



BANQUE DU CANADA
BANK OF CANADA

Recherche mensuelle à la Banque du Canada

juin 2022

Ce bulletin mensuel présente les publications les plus récentes des économistes de la Banque. Le rapport inclut des études parues dans des publications externes et les documents de travail du personnel publiés sur le site Web de la Banque du Canada.

PUBLICATIONS

À paraître

Alex W. Chernoff & Casey Warman, “COVID-19 and Implications for Automation”, Applied Economics

Myrna Hennequin & Cars Hommes, “Managing bubbles in experimental asset markets with monetary policy”, Journal of Money, Credit and Banking

Amit Gandhi & Zhentong Lu & Xiaoxia Shi, “Estimating Demand for Differentiated Products with Zeroes in Market Share Data”, Quantitative Economics

Serafin Grundl & Yu Zhu, “Robust inference in first-price auctions: Overbidding as an identifying restriction”, Journal of Econometrics

DOCUMENTS DE TRAVAIL DU PERSONNEL

Patrick Alexander & Sami Alpanda & Serdar Kabaca, “Foreign Exchange Interventions: The Long and the Short of It”, Document de travail du personnel de la Banque du Canada 2022-25

Daniela Balutel & Christopher Henry & Kim Huynh & Marcel Voia, “Cash in the Pocket, Cash in the Cloud: Cash Holdings of Bitcoin Owners”, Document de travail du personnel de la Banque du Canada 2022-26

Wei Cui & Randall Wright & Yu Zhu, “Endogenous Liquidity and Capital Reallocation”, Document de travail du personnel de la Banque du Canada 2022-27

Ugochi Emenogu & Brian Peterson, “Unregulated Lending, Mortgage Regulations and Monetary Policy”, Document de travail du personnel de la Banque du Canada 2022-28

Vladimir Skavysh & Sofia Priazhkina & Diego Guala & Thomas Bromley, “Quantum Monte Carlo for Economics: Stress Testing and Macroeconomic Deep Learning”, Document de travail du personnel de la Banque du Canada 2022-29

Serdar Kabaca & Kerem Tuzcuoglu, “International Transmission of Quantitative Easing Policies: Evidence from Canada”, Document de travail du personnel de la Banque du Canada 2022-30

DOCUMENTS D'ANALYSE DU PERSONNEL

Parnell Chu & Grahame Johnson & Scott Kinnear & Karen McGuinness & Matthew McNeely, "[Settlement Balances Deconstructed](#)", Document d'analyse du personnel de la Banque du Canada 2022-13

Tony Chernis & Chris D'Souza & Kevin MacLean & Tasha Reader & Joshua Slive & Farrukh Suvankulov, "[The Business Leaders' Pulse—An Online Business Survey](#)", Document d'analyse du personnel de la Banque du Canada 2022-14

RÉSUMÉS

COVID-19 and Implications for Automation

COVID-19 may accelerate the automation of jobs, as employers invest in technology to adapt the production process to safeguard against current and potential future pandemics. We identify occupations that have high automation potential and also exhibit a high degree of risk of viral infection. We then examine regional variation in terms of which U.S. local labor markets are most at risk. Next, we outline the differential impact that COVID-19 may have on automatable jobs for different demographic groups. We find that occupations held by U.S. females with mid to low levels of wages and education are at highest risk. Using comparable data for 25 other countries, we find women in this demographic are also at highest risk internationally.

Managing bubbles in experimental asset markets with monetary policy

We study the effect of a “leaning against the wind” monetary policy on asset price bubbles in a learning-to-forecast experiment, where prices are driven by the expectations of participants in the market. We find that a strong interest rate response is successful in preventing or deflating large price bubbles, while a weak response is not. Giving information about the interest rate changes and communicating the goal of the policy increases coordination of expectations and works stabilizing. When the steady state fundamental price is unknown and the interest rate rule is based on a proxy instead, the policy is less effective.

