EXTERNAL FACTORS FOR THE MONETARY POLICY TRANSMISSION MECHANISM

Dan Horaţiu
Economics and International Business Department, The Faculty of Economics and Business Administration, Babes-Bolyai University, Cluj-Napoca, Romania
dan.horatiu.sorin@gmail.com

Abstract*: This paper reviews and analyzes the effects that external (or exogenous) factors, defined as economic factors that cannot be controlled or influenced by the central bank, have on monetary policy and the monetary policy transmission mechanism. Adopting a theoretical research position, we aim at identifying the main external factors to monetary policy and discuss the ways in which these factors alter the economic environment and implicitly the monetary policy transmission mechanism. This is done by changing the way in which monetary transmission channels work and deliver monetary policy decisions throughout the economy, with the final goal of producing central bank desired outcomes with regard to economic variables like inflation, employment, or the production level. We will begin this article with a brief introduction on the topic of monetary policy, the monetary policy transmission mechanism and the potential external factors that may influence the monetary policy and the functioning of its transmission mechanism. The main external factors are identified as linked to fiscal policy, commodity prices, financial market volatility or other globalization related processes. After this introduction, we will proceed with the analysis of the nature and influences of each of the above mentioned external factors on monetary policy and its transmission, indentifying the potential ways in which they can change the structure and internal processes of the transmission channels. As we will see in the study and highlight in our conclusion, the external factors cause decisive changes in the way monetary policy is transmitted, and thus will strongly influence the decisions that central banks take in order to alter key economic variables. The profound understanding of how these non-central bank controlled factors influence the monetary policy transmission mechanism is a key requirement for central banks, as only by being able to predict, recognize and evaluate the effects of current or future external factors can they succeed in reaching their monetary policy objectives.*

Keywords: external factors; monetary transmission.

JEL classification: E52; E59.

1. Introduction

According to Taylor (1995: 11), the monetary policy transmission mechanism is defined as the process through which monetary policy decisions are transmitted, with effects on the real gross domestic product and inflation. A more detailed definition is given by Ireland (2005: 1). He regards the transmission mechanism as describing "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",

adding that "specific channels of monetary transmission operate through the effects that monetary policy has on interest rates, exchange rates, equity and real estate prices, bank lending, and firm balance sheets". The European Central Bank's observation completes the picture: "The transmission mechanism is characterized by long, variable and uncertain time lags. Thus it is difficult to predict the precise effect of monetary policy actions on the economy and price level."

Besides the endogenous elements composing the monetary policy transmission mechanism and its five channels: the expectations channel, the interest rate channel, the asset price channel, the credit channel and the exchange rate channel (Loayza, Schmidt-Hebbel, 2002: 4-6), elements which we call endogenous because they can be controlled directly by the central bank, there are also other factors that influence the monetary transmission. We will refer to these factors as being external, or exogenous, in the sense that they fall out of the central bank's control area, so that their perturbances in the way monetary transmission functions can't be tackled directly. Instead, the central bank must learn to identify these factors, predict their occurrence and evaluate the changes brought in the transmission mechanism, so that it may adapt its monetary policy decisions to the new environment.

According to Gokarn and Singh (2011), central banks need to pay special attention to the external factors affecting the transmission channels dealing with exchange rates, credit and asset prices and evaluate the consequences of changes in the structure of these channels on production levels and price and financial stability. It is a view that we adhere to, as these channels are most exposed to the global economy and to globally formed market prices, which can induce channel structural changes that may become real obstacles in the central bank's mission.

External factors are of many types and often difficult to predict. This may prove to be a problem, as external factors have the capacity to bring upon major changes in the socio-economic climate. The most pertinent example is that of the 2007 subprime crisis, which shortly developed into a worldwide crisis, affecting virtually all aspects of the economic life, determining the deterioration of world economic indicators and forcing central banks from all over the globe to adopt a different, sometimes unprecedented, strategy regarding monetary policy as they were trying to revigorate the economy and bring growth and employment back on track without forgetting about the inflation targets.

