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# On the nexus of monetary policy transmission and banking system in Morocco: An overview

# Lien entre transmission monétaire et système bancaire au Maroc : un aperçu

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#### Résumé

L'élaboration de la politique monétaire dans un pays nécessite une bonne compréhension de la transmission monétaire par laquelle les banques centrales transmettent leurs décisions monétaires au secteur réel. La réussite de cette transmission de la politique monétaire dépend avant tout de l'efficacité et de la compatibilité des canaux de transmission avec les spécificités des systèmes financiers appropriés des pays afin d'orienter l'économie dans la direction souhaitée. Cet article propose, à travers le canal du taux d'intérêt, le canal du crédit bancaire et le canal du bilan, une explication théorique des effets de la politique monétaire sur l'économie réelle et leur efficacité à transmettre correctement les décisions monétaires à la sphère réelle en prenant compte des principaux caractéristiques du système financier du pays. L'objectif est d'assurer la compatibilité de ces canaux avec les spécificités du système financier marocain afin d'apporter une contribution significative aux décisions monétaires prises par la banque centrale marocaine. Les résultats montrent comment les différents dysfonctionnements du système financier marocain ont contribué à limiter l'efficacité du canal classique du taux d'intérêt et promouvoir la prédominance des canaux de crédit.

**Mots clés :** politique monétaire ; canal des taux d'intérêt ; canal du crédit bancaire ; canal du bilan ; système bancaire.

#### **Abstract**

Monetary policy-making in a country requires a good understanding of the monetary transmission through which central banks transmit their monetary decisions to the real sector. The success of this transmission of monetary policy depends first and foremost on the efficiency and compatibility of the transmission channels with the specific features of the appropriate financial systems in the countries in order to steer the economy in the desired direction. This article proposes, through the interest rate channel, the bank lending channel and the balance sheet channel, a theoretical explanation of the effects of monetary policy on the real economy and their effectiveness in correctly transmitting monetary policy decisions to the real sphere, taking into account the main characteristics of the country's financial system. The objective is to ensure the compatibility of these channels with the specific features of the Moroccan financial system in order to make a significant contribution to the monetary decisions taken by the Moroccan central bank. The results show how the various dysfonctions of the Moroccan financial system have contributed to limit the efficiency of the classical interest rate channel and promote the predominance of credit channels.

**Keywords:** monetary policy; interest rate channel; balance sheet channel; bank credit channel; banking system.

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#### Introduction

A good understanding of monetary transmission seems to be a key element in the development of monetary policy. As a result, the effectiveness of monetary policy mechanisms is determined by the speed and capacity of monetary policy to transmit the measures taken by the central bank to the real economy in order to drive it in the desired direction. In addition, the success of this path depends on certain specificities of the economy, particularly the regulatory framework, the macroeconomic environment and the structure and evolution of the financial markets (Gigineishvili, 2011).

As part of its crucial role in the process of monetary creation, its considerable function in economic growth and development and as a financial intermediary, the banking system plays a very important role in the transmission of monetary policy. This is reflected in the growing interest of researchers in clarifying the determinants of bank behavior and the reactions of financial markets to the measures taken by the monetary authorities. In addition, the mechanism of monetary transmission has been the subject of several in-depth studies, but generally in the context of advanced economies. In addition, the literature on the study of monetary transmission in countries with rudimentary financial systems remains rather limited in theoretical and empirical research and sometimes presents contradictory results.

This research is necessary because Morocco, as a developing country, still has an unsophisticated financial market and rather timid risk management means. However, since the 1990s, it has carried out a series of reforms and liberalization measures aimed at modernizing and improving the efficiency of the Moroccan banking system in order to contribute to the achievement of strong and sustainable economic growth in the country. These reforms have included several axes including the reform of the regulatory framework of banks and the financial market, the decompartmentalization of capital markets and the liberalization of financial operations. In fact, it is about the deregulation and liberalization of banking activities through the liberalization of interest rates, the gradual elimination of compulsory employment and the dismantling of credit controls. (Chakir & Achibane, 2020), in their article, empirically confirmed the resilience of the Moroccan banking system and its capacity to counter the global crisis thanks to the shrinking size of the money markets and its unsophisticated financial products and not to the management system at its disposal. In addition, the need to

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preserve the solidity of the Moroccan banking system, pushed the public authorities to reinforce the powers devolved to the Moroccan central bank in terms of control and supervision of the banking activity and, in particular, in the conduct of the Monetary Policy.

