marked with trend productivity shocks. Common disturbances explain one-third of the fluctuations in small, open economies (both developed and developing), especially during important worldwide phenomena.

Supervising Financial Regulators

How much discretion should local financial regulators in a banking union have in accommodating local credit demand? I analyze this question in an economy where local regulators privately observe expected output from high lending. They do not fully internalize default costs from high lending since deposit insurance cannot be priced fairly. Still, output net of default costs across the banking union is highest when local regulators are rewarded rather than punished. Regulators with lower current lending receive more discretion to allow higher lending in the future, but regulators with higher current lending may not experience any limit to their discretion.

Capital Flows to Developing Countries: Is There an Allocation Puzzle?

Foreign direct investment inflows are positively related to growth across developing countries—but so are savings in excess of investment. I develop an explanation for this well-established puzzle by focusing on the limited availability of consumer credit in developing countries together with general equilibrium effects. In my model, fast-growing developing countries increase their holdings of safe assets, which creates net capital outflows despite inflows of foreign direct investment. The world risk-free interest rate falls as a result, and slow-growing developing countries reduce their holdings of safe assets, which creates net capital inflows despite outflows of foreign direct investment.

Monetary Policy Tradeoffs Between Financial Stability and Price Stability

We analyze the impact of interest rate policy on financial stability in an environment where banks can experience runs on their short-term liabilities, forcing them to sell assets at fire-sale prices. Price adjustment frictions and a state-dependent risk of financial crisis create the possibility of a policy tradeoff between price stability and financial stability. Focusing on Taylor rules with monetary policy possibly reacting to banks' short-term liabilities, we find that the optimized policy uses the extra tool to support investment at the expense of higher inflation and output volatility.