We can identify a whole series of exogenous factors that can have major influences on the way in which monetary transmission mechanisms work. Our goal however is not to generate an exhaustive list of such factors, as this list would be both very long and constantly changing due to the processes of metamorphosis that take place all the time in the economic climate. Instead, our aim is to identify and analyze the main such factors, which, besides having the biggest probability of occurrence, also illustrate a general pattern of change induction that might be relevant to the effects of other exogenous elements that may influence the economy and the transmission mechanism at a given time. Bearing this in mind, we will continue by naming these main external factors:

- commodity prices
- changes in global economy, correlated with the continuation and acceleration of the globalization process
- volatility of financial markets
- fiscal policy.

The next pages will be dedicated to analyzing each of these factors and indentifying the processes through which they are influencing the general economic environment and the monetary policy transmission mechanism.

2. Commodity Prices

The changes in commodity prices represent an important external factor, with a high disruptive potential on the transmission mechanism channels, especially the asset price channel. In order to be as clear as possible, we are referring to the commodities whose prices are either established on the global market, or present a high degree of correlation with it when formed locally and which are consistent with at least one of the following criteria:

- they represent important enough raw materials for products and services produced or consumed internally so that price fluctuations will reflect in the inflation level
- have a weight in the commercial balance that is big enough to have their price changes determine commercial balance fluctuation.

We need to underline the aspects regarding the changes in commodity prices and their impact on the economic climate in general and the inflation level in particular, as shocks in commodity prices represent, together with fluctuations in exchange rates due to external causes, the main gateway through which exogenous factors influence inflation (Gokarn and Singh; 2011).

Placing ourselves in the first determinant scenario outlined above, we observe that the commodity price level has, in the first place, a direct impact on production costs, eventually reflecting itself in the production level and finished goods prices through the demand and offer mechanism. So, a positive evolution of commodity prices contributes, with an intensity depending on the elasticities of demand and offer, to the diminishing of production and growth of inflation.

In the second case and in the absence of the validity of the first scenario which was already discussed, the economy is a net exporter of that particular commodity or derived goods, which means that it is sensitive to the capital flows resulting from the transaction. The size and variation of these flows have an impact on inflation through the rise of disposable income. Also, a long period in which such flows exist may favor the development of bubbles within the economy which, if followed by a sudden drop in international prices (which means a drop in capital flows generated by exports), may burst, creating instability and making it a lot harder for the central bank to reach its macroeconomic objectives.

Another way in which changes in commodity prices influence unemployment and inflation lies in the propagation mechanism of this kind of shock. More precisely, a change in commodity prices influences the natural rate of unemployment, which is in fact the rate of unemployment required to keep a steady inflation rate (Rissman, 1986: 3). For a better understanding of the dynamics of this process, we will focus on a clear example, let's say a sudden rise in the price of oil. This will determine the natural rate of unemployment to rise, under the pressure of two factors. First, a superior oil price has effects on raising the production costs for different products, determining the producer to try to compensate, at least partially, by lowering costs with labor. On the other hand, real expenses of consumers rise, as does the level of production due to the interaction of demand and offer (Bessinger, 2001: 3-4). From here to inflation there is only one step left, given by the expectations augmented

Phillips Curve. According to the theory, ”the change in the inflation rate depends on the difference between the actual and the natural unemployment rates. When the actual unemployment rate is higher than the natural unemployment rate, the inflation rate decreases; when the actual unemployment rate is lower than the natural unemployment rate, the inflation rate increases." (Blanchard, 2006). The relationship is however valid only in the short-term (Phelps, 1969). So, in conclusion, a sudden rise in oil price will put pressure on inflation only in the short run. Sufficiently however to create economic perturbances.

3. Financial Globalization and Monetary Policy

Financial globalization is a long-term process, very difficult to reverse and, most importantly, in a continuous state of evolution. Bearing this in mind, the influence that financial globalization has on monetary policy and the structure of its transmission mechanism can prove to be a real challenge for central banks and their need for control. This however does not mean that financial globalization is always a bad thing from a central bank point of view, just that it alters the rules of the monetary policy game and makes it much more complex.

