

Bank of Canada

Monthly Research Update

July 2013

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

In Press

Aizenman, Joshua and Gurnain K. Pasricha., “[Net Fiscal Stimulus during the Great Recession](#)”, *Review of Development Economics*, Volume 17, issue 3 (397-413)

Forthcoming

Alquist, Ron and Justin-Damien Gu  nette, “[A Blessing in Disguise: The Implications of High Global Oil Prices for the North American Market](#)”, *Energy Policy*

Aizenman, Joshua and Gurnain K. Pasricha, “[Why do emerging markets impose capital outflow controls? Fiscal versus net capital flows concerns](#)”, *Journal of International Money and Finance*

Baumeister, Christiane and Lutz Kilian, “[What Central Bankers Need to Know About Forecasting Oil Prices](#)”, *International Economic Review*

Chen, Heng, Yanqin Fan and Jisong Wu, “[A Flexible Parametric Approach for Estimating Switching Regime Models and Treatment Effect Parameters](#)”, *Journal of Econometrics*

Damar, H. Evren, Cesaire A. Meh and Yaz Terajima, “[Leverage, Balance-Sheet Size and Wholesale Funding](#)”, *Journal of Financial Intermediation*

Shao, Enchuan and Pedro Silos, “[Entry costs and labor market dynamics](#)”, *European Economic Review*

WORKING PAPERS

Kryvtsov, Oleksiy, “[Is There a Quality Bias in the Canadian CPI? Evidence from Micro Data](#)”, Bank of Canada Working Paper 2013-24

Shao, Enchuan, “[The Threat of Counterfeiting in Competitive Search Equilibrium](#)”, Bank of Canada Working Paper 2013-22

ABSTRACTS

Net Fiscal Stimulus during the Great Recession

This paper studies the patterns of government expenditure stimuli among Organisation for Economic Co-operation and Development (OECD) countries during the Great Recession (2007–2009). Overall,

we find that the USA net fiscal stimulus was modest relative to peers, despite it being the epicenter of the crisis, and having access to relatively cheap funding of its twin deficits. Of the 28 countries in the sample, the USA is ranked among the bottom third in terms of the rate of expansion of consolidated government consumption and investment expenditures. Contrary to historical experience, emerging markets had strongly countercyclical policy during the period immediately preceding the Great Recession and the Great Recession itself. Federal unions, emerging markets and countries with very high gross domestic product (GDP) growth during the pre-recession period saw larger net fiscal stimulus on average than their counterparts. We also find that greater net fiscal stimulus was associated with lower flow costs of general government debt in the same or subsequent period.

A Blessing in Disguise: The Implications of High Global Oil Prices for the North American Market

We examine the implications of increased unconventional crude oil production in North America. This production increase has been made possible by the existence of alternative oil-recovery technologies and persistently elevated oil prices that make these technologies commercially viable. We first discuss the factors that have enabled the United States to expand production so rapidly and the glut of oil inventory that has accumulated in the Midwest as result of logistical challenges and export restrictions. Next, we assess the extent to which the increase in U.S. domestic production will affect global supply conditions and whether the U.S. experience can be repeated in other countries with rich unconventional oil sources. The evidence suggests that even in the best-case scenario, the increase in U.S. production will not make a large contribution to global production, so its effect on the price of oil is expected to be limited. Furthermore, the United States enjoys unique infrastructural and technological advantages that make it unlikely that similarly rapid increases in unconventional production can be achieved elsewhere.

Why do emerging markets impose capital outflow controls? Fiscal versus net capital flows concerns

In this paper, we provide empirical evidence on the factors that motivated emerging economies to change their capital outflow controls in recent decades. Liberalization of capital outflow controls can allow emerging-market economies (EMEs) to reduce net capital inflow (NKI) pressures, but may cost their governments the fiscal

revenues that external financial repression generates. Our results indicate that external repression revenues in EMEs declined substantially in the 2000s compared with the 1980s. In line with this decline in external repression revenues and their growth accelerations in the 2000s, concerns related to net capital inflows took predominance over fiscal concerns in the decisions to liberalize capital outflow controls. Overheating and foreign exchange valuation concerns arising from NKI pressures were important, but so were financial stability concerns and concerns about macroeconomic volatility. Emerging markets facing high volatility in net capital inflows and higher short-term balance-sheet exposures liberalized outflows less. Countries eased outflows more in response to higher appreciation pressures in the exchange market, stock market appreciation, real exchange rate volatility, net capital inflows and accumulation of reserves.

