



Contents lists available at ScienceDirect

Economic Modelling

journal homepage: [www.elsevier.com/locate/econmod](http://www.elsevier.com/locate/econmod)

# Quantitative easing, global banks and the international bank lending channel

Carmela D'Avino

Royal Docks School of Business and Law, University of East London, Water Lane, London, E15 4LZ, UK

## ARTICLE INFO

### JEL codes:

E50  
F33  
F34  
F60  
G01  
G21

### Keywords:

Quantitative easing  
Global banks  
International shocks transmission

## ABSTRACT

The current debate on the international transmission of shocks generated by quantitative easing (QE) programmes mainly focuses on the impact on financial markets' yields and returns. This paper adds to the literature by investigating the existence of an international bank lending channel activated by QE, focusing on the behaviour of US global banks. In particular, the empirical analysis explores the impact of the Federal Reserves' QE policy on lending by foreign branches of US banks. The findings reveal significant policy-induced liquidity spillovers via foreign lending during the QE policy implementation in the US, suggesting the existence of an international bank lending channel. The channel worked its way through different segments of the credit markets, having asymmetric effects on foreign host countries. Overall, our findings highlight the role of global banks in channelling QE-created liquidity across borders, adding pressure to increasing debt levels in foreign countries.

## 1. Introduction

Unconventional monetary policy adopted by the Federal Reserves (Fed) following the collapse of Lehman Brothers featured large scale purchases of debt securities from non-bank sectors in the secondary markets. By expanding the central banks' balance sheet, this type of quantitative easing (QE) policy has allowed the Fed to inject liquidity into the economic system via the creation of bank reserves (Bernanke and Reinhart, 2004).<sup>1</sup> QE in the US lasted almost six years in a three-stage chronological implementation: from December 2008 until March 2010 (QE1), from November 2010 until June 2011 (QE2 – phase 1), from October 2012 until October 2014 (QE2 – phase 2). Overall, it involved the purchase of \$3.5tr worth of securities resulting in an unprecedented expansion of banks' excess reserves, which reached \$2.4tr.

To date, research has primarily focused on evaluating the effects of the unconventional monetary stimulus on domestic and foreign financial markets' yields and returns and macroeconomic volatility (Ahmed and Zlate, 2014; Barroso et al., 2015; Chen et al., 2012; Mallick et al., 2017). The portfolio rebalancing channel has been identified as the key

transmission conduit through which this type of QE policy feeds through the real economy (Bernanke and Reinhart, 2004; Blinder, 2010; Gagnon et al., 2011). Underpinned by the assumption of imperfect substitutability between money and financial securities, this channel is activated by private sector agents who, in response to lower long-term yields on assets repurchased by the central bank, turn to the purchase of other higher-yielding assets, such as corporate bonds and equities (Brunner and Meltzer, 1973; Tobin, 1969).<sup>2</sup> The portfolio rebalancing channel can reach beyond national borders. Brana and Prat (2016) find that excess global liquidity intensified by widespread implementation of unconventional monetary policies have spilled over emerging economies' financial markets resulting in asset prices inflation. With particular reference to the US, Fratzscher et al. (2016) show that the second wave of QE has led to financial imbalances in emerging countries due to excessive liquidity build-up and the consequent pressure on asset prices, yields and currencies.

Only limited attention has been paid to assessing whether the QE has worked its way through the economy via the bank lending channel (BLC), shifting the supply of credit granted by banks.<sup>3</sup> The existence of a

E-mail address: [C.Davino@uel.ac.uk](mailto:C.Davino@uel.ac.uk).

<sup>1</sup> As argued by Blinder (2010), an alternative form of QE is when by central banks exchange short-term for long-term financial assets. This type of unconventional policy changes the asset composition of the central bank balance sheet rather than the size.

<sup>2</sup> Other possible transmission channels of QE work through variations in expectations, see Joyce et al. (2011) for a detailed discussion. Also, Krishnamurthy and Vissing-Jorgensen (2011) identify a number of risk premia channels.

<sup>3</sup> Joyce and Spaltro (2014) suggest that this gap in the academic debate may be due to the presumption that the deleveraging of banks during financial distress leads to a freeze of bank lending even in a liquidity-abundant environment (see for instance Gambacorta and Marques-Ibanez, 2011).

<https://doi.org/10.1016/j.econmod.2017.12.015>

Received 19 May 2017; Received in revised form 23 November 2017; Accepted 24 December 2017

Available online xxxx

0264-9993/© 2017 Elsevier B.V. All rights reserved.

domestic bank lending channel activated by unconventional monetary policy is advanced by Bowman et al. (2011) for Japan, Garcia-Posada and Marchetti (2016) for Spain and Rodnyansky and Darmouni (2017) for the US. In particular, Rodnyansky and Darmouni (2017) find that the last wave of the QE programme in the US led to an increase of domestic commercial banks' lending by 3%. Still, the existence of an international BLC activated by unconventional monetary policies, involving banks shifting their supply of loans abroad in response to domestic QE, remains largely unexplored in the literature.

This paper aims at filling this gap by investigating the international spillovers of QE through a BLC activated by US global banks. The latter were heavily involved in the intermediation of large volumes of asset repurchase transactions, crediting customers' deposits accounts while expanding their excess reserves holdings. Joyce et al. (2011) argue that the amplification of a BLC attributable to QE programmes is dependent on the nature of the newly created deposits, other than on the health of banks. If these are mainly short-term flighty wholesale deposits, then, the QE will not operate via a BLC as refinancing uncertainty would reduce banks' willingness to extend new loans. A BLC instead is activated when the newly created deposits are kept within the banking system as term or saving deposits and the QE liquidity is not used to finance high yielding securities. Butt et al. (2014), for instance, argue that in the UK the QE programme did not operate via a BLC because the deposits created by the policy had a rather flighty nature. The US, instead, has experienced during the QE implementation period an increase in domestic time deposits which constitute the precondition for the existence of a BLC.