The process of financial globalization is probably one of the most visible effects of the decisions and economic architecture inspired by neoliberal principles and it is characterized by a complex series of elements. Out of these, the most important are the ones regarding changes in both public and private sector through easy access to capital, which, more than ever, became a „global good” and the ones concerning the process of integration in the banking system, which, in the broader context of dereglementation, has become a catalyst for development with little or no obstruction from national borders. Taking a complementary view on all these, Bădulescu (2007) identifies three components of financial globalization: decompartimentation of markets, financial dereglementation and de-intermediation. On the same subject, Aglietta (1999) writes that financial globalization is associated with transformations which have affected the functioning principles of finance and that these transformations are closely connected with the liberalization of national financial systems and international integration.

Financial globalization is, without any doubt, among the economic realities that have dominated the world macroeconomic environment after the Second World War until today. Formally enounced as one of the ten points of the Washington Consensus (Williamson, 1989), a set of economic prescriptions which basically summarize the neoliberal economic approach, and omnipresent in the economic policy promoted in the last decades, the objective of financial globalization seems to have been reached. However, one can argue that the economic effects have not been entirely the ones hoped for. In a global society based on the profoundly human desire of expansion, financial globalization is combining forces with financial dereglementation and a high degree of financiarization, term used to describe the process of translating different aspects of production and economic activity into market-traded financial instruments, often very esoteric in nature. In this context, the highly mobile and, due to leverage and derivative financial instruments, highly expandable capital, has created the largest bubble in history, with effects on all economic agents, from households to banks, private companies and sovereign states. The overwhelming majority of the world's economies are part of a global financial market which functions based on a cumulus of factors, most of them

external to each individual economy. This modifies the individual national economic behavior, seeking adaptation to a given supra-national environment.
In a critic note towards the neoliberal views that have dominated economic decisions in the last fifty years, Subbarao (2012) makes a clear distinction between what he calls financial liberalization, associated with the financial globalization promoted by neoliberals, and commercial liberalization. He argues that, while the latter is beneficial to all parties involved, the former may prove itself to be very dangerous due to the fact that it makes economies more fragile and increases their exposure to considerable epidemic risk, as has economic history shown so many times. On a more conservative tone, Bernanke (2007) states that even though „globalization has not materially affected the ability of the Federal Reserve to influence financial conditions in the United States, nor has it led to significant changes in the process which determines the U.S. inflation rate, (..) effective monetary policy making now requires taking into account a diverse set of global influences, many of which are not yet fully understood".
Having these in mind, it's worth mentioning that in 2007 The Federal Reserve Bank of Dallas created a special department whose task is to study the effects of globalization on monetary policy in an open economy, seeking to achieve a greater understanding of the way in which world financial integration influences the American macroeconomic climate.
In this context, the high degree of financial globalization plays a key part in the way that each central bank elaborates it monetary policy, as the overall impact of external factors on the economy and the monetary policy transmission mechanism is strengthened, while in the same time it becomes more interconnected with transmission mechanisms and policy decisions of other monetary areas. In this way, variables like interest rates for other currencies or global financial market prices become crucial elements that the central bank needs to take into consideration when designing its monetary policy, even if they are external to the economy in which the central bank operates. In conclusion, the less important the economy in which a given central bank operates, the less internal control does it have. This happens because, due to financial globalization, the exogenous pressures are relatively higher. Also, this is correlated with the fact that in this case, the central banks' own actions do not constitute important exogenous elements from an international point of view and thus have little influence on the international economic environment. As a result, the central bank is being often forced to shift its actions from a constructive approach to one that constitutes a reaction to external developments. This theory is confirmed by a series of studies which demonstrate the force that monetary policy decisions and transmission mechanism functioning of large economies have over smaller economies, interfering directly with their monetary transmission and affecting their economic variables, as their national bank has little to do about this. From the studies on this subject, we point out those of Awad and Goodwin (1998), Bremnes, Gjerde and Saettem (2001), or Bayoumi and Switston (2007). They conclude that the movements in US interest rates have a greater effect on interest rates in other advanced economies than the changes in the interest rates of those economies have over the indicators in the USA. Also, Ehrmann, Fratzscher and Rigobon (2005) show that, under the pressure of globalization, the intensity of mutual shocks in interest rates between the USA and the Euro Zone have risen, while Ehrmann and Fratzscher (2006) reached the conclusion that non-US market stock prices react to the Federal Open Market Committee (the organism within the US Federal Reserve

that is responsible with open market operations, minimum reserve requirements levels and standing facilities) announcements. Not surprisingly, they also found out that the intensity of these reactions is positively correlated with the level of openness of that particular economy.