This process of reforms and incentives and in parallel with the development and opening up of the money market has had important consequences for monetary policy. Traditionally, the old approach to monetary policy in Morocco, based on direct credit control instruments, was aimed at controlling banks' excess liquidity and their ability to create money. Today, the monetary authorities have adopted an indirect approach to the control of the money supply. This indirect instruments-based approach brings together the monetary authorities' interventions in the area of bank liquidity, more specifically, it is the role of the central bank in the balancing of bank liquidity. As a result, the new Moroccan monetary policy is now focused on two instruments, namely the control of bank refinancing by Open Market operations and the repo procedures as well as the interest rate.

The transmission mechanism of monetary policy to MENA countries has been analyzed by several researchers such as Boughrara (2009) who compared the transmission channels of monetary policy in Morocco and Tunisia through a VAR model, subdividing, the variables used in monetary policy and transmission variables and those representing the purposes of monetary policy. Its results showed the efficiency of the credit channel in both countries as well as the inefficiency of exchange rate channels and asset prices both in Morocco and Tunisia. Neaime (2008), for its part, has shown through a similar model that interest rate and exchange rate channels are effective in 6 countries (Morocco, Egypt, Jordan, Lebanon, Turkey and Tunisia).

In this sense, we try to answer our problematic which revolves around the following question: what role does the banking sector play in the transmission of monetary decisions to the real economy in Morocco? by a theoretical explanation of the mechanisms by which the banking system transmits changes in monetary policy money to the real economy in Morocco.

In the first part of this work, we propose a theoretical presentation of the transmission channels related to the banking sector: the interest rate channel, the bank credit channel and the balance sheet channel. In the second part, we discuss the compatibility of these channels with the main specificities of the Moroccan financial system in order to propose some solutions, in the third part, to improve the efficiency of monetary transmission in the country.

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## 1. Monetary policy and the banking sector: which transmission channels?

The crucial role of the banking sector in the financing of the economy in Morocco justifies the importance of the transmission channels relating to this sector in the propagation of monetary impulses to the economy.

Indeed, there are three channels of monetary transmission relating to the banking system, in particular the interest rate channel, the bank credit channel and the balance sheet channel, through which the banking system transmits changes in the orientation of monetary policy to the banking system. real sector (Peek & Rosengren, 2009)(Berg, et al., 2005).

#### 1.1. The interest rate channel

The interest rate channel Explores the variations in the money supply and nominal interest rates on which the Central Bank influences output, inflation and hence the economy (2014).

Blanchard and COHEN (2017) state that the interest rate is set by the law of supply and demand of the Mint. In other words, when the Central Bank declines to buy securities to increase the supply of money, the demand for securities increases, which leads to accreditation of their premium and a decrease in the interest rate and vice versa. But more, the etching of the market between supply and demand and the interest and disinterest of the other, May the Central Bank in fact fixed and only disinterest (Frideman, 2000).

In this mechanism, the role of banks appears in the constraint of the reserves imposed on them. Tandem that the Central Bank is able to influence the interest rate by changing the supply of the Currency, but the decline in open market operative contraction bank reserves, causes a fearse of the amount bank deposits and an increase in the nominal interest rate (Peek & Rosengren, 2009). With price rigidity and rational expectations, a change in the nominal interest rate changes the real interest rate and the long term, which has repercussions on investment, consumer spending and thereafter global production (Mishkin, 1996).

#### 1.2. The bank credit channel

According to Peek and Rosengren (2009), this transmission mechanism focuses on the structure of bank balance sheets. Indeed, a restrictive monetary policy, which helps to limit bank reserves and deposits, or even a decline in balance sheet liabilities, encourages banks to adjust their assets. Due to the imperfect substitutability for commercial banks between

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deposits and other refinancing means, this results in a decrease in the supply of bank loans and subsequently a reduction in investment expenditure (berg, et al., 2005).

It is fundamental to pay greater attention to the mission of banks as a key success factor in this mechanism. Schmitz (2004) reveals in his work, based on a literature review, that there are many characteristics that can influence the response of banks, particularly in terms of bank loans, to monetary tightening such as size, capitalization and bank liquidity.

Mishkin (1996), starting from the typical role of banks in solving information asymmetry problems in the credit markets, has shown that some companies are faced with the constraint of having difficulty accessing the credit market without recourse, to the banking system. At the same time, he stressed that large companies are less impacted by monetary policy because they have the ability to trade in credit markets without requiring the intervention of banks, which is not the same for banks, small businesses that need bank loans to finance their investments.