The focus on the international dimension of the BLC is here justified by the observed expansion in global operations of domestically headquartered banks witnessed in the recent years coupled with intensified interoffice outflows.<sup>4</sup> Narrowing domestic interest margins in conjunction with active internal capital markets might have stimulated US global banks to channel the increased domestic deposit base to foreign countries via their foreign branches.

International spillovers of QE through credit expansion in foreign countries, i.e. an international BLC, remain broadly unexplored in the literature. A notable exception is the paper by Morais et al. (2015) in which the authors show that the significant presence of US and EU banks' foreign affiliates in Mexico increased credit supply to local firms during the QE implementation period in the US. Liu and Pogach (2017) show that there is a complementarity between domestic and foreign lending by US global banks, implying that policy-induced liquid surge at home is likely to increase foreign lending via foreign offices. The authors, however, do not explicitly explore the extent to which the US-based QE programme has increased foreign lending by US global banks.

This paper contributes to the literature by extending the findings by Morais et al. (2015) and providing a more comprehensive account of the effect of QE on the foreign operations of banks worldwide, focusing on US global banks. An *ad hoc* dataset is used for this intent which contains balance sheet data of foreign branches of US banks by country of location, available from the Federal Financial Institutions Examination Council (FFIEC). Dynamic panel regression analysis is employed with the aim to analyse lending trends of foreign offices of global banks in their host locations in response to the QE policy in the US.

Overall, the findings reveal the existence of an international BLC activated by US global banks during the QE programme. In particular, the transmission of US-generated liquidity shocks across the borders is found to have asymmetric impacts on the lending by foreign branches. In host countries where foreign branches of US banks have larger activities, US QE significantly increased local loans secured by real estate and commercial loans. In international and offshore financial centres and in those host countries where foreign branches have smaller activities, an

international BLC was activated via interbank markets as local interbank lending increased in response to the QE policy in the US.

Our findings have interesting policy implications. Global banks by reallocating liquidity across borders via internal capital markets may reduce the impact of the unconventional monetary policy on domestic lending. Also, the reallocation across the borders of QE liquidity via the banking system can have important repercussions on recipient countries' levels of debt. As argued previously, existing literature acknowledges the inflationary pressure on assets prices following QE policies in third countries due an international portfolio rebalancing channel. An international BLC activated by global banks may instead directly contribute to increasing debt levels in foreign countries, further impairing local monetary policymakers' objectives and financial stability. A timely and well-tuned macroprudential regulation in recipient countries may, however, contain eventual undesired pressure on local credit markets due to third countries' QE-generated liquidity spillovers. Indeed, although foreign branches of banks headquartered abroad generally comply with the financial regulation of the country where their parent is located, local regulators can resort to some macroprudential rules that are applicable to all financial institution operating in a particular jurisdiction. This is the case of product-based macroprudential regulation on credit limits, such as loan-to-value or debt-to-income ratios, which may be used in the event of an increase in local systemic risk or financial instability due to large liquidity inflows into local credit markets via foreign banks.

The paper is organised as follows. Section 2 provides an overview of the dynamics behind the existence of a BLC following QE as well as some stylised facts in support of the existence of an international BLC activated by US global banks. Section 3 presents the econometric methodology adopted and section 4 discusses the results. Section 5 presents and discusses the robustness checks and section 6 concludes.

## 2. The bank lending channel, international spillovers and QE

### 2.1. BLC and QE: an overview

The *credit view* of the monetary policy transmission mechanism describes shocks propagation through the economy arising from variations in external finance premium, that is, the difference between the external and internal costs of funding faced by borrowers (Bernanke and Blinder, 1988; Bernanke and Gertler, 1995). The bank lending channel implied within this view refers to the amplification of monetary shocks by banks arising from an impairment in their funding capability due to rising external finance premium. The main assumption underpinning the BLC is the existence of credit market frictions, mainly in form of asymmetric information, which weaken the banks' ability to raise non-reservable funding when a monetary policy contraction reduces demand deposits. The resulting reduction in lending can be explained by both a reduction of loan demand caused by traditional interest rate channels drivers and loan supply caused by banks halting their liquidity creation.

The empirical relevance of this channel has been repeatedly questioned in the past two decades as institutional changes in financial systems have eased the access to alternative non-reservable sources of funds. Still, some scholars argue that no matter how easily a bank can find alternative source of funding, a BLC would still subsist due to the higher cost of non-deposits borrowings (Bernanke, 2007; Disyatat, 2010; Stein, 1998).

Unconventional monetary policy can activate or amplify the BLC depending on the public's willingness to reinvest QE money. In particular, as shown by Butt et al. (2014), the BLC can arise from QE to the extent to which extra deposit funding translates into stable deposits, i.e. time and savings. Fig. 1 shows a stylised balance sheet of an economy with only one representative bank and the effect that the QE has on its balance sheet over a three-period horizon. In  $t=0$ , QE has not been implemented yet and the bank has total assets amounting to \$200. The bank has a large share of claims in the form of long-term loans, worth \$150, and the remaining assets have shorter maturity and are bundled

<sup>4</sup> US global banks are known to transmit shocks across the borders by actively managing their liquidity on a worldwide basis via transactions in internal capital markets (Cetorelli and Goldberg, 2012).

Download English Version:

<https://daneshyari.com/en/article/7347257>

Download Persian Version:

<https://daneshyari.com/article/7347257>

[Daneshyari.com](https://daneshyari.com)