Things look in a similar fashion when it comes to the effects of the high degree of banking integration exhibited by the world economy, a phenomenon that alters the functioning of the credit channel within the monetary policy transmission mechanism and thus undermines the control that the central bank has over the economic variables. This is confirmed also by the study of Cetorelli and Goldberg (2009). They point out that, in 2006, more than 65% of the total bank assets were held by banks having a global orientation, a proportion that has been continuously increasing since 1980. In this context, they study banks that have headquarters in the USA and conclude that these global financial institutions create their own internal micro-markets between the central headquarters and the foreign subsidiaries, which implicitly means that they have their own transmission channels. This fact grants them a high degree of independence from the central bank's actions, as they are able to manage capital flows between headquarters and different foreign subsidiaries as a response to monetary policy decisions. The effects of this structure are dual: internally the monetary policy transmission mechanism is weakened; externally, it favors the propagation of monetary shocks generated by the Fed, which act as external factors. Even if it centers on US based global banks, the conclusions of the study can easily be extended to a global level, dividing the world's open market economies in two categories: the ones which have an expansionist banking system, with subsidiaries and holdings at an international level, and those which have their banks dominated or controlled by foreign ones. And as we have already seen, this has a great impact on weakening central bank control over its own economy in both types of monetary zones.

For the picture to be complete, the monetary and financial environment is becoming more and more subject to extreme volatility, a situation which questions neoliberal concepts like rationality of economic agents and market efficiency. We can best illustrate this by taking a look at the high volume foreign exchange (Forex) market. Theoretically, high volumes should provide protection against volatility as there are no players big enough to influence prices by means of market transactions. Practically however, the Forex market is subject to high volatility, a phenomenon that, in our opinion, cannot be explained by looking at the currency fundamentals, but is a direct consequence of psychological factors and speculative objectives, thus providing a clear proof that markets don't function as smoothly or as efficient as neoliberal thinkers would argue.

4. Financial Market Volatility

High financial market volatility is one of the main factors outside the central bank's control that influence monetary transmission, as financial markets are one of its crucial components, having strong effects mainly on the asset price, credit and exchange rate channels. Also, a high level of volatility augments the influence on the economy of other external factors, like the commodity prices, via volatility on Forex markets. But before going any further, let us clarify what we mean by financial market volatility. According to Kotze (2005: 1-2), the term describes a series of prices or economic variables that are frequently subject to change and wide balances. It

actually measures the dispersion around a central tendency, being a measure of changes in price. Let us now briefly turn our attention to the notion of financial market, which we define as a market where financial instruments are traded. According to the International Accounting Standard 32 (2013: A879), "A financial instrument is any contract that gives rise to a financial asset of one entity and a financial liability or equity instrument of another entity". Mishkin and Eakins (2006: 3-8) name each type of financial markets: the money market, the stock market, the bond market, the mortgage market, the foreign exchange market, the money market and the international financial system. Returning to the subject of financial market volatility from a central bank point of view, even though sometimes central banks have the possibility to intervene on the markets and smooth out some of the volatility, we will still regard volatility as an external factor because these kind of actions performed by the central bank are both expensive and strongly limited in their application methodology, effectiveness and efficiency.
In a market environment characterized by high volatility, the functioning of monetary policy transmission channels is altered, as the effects of monetary policy decisions on financial market prices, which constitute important drivers of transmission through the asset price, credit and exchange rate channels, are relatively smaller. In other words, financial market volatility either attenuates or augments the central bank's actions and thus alters its ability to control macroeconomic variables like employment, production or inflation.