#### 1.3. The balance sheet channel

Bernanke and Gertler (1995) in their article, developed the idea that the financial situation of the borrower is also affected by monetary policy such as interest rates. In particular, monetary tightening weakens the borrower's net worth through cash flow, so an increase in interest rates directly degrades the borrower's balance sheet by increasing its borrowing costs. operating costs, including interest expense, thereby reducing net cash flow. Considering that many companies need short-term debt to finance inventory and working capital, the negative impact of monetary policy on cash flow is likely to weaken the company's financial position, increases the external financing premium and agency costs. He adds that stock prices are also affected by a restrictive monetary policy that contributes to lowering the borrower's net worth.

In this respect, the problems of information asymmetries on the credit markets between lenders and borrowers have been the origin of the diffusion of this channel. In other words, the problems of adverse selection and moral hazard resulting from a deterioration in the net worth of an economic agent constitute an obstacle to obtaining external financing, which weakens the ability of the company to finance itself and subsequently to invest (Mishkin, 1996) (Betbèze et al., 2011).

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Further efforts are made to provide a clear explanation of how broad and strict credit channels operate in the transmission of monetary policy to the real economy (Black & Rosen, 2007) (Kuttner & Mosser, 2002) and to illustrate how banks and their balance sheets are an essential segment for studying the effects of monetary decisions (Kapuściński, 2016).

## 2. Problem of monetary policy transmission

The monetary transmission mechanism in developing countries differs from that in emerging and advanced economies for several reasons based mainly on the structures of financial systems. Indeed, dysfunctional securities, equity, and real estate markets, limited linkages with international capital markets, and extensive monetary authority intervention in the foreign exchange market are the main features of financial systems in underdeveloped economies (Mishra, et al., 2013).

These financial system specificities have a significant impact on the interest rate channel. As a result, they have contributed to limiting the efficiency of the interest rate channel and enhancing the role of credit channels. Moreover, the central bank's dependence on the political authorities in these economies affects its credibility image and may therefore affect its decisions and actions in the money markets (short-term interest rates) and its investment policies (long-term interest rates), which will have a negative impact on the efficiency of the interest rate channel.

Several efforts have been made by the Moroccan economy (small open country) to improve the effectiveness of monetary policy and to bring it closer to the winds of liberalization coming from developed countries. As a result, the Moroccan central bank (BAM) had changed its approach to credit by resorting to indirect modes of intervention such as credit dismantling, interest rate liberalization and open market operations, paving the way for the liberalization of banking activity.

However, the effectiveness of monetary policy is mainly related to the degree of development of financial markets. Indeed, the high concentration of financial markets in developing countries, which can be explained by the inadequacy of the regulatory framework, has limited the intermediation rate of the banking sector as well as hindered the access of firms to financial markets as individual creditors because of inefficient collateral registration systems.

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Similarly, long-term financing is also limited in developing countries due to a lack of liquidity in capital markets.

In the case of Morocco, an interesting improvement in the functioning of the banking system and an observed development in banking concentration has been recorded in recent years. As a result, the Moroccan banking sector has grown from 21 banks in 2000 to 16 banks in 2006 and 19 banks in 2017. However, this development remains less significant compared to those of developed countries, since nearly 20% of Moroccan credit institutions concentrate only nearly 64% of banking activity, whereas in France, for example, nearly 10% of credit institutions concentrate nearly 90% of banking activity. Moreover, commercial banks represent one of the main sources of financing for households and businesses in the country. However, the low remuneration of deposits and the high level of interest rates on loans weakens the openness of the banking system to competition.

Chileshe and Akanbi (2016), in their work, examined the effect of bank competition on the transmission of monetary policy, particularly the transmission of interest rates in Zambia as a developing country. They found that weak competition among commercial banks raises short-and long-term lending rates and hinders the transmission of monetary policy changes to interest rates, thus weakening the interest rate channel mechanism.

Furthermore, according to Gigineishvili (2011), the interest rate mechanism can be broken down into two stages: from central bank actions to the interbank rate and from the interbank rate to the interest rate. At each stage, the transmission of these rates must be simultaneously complete to allow a perfect response to changes in the policy rate, and rapid, since the associated response times also have implications for the effectiveness of monetary policy. These conditions are met more in countries with advanced and sophisticated financial markets than in those with less developed markets. In the context of the Moroccan economy, the transmission of monetary policy through the interest rate does not yet seem relevant because of the nature of the financial system, which has not yet been able to move definitively from a debt-based to a market economy system.

More specifically, informal credit markets are very important in the underdeveloped economies, which allow the short-term effects of demand on inflation to diminish, leading to a weakening of the short-term interest rate channel. Similarly, Mishra et al (2013) showed that the size of the formal financial sector also affects the monetary policy transmission

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mechanism. Indeed, the decomposition of the monetary transmission process can be done in two phases: from central bank actions to financial variables and from those variables to aggregate demand. Owing to the small size of the formal financial system in these countries, the interactions between the economy and the formal sector always remain limited in relation to the size of the economy, which dampens the impact of monetary policy on financial variables and subsequently on aggregate demand.

