

REVIEW ARTICLE

The Credit Channel and its Functions in Transmitting Monetary Policy Decisions

Dan H*

Babes-Bolyai University, Faculty of European Studies, Cluj-Napoca, Romania.

*Corresponding Author: E-mail: dan.horatiu.sorin@gmail.com

Abstract

The paper aims at providing a consistent analysis of how the credit channel within the monetary policy transmission mechanism functions, more precisely how the central banks' monetary policy decisions are being delivered throughout the economy by credit related mechanisms towards final macroeconomic variables such as inflation, unemployment, or the levels of investments, production and consumption. For this purpose, we will de-construct the credit channel and take a close look at its main two components, the bank lending sub-channel and the balance sheet sub-channel, in the attempt of getting a better understanding of the cause-effect processes that take place within them, with the ultimate purpose of providing central banks with insight that would help decide on the intensity of its monetary interventions and contribute to making more effective and efficient monetary policy decisions.

Keywords: *Central banking, Credit channel, Monetary policy, Monetary policy transmission mechanism.*

Introduction

Monetary policy represents perhaps the most powerful set of tools by which central institutions may influence the economy and, especially during the last years when the global economy faced great challenges, its effective and efficient use represented a hot topic. In an economic environment that has become more complex than ever, monetary policy decision makers need to have a profound understanding on the particularities of the economy, but also on the way that the exact structure and design of the monetary policy transmission mechanism which by which it is understood, according to Ireland [1], "how policy-induced changes in the nominal money stock or the short-term nominal interest rate impact real variables such as aggregate output and employment". So basically the monetary policy transmission mechanism is comprised out of the channels through which the central bank's decisions are being delivered throughout the economy. According to Loayza and Schmidt-Hebbel [2], there is a channel that is functioning based on each of the following variables: interest rates, expectations, credit, asset price and exchange rates.

In our study, we will focus on the monetary transmission that is made through the credit

channel and on what elements should the central banks take into consideration when involved in the decision making process so that outcomes would be consistent with the proposed objectives. The functioning of the credit channel is described in detail in the articles of Mishkin [3], Bernanke and Gertler [4], published on occasion of the 1995 economic symposium on monetary transmission mechanisms. The development of the theory regarding this channel was determined by the economists' dissatisfaction with how the interest rate channel explains the impact of monetary policy on investment and long-term assets consumption. In fact, the interest rate channel was long regarded as the main monetary transmission channel. As such, the extremely high importance of the capital cost factor is questioned, and the main argument is connected to the poor relationship between short-term interest rates (controlled directly by central banks) and long-term interest rates, which impact on investment levels, as some economists consider [4].

According to Mishra and Montiel [5], the credit channel relatively outweighs other transmission channels in emerging economies, where bank lending is very important due to the absence of

financial and real estate markets operating at optimum parameters, as this limits the functionality of the interest rate, asset price and exchange rate channels. Consequently, controlling the effects of monetary policy decisions spread by means of this channel is an activity which prioritizes concerns related to monitoring and maintaining the health of the banking system, such as the assessment of each bank performance, verifying the degree up to which prudential indicators are observed, or adopting prevention measures with respect to the degradation of the financial state of banks [6].

Coming back to the general features of the credit channel, we notice that it is divided into two sub-channels, the bank lending channel and the company balance sheet channel [3]. It also regards the relationship between banks and companies, looking at the way it is built and the impact of distinguishing factors, such as information asymmetry (meaning, the lack of quantitative and qualitative uniformity of the relevant information concerning certain transactions, as held by interested parties) and its consequences: adverse selection, defined as the situation where a price policy encourages mainly less desirable clients involving in a transaction [7], and moral hazard, defined as the risk that the existence of an agreement influences negatively the behaviour of one or both parties to the agreement [7].

The Bank Lending Sub-Channel

Considering that most companies and all private consumers cannot ensure their own funding by acting on capital markets, mainly due to their size, their relationship with banks is the most available funding source and it is crucial for their proper operation. It also has outstanding outcomes on the entire economic system.

An important factor concerning the shaping of this relationship is the elasticity degree of cash demand, in other words, the lending sensitivity with respect to interest rate levels. The latter is conditioned both by the structure of the banking system and by the degree to which companies rely on external funds for development. Moreover, it influences the bank lending sub-channel with respect to how an open and same-direction relationship may be created between the credit sensitivity level and the importance of the bank lending sub-channel on the monetary transmission mechanism.

Monetary policy decisions have an acute effect on the relationship between banks and

companies/private consumers, as the decisions of the monetary authority influences directly both the quantity of cash that banks are able to lend and the interest level; thus, such decisions impact on investments and long-term assets consumption. However, part of the monetary policy effect spread through the bank lending channel is balanced by the translation from bank credit to commercial credit, in the context of a monetary policy determining the decrease of credit fund levels and loan costs getting higher. The relationship works also in the opposite direction, when expansionist acts of the central bank increase the availability and attractiveness of bank credits, which increase to the disadvantage of commercial credits [8]. Thus, the translation direction is determined by availability and cost differences between the two types of credit. Nevertheless, commercial credits can never fully substitute bank credits in the economic big picture; consequently, the effects spread through the bank lending channel will always influence the economy, as these are items the central bank must take into consideration when defining the monetary policy.