5. Fiscal Policy

Alongside with market volatility and changes in global economy and commodity prices, which have an extended geographical impact, there are also factors that operate at a local level. Out of these, the most important one is represented by the changes in fiscal policy and the impact of taxation and public spending on production levels, unemployment and inflation.
First of all, we need to underline the role that taxes play in the government made budget, as they constitute (one of) the main sources of income. So, at a constant level of public spending, there is a clear relationship between the taxation levels and the budget deficit (or surplus), as raising taxes will lower the deficit (or raise surplus) and, vice versa, lowering taxes will raise the budget deficit (or lower the surplus). More concretely, let's take the case of a lowering in taxation, which, according to Blanchard (2006: 553-572) will have effects on short, medium and long-term, as following:

- on the short run, because of the extra sums available to consumers and other economic agents, the consumption will rise, which will lead to a rise in the production level
- on the medium run, the production level remains unchanged. There are however consequences regarding the interest rate, which will be higher, and on new investments, which will be lower
- on the long run, the production level drops because of the higher budget deficit which will put pressure on capital accumulations.

The effects that the fiscal policy has on the monetary policy transmission mechanisms can be of a disruptive nature, but they can also be complementary to monetary policy. In this context, the lack of correlation between fiscal and monetary policy, the former controlled politically and the latter by an independent central bank,

can lead to suboptimal economic outcomes. On the other hand however, a commonly elaborated strategy can ensure that national budgets are created in such a way that they contribute to the uniformization of economic fluctuations and thus providing an improved transmission of monetary policy actions. Friedman (2008: 53) even states that intermediary monetary policy objectives regarding consumption and investment levels can't be reached without a high correlation between fiscal and monetary decisions. We subscribe to this view, as we also hold as crucial both the government capacity to attract investments by using fiscal instruments and the high influence, from a Keynesian perspective, that the level of public spending has on the production level and, through this, on unemployment and household consumption. This is perhaps one of the main weaknesses of the European Union construction, as monetary policy is centralized and unique, while fiscal policy is decided at national level. This creates inconsistencies in fiscal policy around the EU and makes correlation with monetary policy virtually impossible, especially in the case in which national governments often choose to ignore the articles of the Maastricht Treaty regarding the restriction of the budget deficit or the ratio between public debt and the gross domestic product. We feel that addressing this issue should represent one of the prevailing objectives of the EU, perhaps taking as a model the more efficient structure of the USA, where even if individual states hold some fiscal autonomy, important fiscal issues are still decided in Washington, thus allowing correlation with the Federal Reserve's monetary policy decisions.

Fiscal policy may also have an impact on closing or widening the gaps between different regions through differences in taxation levels for different economic branches that exhibit relevant geographical concentration and through practices regarding transfer of funds between rich and poor areas. In this way, fiscal actions aimed at uniformization may contribute to a more homogenous monetary policy transmission mechanism (Fatas, 1998: 165).

Before moving forward, it's necessary to focus attention on the way in which expectations regarding future fiscal policy may influence production. For this, we rely on Rankin's (1998) study, which concludes that uncertainty towards future fiscal policy actions may have negative effects on demand in the present, with consequences on prices and productivity. The case of Cyprus, where, while these lines are being written, markets are facing a high level of uncertainty generated by the unknown effects of some controversial bank restructuring actions, is a good (and ongoing) example.

6. Conclusion

The economic climate, and implicitly the monetary policy transmission mechanism, is constantly under pressure from factors that originate from outside the reach of the central bank and often even from outside the control of other national institutions. The external factors have a strong impact on the transmission processes that take place within the monetary policy transmission channels, and thus influence central bank decision-making, as it changes the structure of the cause-effect chain between decisions and economic outcomes. This is a reality which has become more obvious as the processes of globalization and economic and financial integration deepened and is something that the central bank can't fight and from this reason should not even try to. However, this changes the rules of the game that the central bank plays, forcing it to become more alert to potential external shocks and more adaptable to

their effects, so that the decisions it takes successfully navigate through a modified transmission mechanism and alter the economic variables in the intended fashion. The general changes in the global economy, shocks in commodity prices, financial market volatility and national (but non-central bank controlled) fiscal policy are just the main external factors that can modify the transmission mechanism's structure by directly affecting the way in which the transmission channels work. But other exogenous factors may originate in a wide range of external events and the central bank needs to be efficient in clearly identifying the mutations induced in monetary transmission. In an ever more global economy, this ability of the central bank is a crucial condition for the accomplishment of monetary policy objectives.