Estimating Demand for Differentiated Products with Zeroes in Market Share Data

In this paper we introduce a new approach to estimating differentiated product demand systems that allows for products with zero sales in the data. Zeroes in demand are a common problem in product differentiated markets, but fall outside the scope of existing demand estimation techniques. Our solution to the zeroes problem is based on constructing bounds for the conditional expectation of the inverse demand. These bounds can be translated into moment inequalities that are shown to yield consistent and asymptotically normal point estimator for demand parameters under natural conditions for differentiated product markets. In Monte Carlo simulations, we

demonstrate that the new approach works well even when the fraction of zeroes is as high as 95%. We apply our estimator to supermarket scanner data and find that correcting the bias caused by zeroes has important empirical implications, e.g., price elasticities become on the order of twice as large when zeroes are properly controlled.

Robust inference in first-price auctions: Overbidding as an identifying restriction

Laboratory experiments find consistently that bidding in first-price auctions tends to be more aggressive than predicted by the risk-neutral Bayesian Nash Equilibrium (RNBNE) — a finding known as the overbidding puzzle. Several alternative models can explain the overbidding puzzle, but no canonical alternative to RNBNE has emerged. Instead of estimating a particular model of overbidding, we use the overbidding restriction itself for identification, which allows us to bound the valuation distribution and the seller's revenue under counterfactual reserve prices in the spirit of Haile and Tamer (2003). These bounds are consistent with RNBNE and all models of overbidding, and the bounds remain valid even if there is unobserved heterogeneity in bidding strategies. We evaluate the validity of the bounds numerically and in experimental data.

Foreign Exchange Interventions: The Long and the Short of It

This paper studies the effects of foreign exchange (FX) interventions in a two-region New Keynesian model where governments issue both short-term and long-term bonds. Imperfect substitutability between bonds gives rise to portfolio balance effects that make FX interventions effective. Empirically, foreign central banks intervene in both short-term and long-term US bond markets, and therefore modelling interventions in both is critical. We calibrate the model using data for the United States and a foreign region (its trade partners), and then simulate FX interventions made by the foreign region. We find that FX interventions do not have standard beggar-thy-neighbor consequences in our model. Interventions in short-term bonds lead to lower GDP in both regions, while interventions in long-term bonds lead to higher GDP in both regions. These results are driven by the impact of the interventions on the term premium channel, which dominates the trade balance channel in our model.

Cash in the Pocket, Cash in the Cloud: Cash Holdings of Bitcoin Owners

We estimate the effect of Bitcoin ownership on the level of cash holdings of Canadian consumers. Bitcoin ownership positively correlates with cash holdings even after accounting for selection into ownership via a control function approach. On average, Bitcoin owners hold 83 percent (in 2018) to 95 percent (in 2017) more cash than non-owners. Focusing on the quantiles of cash holdings, we find that Bitcoin ownership has a highly nonlinear effect. For example, the difference in cash holdings between Bitcoin owners and non-owners in 2017 varies from 63 percent at the 25th quantile of cash to 176 percent at the 95th quantile of cash. Our results provide some evidence to reject the hypothesis that new digital currencies or technologies, such as Bitcoin, will lead to a decline in cash holdings.

Endogenous Liquidity and Capital Reallocation

Nous étudions des économies dans lesquelles les sociétés acquièrent des parts de capital sur les marchés primaires et les remettent en vente sur les marchés secondaires après avoir pris connaissance d'informations sur la productivité idiosyncratique. Nos marchés secondaires comprennent des transactions bilatérales avec des frictions relatives à la prospection, à l'activité de négociation et à la liquidité. Nous faisons la distinction entre les cessions intégrales et partielles (selon qu'une entreprise obtient la totalité ou une partie du capital d'une autre). Dans les deux cas, on constate des tendances à court et long terme intéressantes que le modèle peut reproduire à l'égard des données. Selon les conditions du crédit et les conditions monétaires, un plus grand nombre de cessions partielles ont lieu lorsque la liquidité est restreinte. Sur le plan quantitatif, il en découle des implications importantes pour le régime permanent et les cycles économiques. Nous nous penchons aussi sur les conséquences de la prospection, de la fiscalité et de la persistance de chocs propres aux sociétés.

Unregulated Lending, Mortgage Regulations and Monetary Policy

Macroprudential policies are often aimed at the traditional banking sector while non-depository financial institutions or shadow banks have limited or no prudential regulations. This paper studies the macroeconomic impact of household-side macroprudential tightening in the presence of unregulated lenders. Our result shows that the presence of unregulated lenders dampens the impact of the policies

on house prices and household debt. We also find that leakage to the unregulated sector increases when monetary policy is tightened.