The substitutability relationships between bank and commercial credits have been researched empirically, taking into consideration the behaviour of a sample of 16,000 manufacturing companies from Great Britain [9]. The conclusions of the study confirmed the existing economic theory: as per the studied monetary contraction scenario, the level of bank credits dropped. The drop was partially balanced by a rise in commercial credits. It was also noticed that the companies whose access was hindered with respect to bank lending were small and medium companies. As such, the authors of the study prove the presence of the commercial credit component within the credit channel of the British economy. This presence weakens the influence of the credit channel on the monetary transmission mechanism and suppresses the effects of the latter. Although economic literature is poor in similar studies carried out with respect to other regions, there is no reason for us not to consider that similar phenomena are also valid concerning other monetary transmission mechanisms, as the compensation level given by commercial credits depends on the capacity of suppliers to fund clients, either directly by formal credit agreements, or indirectly, by accepting longer payment terms.

Another issue to be taken into consideration is the adverse selection which may take place with respect to the relationship between the

commercial bank and its clients. At large scale, such relationship may influence the operation of the sub-channel by hindering the lending process, which inevitably leads to a lower level of the total lending amount. Specifically, the impact of interest rate growth may be increased by adverse selection situations, in the way that the relation between viable credit applications and those presenting high risk (often hidden) and submitted by entities or projects already in difficulty will deteriorate. At the same time, the interest rate level represents in this case a secondary issue, as it is more important to obtain capital for salvation purposes and thus exposing the bank to higher default payment risk than the latter is willing to take. This increases transaction costs, as the bank will seek to improve its selection procedure, and it will also take on a more conservative attitude, thus enhancing the proportion of rejected but viable applications. Moreover, supposing it is likely that selection procedures are not perfect, the level of bad loans rises, influencing directly the bank capital. Inevitably, all impact on the bank lending sub-channel and change its operation, affecting, at the same time, monetary transmission.

The Balance Sheet Sub-Channel

The balance sheet sub-channel, the second component of the credit channel, is based on the company's capacity to guarantee bank loans, either by collateral, or by pledged liquid assets [4]. The larger the guarantee, the easier it is to obtain funds, as credit institutions are more likely to grant loans if the loss caused by default payments is smaller. This influences the total value of loans companies may obtain. At the same time, the issue of moral hazard arises, represented by the negative relation between the levels of existing liquid assets within the company and its own capital, on one hand, as well as the risk appetite, on the other. The risk may eventually pass to creditors, influencing both their availability to fund the respective companies, as well as lending costs.

Monetary policy decisions influence company balance sheets by changing asset prices (especially prices of securities, credit instruments and real estate assets) according to the following mechanism: a tainted interest level changes actual values of all future capital flows, whether this refers to dividends, income or profit, due to changes of the discount factor. Consequently, the capacity of companies to guarantee credits is affected, as the chain reaction impacts on the level of investments, manufacture and, lastly, on the prices of goods and services.

More concretely, a contractionary monetary policy means that the prices of the assets decrease, as well as the capacity of the companies to guarantee the credits obtained, leading to a rise in adverse selection and moral hazard. The latter is determined by the degradation of the relation between guarantees and debts, which changes debtor behaviour, as debtors have less to lose in case of default. In this case, the risk of the banks increases, leading to the decline of lending values and having direct effects upon investments, consumption and manufacture.

According to Bernanke and Gertler [4] the crash of the Japanese economy at the end of the '80s was caused precisely by the decisions spread through the balance sheet channel, within the credit channel. Thus, the Japanese monetary contraction is considered to have been the base of the recession of subsequent years, as per the mechanism described above: the decrease in asset prices, the diminished capacity of large companies and banks to lend, as well as investment, consumption and manufacture decrease.

As for the degree of inter-regional homogeneity, an analysis regarding the presence of the credit channel within the economy of various countries was developed by Icovileo and Minetti [10]. It focused on the residential real estate market, whose evolution is considered to have had an important impact on consumption and investments [11]. Four countries were chosen for the test: Finland, Germany, Norway and Great Britain; according to the authors, such selection was made in order to cover various institutional structures and efficiency levels of mortgage systems.