What Central Bankers Need to Know About Forecasting Oil Prices

Forecasts of the quarterly real price of oil are routinely used by international organizations and central banks worldwide in assessing the global and domestic economic outlook, yet little is known about how best to generate such forecasts. Our analysis breaks new ground in several dimensions. First, we address a number of econometric and data issues specific to real-time forecasts of quarterly oil prices. Second, we develop real-time forecasting models not only for U.S. benchmarks such as WTI crude oil, but we also develop forecasting models for the price of Brent crude oil, which has become increasingly accepted as the best measure of the global price of oil in recent years. Third, we design for the first time methods for forecasting the real price of oil in foreign consumption units rather than U.S. consumption units, taking the point of view of forecasters outside the U.S. In addition, we investigate the costs and benefits of allowing for time variation in VAR model parameters and of constructing forecast combinations. We conclude that quarterly forecasts of the real price of oil from suitably designed VAR models estimated on monthly data generate the most accurate forecasts among a wide range of methods including forecasts based on oil futures prices, no-change forecasts and forecasts based on regression models estimated on quarterly data.

A Flexible Parametric Approach for Estimating Switching Regime Models and Treatment Effect Parameters

In this paper, we propose a flexible, parametric class of switching regime models allowing for both skewed and fat-tailed outcome and selection errors. Specifically, we model the joint distribution of each outcome error and the selection error via a newly constructed class of multivariate distributions which we call generalized normal mean-variance mixture distributions. We extend Heckman's two-step estimation procedure for the Gaussian switching regime model to the new class of models. When the distributions of the outcome errors are asymmetric, we show that an additional correction term accounting for skewness in the outcome error distribution (besides the analogue of the well known inverse mill's ratio) needs to be included in the second step regression. We use the two-step estimators of parameters in the model to construct simple estimators of average treatment effects and establish their asymptotic properties. Simulation results confirm the importance of accounting for skewness in the outcome errors in estimating both model parameters and the average treatment effect and the treatment effect for the treated.

Leverage, Balance-Sheet Size and Wholesale Funding

Positive co-movements in bank leverage and assets are associated with leverage procyclicality. As wholesale funding allows banks to quickly adjust leverage, banks with wholesale funding are expected to exhibit higher leverage procyclicality. Using Canadian data, we analyze (i) if leverage procyclicality exists and its dependence on wholesale funding, (ii) market factors associated with this procyclicality, and (iii) if banking-sector leverage procyclicality forecasts market volatility. The findings suggest that procyclicality exists and that its degree positively depends on use of wholesale funding. Furthermore, funding-market liquidity matters for this procyclicality. Finally, banking-sector leverage procyclicality can forecast volatility in the equity market.

Entry costs and labor market dynamics

We study the cyclical dynamics of the value of a vacant position in labor markets characterized by search and matching frictions. We present a model of aggregate fluctuations in which firms face sunk costs to enter the production process. Our specification of sunk costs gives rise to a counter-cyclical value of a vacancy. We find that this overlooked object has important quantitative implications for the study

of labor markets and business cycles. It affects the cyclical dynamics of the surplus division between workers and firms, and provides a better characterization of the movements in income shares over recessions and expansions. Understanding movements in the value of a vacant position helps to link the dynamics of income shares with recent volatility puzzles found in models of search and matching in labor markets.

Is There a Quality Bias in the Canadian CPI? Evidence from Micro Data

Rising consumer prices may reflect shifts by consumers to new higher-priced products, mostly for durable and semi-durable goods. I apply Bils' (2009) methodology to newly available Canadian consumer price data for non-shelter goods and services to estimate how price increases can be divided between quality growth and price inflation. I find that less than one-third of observed price increases during model changeovers should be attributed to quality growth. This implies overall price inflation close to inflation measured by the official index. I conclude that, according to Bils' methodology, the quality bias is not an important source of potential mismeasurement of CPI inflation in Canada.

The Threat of Counterfeiting in Competitive Search Equilibrium

Recent studies in monetary theory show that if buyers can use lotteries to signal the quality of bank notes, counterfeiting does not occur in a pooling equilibrium. In this paper, I investigate the robustness of this non-existence result by considering an alternative trading mechanism. Specifically, a competitive search environment is employed in which sellers post offers and buyers direct their search based on those offers. In contrast to the previous studies, buyers' ability to signal is fully eliminated in this environment. However, I find that counterfeiting does not exist if the equilibrium concept proposed by Guerrieri et al. (2010) is used. This is a refinement scheme in which sellers' out-of-equilibrium beliefs about the likelihood of meeting with different types of buyers are restricted. Moreover, a threat of counterfeiting can result in the collapse of a monetary equilibrium. 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.