Quantum Monte Carlo for Economics: Stress Testing and Macroeconomic Deep Learning

Computational methods both open the frontiers of economic analysis and serve as a bottleneck in what can be achieved. Using the quantum Monte Carlo (QMC) algorithm, we are the first to study whether quantum computing can improve the run time of economic applications and challenges in doing so. We identify a large class of economic problems suitable for improvements. Then, we illustrate how to formulate and encode on quantum circuit two applications: (a) a bank stress testing model with credit shocks and fire sales and (b) a dynamic stochastic general equilibrium (DSGE) model solved with deep learning, and further demonstrate potential efficiency gain. We also present a few innovations in the QMC algorithm itself and in how to benchmark it to classical MC.

International Transmission of Quantitative Easing Policies: Evidence from Canada

Quelles sont les répercussions transfrontalières des politiques d'assouplissement quantitatif des grandes économies sur leurs partenaires commerciaux? Nous en faisons la démonstration en examinant les effets des politiques d'assouplissement quantitatif américaines sur le Canada, lorsque ces outils étaient employés activement durant la période où les taux étaient à la borne du zéro. Nous identifions les chocs causés par l'assouplissement quantitatif aux États-Unis, et nous estimons leur impact sur un grand nombre de variables macroéconomiques et financières canadiennes. Nous analysons ensuite les canaux de transmission de ces chocs à l'économie nationale. Nos résultats donnent à penser que les chocs causés par l'assouplissement quantitatif aux États-Unis ont une action expansionniste au Canada malgré l'appréciation de la monnaie. Cette action est attribuable au fait que les chocs se répercutent sur les coûts d'emprunt sur le marché intérieur en faisant diminuer les taux à long terme et les primes de risque financier, ainsi qu'en augmentant les prix des actifs. Nos résultats sont cohérents avec à la fois le canal de rééquilibrage des portefeuilles et le canal de la prise de risque.

Settlement Balances Deconstructed

The objective of this paper is to deconstruct settlement balances by explaining how they come to be, how they flow through the financial system and how they are managed and deployed by the central bank. This paper presents both technical and non-technical discussions to help clarify and inform market specialists and the broader public.

The Business Leaders' Pulse—An Online Business Survey

Le Pouls des entrepreneurs est une nouvelle enquête en ligne qui est menée chaque mois pour fournir, avec efficacité et souplesse, des renseignements servant à étayer les décisions de la Banque du Canada concernant la politique monétaire. L'enquête représente également une plateforme qui permet d'analyser la situation et l'incertitude des entreprises. Depuis mai 2021, la Banque communique avec les dirigeants de presque tous les types d'entreprises au pays et leur transmet ce court questionnaire afin de se renseigner sur leurs attentes quant à la croissance des ventes et de l'emploi, les risques pour leurs perspectives d'affaires et des sujets précis. Cette enquête sert de complément à l'enquête de la Banque sur les perspectives des entreprises, qui est menée chaque trimestre en personne. Le Pouls des entrepreneurs s'est déjà avéré un précieux atout pour connaître en temps opportun l'opinion des entreprises sur les effets d'une conjoncture économique évoluant rapidement, y compris les répercussions de la COVID-19 et l'invasion de l'Ukraine par la Russie. L'enquête a aussi aidé le personnel de la Banque à évaluer la portée des défis économiques qui se posent et la réaction des entreprises à ces défis, tels que les goulots d'étranglement dans les chaînes d'approvisionnement et les pénuries de main-d'œuvre.

ÉVÉNEMENTS À VENIR

***Toutes conférences et activités qui devaient être tenues sur place sont suspendues jusqu'à nouvel ordre. Tous les événements ci-dessous auront lieu en ligne.**

Carola Binder (Haverford College)
Organisateur: EFR CEA/INT Conférencier
Date: 10 June 2022

Raphael Bostic (Atlanta Federal Reserve)
Organisateur: Visites
Date: 28 June 2022

Georgios Georgiadis (European Central Bank)
Organisateur: FMD FSD/EFR Conférencier
Date: 30 June 2022