According to the results of the study, the only economy where the credit channel could not be identified (neither as bank lending channel, nor balance sheet channel) was Norway. This was due to the high efficiency of the Scandinavian banking system, which is rendered into an easy access of credit institutions to funds and a diminished dependency upon deposits. As to Finland, Germany and Great Britain, there is empirical evidence concerning the presence of the credit channel. As such: the results were not conclusive for asserting a strong presence in Great Britain and Finland, the credit channel being just a possibility, while the bank lending channel does exist in Germany, Finland and Great Britain [10]. Similar studies of Diamond and Lea [12] and Lea,

Welter and Dubbel [13] confirm the inter-regional heterogeneousness of residential markets identified by Icovileo and Minetti [10]. Prior to moving forward, we would like to point out that the results of such studies are interesting, in our opinion, not due to the information regarding the credit channel in any of the analysed countries, but with a view to the differences between them and the significance on the vision regarding the possible operation patterns of the credit channel.

Conclusion

The credit channel is probably the most direct link between monetary policy actions and private economic environment aspects. It leads the effects of the central bank decisions towards the sensitive area of relationships between economic agents and the banking system, the main sponsor of their activity. Through the channel, the monetary policy decisions taken by the central bank influence both components of the lending transaction. The offer is changed by the effects of the mandatory minimum reserves concerning available funds for lending and of the actual or opportunity costs, determined by the interest rates established by the central bank for various facilities. These costs are borne by commercial banks and will be found within interest rates established for funded economic agents. On the other hand, the capacity of companies to guarantee credits affects the lending demand in the banking system, as lending necessities not

complying with certain terms given by the bank risk policy can be funded only by using higher interest rates. This changes the demand structure both quantitatively and qualitatively.

From this point of view, the conveyance of monetary policy effects through the credit channel is a sensitive area when looking for an answer concerning the optimum involvement degree of the monetary authority in the economy. This is because it represents the way in which the central bank interferes on the financial market and, in this case, the credit market. Consequently, the context for a doctrinaire dispute is created with respect to market efficiency and an expected inferior end if markets are not entirely free. However, the extreme solution where the central bank relinquishes entirely its prerogatives regarding the shaping of the relationship between the economy and the banking system is inconceivable. Moreover, due to the lack of perfect competition, the mediator role is one to be taken seriously, especially when mediation is not strictly done with respect to the funds owner and their user, but it is corroborated with the overall perspective of the central bank on the economy and the dangers caused by its over or sub-funding. As a consequence, the levers ensuring the operation of the credit channel tend towards a non-intrusive, active monetary policy which channels the economic activity to accomplishing larger objectives than obtaining an immediate profit.

References

1. Ireland Peter N (2005) The Monetary Transmission Mechanism, Federal Reserve Bank of Boston, Working Paper 06-1, November 2005 Version, <http://www.bos.frb.org/economic/wp/wp2006/wp0601.pdf>, [1 November 2012]
2. Loayza Norman, Schmidt-Hebbel K (2002) Monetary Policy Functions and Transmission Mechanisms: An Overview, in Norman Loayza and Klaus Schmidt Hebbel (eds.), *Monetary Policy: Rules and Transmission Mechanisms*, Santiago: Central Bank of Chile
3. Mishkin Frederic S (1995) Symposium on the monetary transmission mechanism. *The J. Economic Perspectives*, 9(4):3-10.
4. Bernanke Ben S, Gertler Mark (1995) Inside the black box: The credit channel of monetary transmission mechanism. *J. Economic Perspectives*, Vol. 4.
5. Mishra Prachi, Montiel Peter (2012) How effective is monetary transmission in low-income countries? A survey of the empirical evidence, IMF Working Papers 12/143. International Monetary Fund, <http://www.imf.org/external/pubs/ft/wp/2012/wp12143.pdf>, [9 November 2013]
6. Isărescu Mugur (2006) *Reflecții economice, Politici ale Băncii Naționale a României (vol II)*, Academia Română, Centrul Român de Economie Comparată și Consens, București .
7. Brealy R , Myers S, Allen F (2006) *Corporate Finance*, 8th Edition, McGraw-Hill, New York.
8. Nielsen Jeffrey H (2002) Trade credit and the bank lending channel. *J. Money, Credit and Banking*, 34(1).
9. Mateuț Simona, Bourgeois S, Mizen Paul (2006) Trade credit, bank lending and monetary policy transmission. *European Economic Review*, 50(3):603-29.
10. Icovileo Matteo, Minetti Raoul (2006) The credit channel of monetary policy: Evidence from the housing market. *J. Macroeconomics*, 30(1):69-96
11. Topel Robert, Rosen Sherwin (1988) Housing investment in the united states, *The J. Political Economy*, 96(4).
12. Diamond DB, Lea M J (1992) Housing finance in developed countries: an international comparison of efficiency. *J. Housing Research*, 3(1):1-271

13. Lea MJ , Welter R, Dubel A (1997) Study on Mortgage Credit in The European Economic Area Structure of the Sector and Application of the Rules in the Directives 87/102 and 90/88, Final Report on

TenderNo.XXIV/96/U6/21, http://scholar.googleusercontent.com/scholar?q=cache:ogZBIJmoVuEJ:scholar.google.com/&hl=ro&as_sdt=0,5, [14 November 2013]