References

Aglietta, M. (1999) *L'economie mondiale 2000*, Paris: La Decouverte

Awad, A.M. and Goodwin, B.K. (1998) "Dynamic Linkages Among Real Interest Rates in International Capital Markets", *Journal of International Money and Finance*, Vol. 17, pp. 881-907

Bayoumi, T. and Swiston, A. (2007) *Foreign Entanglements: Estimating the Source and Size of Spillovers Across Industrial Countries*, IMF Working Paper WP/07/182

Bădulescu, D. (2007) *Globalizarea şi băncile: cu o privire special asupra Europei Centrale şi de Est şi asupra României*, Bucureşti: Editura Economică

Bernanke, B.S. (2007) *Globalization and Monetary Policy*, Available: http://www.federalreserve.gov/newsevents/speech/bernanke20070302a.htm [19 Mar 2013]

Bessinger, T. (2001) *Oil Price Shocks and the NAIRU*, University of Regensburg Discussion Paper No. 354

Blanchard, O. (2006) *Macroeconomics,* 4th edition, New Jersey: Perason Prentice Hall

Bremnes, H., Gjerde, O. and Saettem, F. (2001) "Linkages Among Interest

Cetorelli, N. and Goldberg, L. (2009) *Globalized banks: lending to emerging markets in the crisis*, Federal Reserve Bank of New York Staff Report no 377

Ehrmann, M. and Fratzcher, M. (2006) *Global Financial Transmission of Monetary Policy Shocks*, ECB Working Paper Series no. 616

Ehrmann, M., Fratzscher, M. and Rigobon, R. (2005), *Stock, Bonds, Money Markets and Exchange Rates Measuring International Financial Transmission*, ECB Working Paper Series, No. 452

Fatas, A. (1998) "Does EMU Need a Fiscal Federation", *Economic Policy*, Vol. 13, No. 26, pp. 163-204

Friedman, B. (2008) "What Objectives for Monetary Policy?", in Touffut, J.P. (ed.) Central Banks as Economic Institutions, Cheltenham: Edward Elgar Publishing

Gokarn, S. and Singh, B. (2011) "External factors and monetary policy: Indian evidence", *BIS Papers No 57: The influence of external factors on monetary policy frameworks and operations,* Monetary and Economic Department

International Accounting Standard 32 (2013), Available: http://www.ifrs.org/IFRSs/Pages/IAS.aspx [11 Mar 2013]

Ireland, P.N. (2005) *The Monetary Transmission Mechanism,* Federal Reserve Bank of Boston, Working Paper 06-1
Kotze, A. (2005) ”Stock Price Volatility: a primer”, *The South African Financial Markets Journal*, 1st Online Edition, Available: http://www.quantonline.co.za/documents/Volatility.pdf [1 Mar 2013]
Loayza N. and Schmidt-Hebbel K. (2002) *Monetary Policy Functions and Transmission Mechanisms: An Overview,* Central Bank of Chile, Monetary Policy: Rules and Transmission Mechanisms
Mishkin F.S. and Eakins S.G. (2006) *Financial Markets and Institutions,* 5th edition, Boston: Pearson Addison Wesley
Phelps, E.S. (1967) ”Phillips Curves, Expectations of Inflation and Optimal Unemployment over Time”, *Economica*, New Series, Vol. 34, No. 135, pp. 254-281
Rankin, N. (1998) ”How Does Uncertainty about Future Fiscal Policy Affect Current Macroeconomic Variables?”, *Scandinavian Journal of Economics*, Vol. 100, No. 2, pp. 473-494
Rates in the United States, Germany and Norway”, *Scandinavian Journal of Economics*, Vol. 103, No. 1, pp. 127-145
Rissman, E. (1986) ”What is the natural rate of unemployment?”, *Economic Perspectives*, Vol. 10, No. 5, pp. 3-17
Subbarao, D. (2012) *Quantitative easing – unconventional policy response to the financial crisis,* Available: www.bis.org/review/r121011g.pdf [17 Mar 2013]
Taylor, J.B. (1995) *The Monetary Transmission Mechanism: An Empirical Framework,* The Journal of Economic Perspectives, Vol. 9, No. 4., pp. 11-26
Williamson, J. (1989) ”What Washington Means by Policy Reform”, in Williamson, J. (ed.) *Latin American Readjustment: How Much has Happened*, Washington: Institute for International Economics