In this respect, Wulandari (2012), in his article, has shown that the role of the interest rate channel is very important for the maintenance of inflation while it is limited in economic growth. Nevertheless, in developing countries, informal credit markets play a very important role, which makes it possible to diminish in the short term the effects of demand on inflation, leading to a weakening of the short-term interest rate channel.

In the case of Morocco, the informal sector weighs more than 20% of the gross domestic product, it has been estimated at 14.96 billion Euros in 2018. 14.96 billion in 2018, a figure that represents the significant size of the informal economy in the kingdom. This can impact the transmission circuit of monetary decisions to the real economy, particularly in terms of the interest rate channel. Indeed, when the central bank restricts its monetary policy, the demand for loans may be directed towards the informal credit market, subsequently causing a long-term increase in informal credit rates that is faster than the lending rates of the formal market. In addition, loan applicants will benefit from the lower rates in the informal credit market, which reduces the pass-through of the increase in the policy rate to the general price level.

Monetary policy exerts its effects through the credit channel in the strict sense by modifying the conditions under which loans are granted (the bank lending channel) and in the broad sense by modifying the external financing premium (the balance sheet channel) (Beaudu & Heckel, 2001). In his work, Schmitz (2004) shows that the credit channel is stronger in countries with less developed capital markets where firms are unable to obtain external financing without seeking bank financing. Thus, in a highly concentrated financial market, a restrictive monetary policy will have a considerable impact on bank deposits through the bank credit channel, since banks do not have enough instruments to protect themselves against monetary shocks, so that deposits are the main source of financing for these banks (Sanfilippo-Azofra et al., 2017) (Adams & Amel, 2005).

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In order to examine the transmission of monetary policy in Morocco and Tunisia, Boughrara (2008), in his work, showed the weakness of exchange rate and asset price channels in these countries. In addition, he found that the credit channel is stronger than the traditional interest rate channel.

Moreover, firms that rely on bank-based financial systems also face more monetary changes than those in countries with market-based financial systems because of their ability to finance themselves through multiple channels (Lopez Iturriaga, 2000).

## 3. Some ways to an Effective Monetary Policy

In spite of the remarkable development in the transmission of monetary policy in Morocco in recent years, which can be noted as insufficient and incomplete to maintain stability and achieve the desired growth, we believe that further efforts should be made in the following ways to improve monetary transmission in the country.

- The new approach to indirect instruments adopted by the Moroccan monetary authorities requires the establishment of a developed and dynamic money market in order to enable the central bank to play its regulatory role effectively by influencing interest rates and bank liquidity through its interventions.
- The banking system must be reorganized through a process of opening up to competition in order to ensure the function of transmitting impulses between Bank el Maghrib and commercial banks.
- It is imperative that concerted efforts be made by the Moroccan authorities to bridge the gap between the formal and informal financial sector by developing a specific regulatory framework to better support the integration of informal production units, and by strengthening the services of microcredit institutions to better expand the range of financial products for small and medium-sized enterprises.
- The independence of the Moroccan central bank must be strictly respected by all government subsidiaries, since the aim is to strengthen the credibility of monetary policy and to have more powers to better manage it serenely

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#### Conclusion

The importance of monetary transmission and the objective of monetary policy-makers to understand how it works has given rise to a great deal of theoretical and empirical research in recent decades. Theoretical results confirm the important role of financial intermediaries both for the transmission of monetary policy and for financial stability. Since the article has focused to some extent on the channels of the monetary policy transmission mechanism related to the banking sector, we have been able to conclude that the interest rate channel mechanism focuses mainly on the demand for loans from different economic agents, whereas the credit channels focus more on the supply of these loans by financial intermediaries. Moreover, the problems related to the structures of the Moroccan financial system explain the low level of its economic development and contribute to the dysfunction of the classical interest rate channel. Given that the role of the latter is incomplete and that banks are the main financial intermediaries in the Moroccan economy, the credit channels are probably powerful and dominant, especially the balance sheet channel, increasing the external risk premium during periods when bank loans are abandoned, making the effectiveness and reliability of monetary policy transmission in Morocco dependent on the properties of these channels.

In this sense, we take the liberty of asking the following questions: how can a change in monetary policy affect the supply of bank loans? and to what extent can a change in the supply of loans affect the economy? the answers to these questions may be the subject of future work and research projects.

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