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International monetary policy transmission through banks in small open economies ☆

Simone Auer [a], Christian Friedrich [b], Maja Ganarin [a], Teodora Paligorova [c], Pascal Towbin [a,*]

[a] Swiss National Bank, Börsenstrasse 15, CH-8022 Zurich, Switzerland
[b] Bank of Canada, 234 Wellington Street, Ottawa, ON K1A 0G9, Canada
[c] Federal Reserve Board, 1801 K street, Washington DC, USA

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ABSTRACT

This paper studies the international transmission of monetary policy through banks in small open economies using the examples of Switzerland and Canada. We assess the inward transmission of foreign monetary policy for Switzerland and the outward transmission of domestic monetary policy for Canada. In both country cases, we focus on the international bank lending and the international portfolio channel, which make opposing predictions about how monetary policy transmits internationally through banks. Our results on the inward transmission of foreign monetary policy through banks in Switzerland are consistent with a role for the international portfolio channel, but we find no evidence for the traditional international bank lending channel. The results on the outward transmission of domestic monetary policy in Canada suggest that foreign lending by Canadian banks is affected through both channels, which work as predicted and largely balance each other.

1. Introduction

This paper studies the international transmission of monetary policy through banks in small open economies.[1] We first use Switzerland as an example to study the impact of foreign monetary policy on lending by Swiss banks in the domestic economy—the so called 'inward transmission' of monetary policy. We then rely on Canada to study the impact of domestic monetary policy on lending by Canadian banks abroad—correspondingly referred to as the 'outward transmission' of monetary policy. Our

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* Corresponding author.
E-mail addresses: Simone.Auer@snb.ch (S. Auer), cfriedrich@bankofcanada.ca (C. Friedrich), Maja.Ganarin@snb.ch (M. Ganarin), teodora.paligorova@frb.gov (T. Paligorova), Pascal.Towbin@snb.ch (P. Towbin).

[1] The notion of a "small open economy" highlights the fact that an economy is a price taker in international financial and goods markets and is characterized by a particularly strong international exposure through financial and trade linkages.

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paper is part of an International Banking Research Network (IBRN) project that provides comparable cross-country evidence on the international transmission of monetary policy. To this end, a number of individual country teams work on the topic in parallel, using a common methodology and their distinct but harmonized confidential bank-level data, which makes the results comparable across countries. More details on the methodology and a summary of the results from all country-studies are presented in Buch et al. (2018).

Switzerland and Canada are appealing cases to study the international transmission of monetary policy, as they are typical examples of small open economies. For small open economies, the exogeneity assumptions in our empirical analysis are more likely to hold, as the impact of domestic economic conditions (including domestic monetary policy) on foreign economic conditions (including foreign monetary policy) is negligible. For the analysis of inward transmission of foreign monetary policy, this is helpful as foreign monetary policy can appropriately be treated as exogenous. Similarly, it is helpful for the analysis of outward transmission of domestic monetary policy as the latter will not affect lending by foreign banks abroad. This distinguishes our work from papers that focus on the analysis of large open economies.

When investigating the international transmission of monetary policy through banks, we focus on two distinct sets of frictions. The first set is related to frictions in banks' funding. When monetary policy is tightened, banks' depository base shrinks. Due to frictions in funding markets, banks may not be able to (costlessly) substitute those lost deposits with other sources of funding, and, as a result, have to cut their supply of loans (see Bernanke and Blinder (1988) and Kashyap and Stein (1994)). Banks' difficulty to attract funding may also be due to the negative effect of a monetary tightening on a bank's net worth (see Gambacorta and Mistrulli (2004) and Gambacorta and Shin (2018)). The frictions related to banks' own ability to attract funding are summarized under the commonly known term 'bank lending channel.' The transmission of monetary policy along the 'international bank lending channel' is qualitatively identical to its domestic counterpart, since a tightening of domestic monetary policy raises banks' funding costs and thus affects negatively both their domestic and foreign lending activities. The second set of frictions is related to the borrower side. Because of information asymmetries about borrower quality, bank borrowers' terms of credit depend on their net worth. In the domestic context, the transmission of monetary policy through borrower frictions is subsumed under the notion of the 'balance sheet channel' (see Bernanke and Gertler (1995)). As our analysis centers on the supply side effects of the balance sheet channel, and thus concerns the banks' portfolio choice, we follow Correa et al. (2015) and use the notion 'international portfolio channel.' According to the international portfolio channel, monetary policy has opposite effects on domestic and foreign lending activities. A tightening of domestic monetary policy reduces the net worth of domestic borrowers, prompting global banks to substitute away from risky domestic lending to safer foreign lending. The aggregate effect of contractionary monetary policy on foreign lending is positive rather than negative.

Thus, for the international transmission of monetary policy, the international bank lending channel and the international portfolio channel point in opposite directions.[2] It is worth noting that the two channels can be simultaneously at play; hence, an insignificant aggregate effect could mean that the two channels balance each other out.

Similarly, our identification strategy for both the in- and outward transmission of monetary policy relies on the strength of financial frictions that banks and borrowers face, proxied by the heterogeneity of banks' balance sheet characteristics. Specifically, we test whether banks with different characteristics respond differently to changes in monetary policy and whether these variations are consistent with the theoretical predictions associated with the international bank lending channel and the international portfolio channel, respectively. Regarding inward transmission, the strength of the bank lending channel is expected to be affected by the share of foreign deposits, whereas the share of foreign assets affects the strength of the portfolio channel. To assess the outward transmission, we rely on a different set of balance sheet characteristics that measure the relevant frictions. The strength of the bank lending channel is expected to be affected by the reliance on short-term deposits, liquid assets, internal capital markets, bank size and capital base. As for the portfolio channel, we test whether banks substitute from risky domestic lending to safer foreign lending depending on their reliance on risky C&I loans or securities.

Our results on inward transmission of foreign monetary policy through banks in Switzerland are consistent with a role for the international portfolio channel. However, we find no evidence for the international bank lending channel. We attribute this to the large share of foreign wholesale deposits, for which the standard bank lending channel theory does not apply. The results on the outward transmission of domestic monetary policy suggest that foreign lending by Canadian banks is affected by Canadian monetary policy through both channels, which work as predicted and largely balance each other. Quantitatively, for both, outward and inward transmission, the effect on bank lending appears to be limited.

Our paper sheds light on the international bank lending and international portfolio channel from the perspective of small open economies and relates to two different streams of literature. One strand of the literature studies the role of the international bank lending channel but focuses particularly on large economies, such as the US (e.g., Correa and Murry (2009), Cetorelli and Goldberg (2012), Temesvary et al. (2015), Correa et al. (2015), and Avdjiev et al. (2017)). Another strand of the literature shows that foreign monetary policy affects small open economies through the exchange rate and foreign income channels, while monetary policy of small open economies has itself little effect on foreign economic conditions (e.g., Galí and Monacelli (2005), Leitemo and Söderstrom (2005), Faia and Monacelli (2008), and De Paoli (2009)). However, this literature does not consider the role of banks and their domestic as well as foreign lending activities.

[2] Unless otherwise noted, we refer to the international versions of the channels in the remainder of the paper.