Aspects Regarding the Identification of Factors that Influence the Properties of the Transmission Channels of Asymmetric Macroeconomic Shocks from the Perspective of External Equilibrium

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Abstract

The external equilibrium, which is the equality between inflows and outflows of goods, services, income and current transfers over a determined period of time (usually 1 year), and signifies the compensation of the current account deficit with the surplus of the capital and financial account, represents an important element in determining the external competitiveness of a country or a region of the world. The external competitiveness and implicitly the evolution of the balance of payments become more problematic in the context of the manifestation of asymmetric macroeconomic shocks. Thus, using intuitive methods based on theoretical and practical tools, the article aims at identifying the main influence factors of some properties of the transmission channels of asymmetric macroeconomic shocks and the effects of asymmetric macroeconomic shocks on the external equilibrium, as well as at understanding their functioning in the market economies.

Keywords: balance of payments, transmission channels, macroeconomic asymmetric shocks

JEL Classification: F15, F42, F62, G01

Introduction

The economic literature identifies several transmission channels of external shocks among which we mention those that have received a special attention, namely: the financial channel, the commercial channel, the exchange rate channel, the confidence channel and the contagion channel. The mode of transmission of shocks through the channel depends on the factors that are transmitted, on the medium of transmission and also on the medium on which the shocks are transmitted (for example the structure of the national economy). The structure of the national economy is influenced by a number of factors such as: the stability and the efficiency of domestic macroeconomic policies, the economic, the commercial and the financial openness of...
a country, the structure of the external debt, the soundness of the domestic banking sector, the national mentalities regarding the private property, the fairness and the stability of the legal system of the country etc.

The more a country is integrated into an economic and monetary union the more it increases its trade and financial integration, thus these channels become predominant in the transmission mechanism of a phenomenon or an asymmetric macroeconomic shock. The integration process unfolds simultaneously with the process of globalization. The globalization acts as a process with many directions, sometimes divergent: on the one hand, it requires a specialization, a geographical fragmentation of the production, so that it can provide increased efficiency of the costs and, on the other hand, it creates the need for diversification, so that each country, field of the economy or company should occupy a niche. Thus, given these international “force fields” (such as the European integration, the globalization process etc) the functioning of the transmission channels can involve specific features and can suffer important changes in time and space. The same disruptive effect is produced also by the international economic and financial crisis\(^2\) that has strongly increased the flow of factors that are transmitted through the channel, so that their effects have become hard to identify both in the channels and also at destination, due to the interaction between the factors.

An Analysis of the Operation of the Transmission Channels of Asymmetric Macroeconomic Shocks over the External Equilibrium

In this section, we aim to identify the main channels of transmission of asymmetric macroeconomic shocks over the external equilibrium and to understand their functioning in the market economy.

Analyzing the trade channel, we find that through this channel, the international financial and economic crisis has generated the slowing of the commercial exchanges by a significant variation in prices and in exchange rates.

The commercial channel operation, when it is analyzed the transmission of crisis through it, is examined also by Perry and Lederman (1998). They note that demand reduction and substitution of products and services play an important role in the transmission of crises from one country to another. Reduction of demand in a country affected by the crisis leads to a decrease in its imports and hence the exports of the partner countries.

At the same time, a country affected by the crisis suffers a process of monetary depreciation, its exports being cheaper, therefore other countries will experience an increase in their demand for imports and a rising pressure in the direction of diminishing their export demand and an associated currency crisis.

Since the euro area has serious economic and financial problems and the trade relations of the new Member States (NMS) with this area are very strong through the commercial channel, the NMS will not be able to export in this area as much as before the crisis. The Euro area recession will affect NMS economies extremely powerful and also the banking markets. Thus, we see that the trade channel is extremely important in the transmission of macroeconomic shocks and especially of the crisis, contributing to their expansion in the region.

However, a considerable trade openness of a country contributes to the revenue growth, thus trade justifying a long-term growth in GDP per capita in the country. Countries with large trade openness have however increased vulnerability to shocks transmitted through the trade channel

\(^2\) We can say that, given each country or region particularities, the very manifestation of the crisis is an asymmetric shock, both within Europe and in the whole world.
due to high dependence on foreign countries. Therefore, they are the most affected by the occurrence of adverse shocks, on the one hand, because of a decrease in foreign demand (manifesting through a decrease in exports) and on the other hand, due to the emergence of gaps in the flow of raw materials supply.

The evolution of the exchange rate is influenced by many factors (e.g. the risk aversion of investors, domestic and external macroeconomic imbalances, political factors). Therefore, the exchange rate channel plays an important role in the transmission of macroeconomic shocks and especially of the crisis.

The exchange rate influences besides the external competitiveness of an economy also the wealth of households and the firms’ value.

One of the easiest and fastest mechanisms through which the exchange rate changes are transmitted is the price of imported goods (namely the direct exchange rate channel). In general, the prices in local currency are adjusting incompletely to the exchange rate fluctuations, mainly due to the high costs for the importers in order to change the prices on the domestic market as often as the exchange rate fluctuates. Also, there are other prices which respond more or less to exchange rate changes, as the fuel prices, some administered prices (for drugs, fixed and mobile telephony, etc.), the prices of complementary or substitutable goods to the imported goods.

The exchange rate affects the relative price of domestic goods compared to that of the goods produced in other countries. Exchange rate depreciation should not be a means of achieving international competitiveness. Exchange rate depreciation is a way through which it can be influenced the shift of demand from a country to another. Thus, if a country depreciates its exchange rate then the demand will shift from goods coming from abroad to goods produced in that country. In the case of currency depreciation, an exporter will earn more because the price obtained from the sale of its goods in foreign currency on external markets is converted into the national currency at a higher exchange rate. Increasing a country's net exports will lead to a worsening of the balance of payments of partner countries. Also, in the partner countries the production will decrease as well as the degree of allocation and use of resources. Withal, the country which depreciated its exchange rate will be able to create new jobs at the expense of other partner countries.

In general, the effects of the exchange rate depreciation depend also on the elasticity of demand in report of the price, affecting both exports and imports of the country whose currency depreciates.

A small economy can not influence foreign demand, but a large economy can. In a small economy, exchange rate depreciation allows exporters to sell more at lower external prices.

On the other hand, an importer will earn more if the goods sold on the domestic market are bought in foreign currency at a lower cost in the local currency, equivalent to a more appreciated national currency. The exchange rate conveys, thus (through the channel of net exports or through the indirect exchange rate channel), with a certain time lag, the impulses of the interest rates on the economic activity (the level of short-term interest rates influences the demand of the economic agents to hold national currency compared to that of holding foreign currency and thus, the exchange rate).

The evolution of exchange rate influences also the foreign investment flows depending on the risk and on the interest rate differential (between that country and the world).

At the same time, the exchange rate influences the demand for foreign currency loans. A depreciation of the exchange rate of the national currency generates a decrease of the demand for loans in foreign currency. Meanwhile, the domestic currency depreciation will diminish the disposable income of those who have already contracted loans in foreign currency. This effect
arises from the fact that the economic agents, which receive income in national currency will have - in the case of a depreciation of the national currency - to pay more money for the debt service contracted in foreign currency. The exchange rate appreciation will have the opposite effects: it increases the attraction for foreign currency loans, mainly due to comparatively lower costs in local currency associated with the debt service.

Another important mechanism through which the exchange rate (and interest rates) influences the economic activity is the wealth and balance sheet effect. The wealth of the households and the net value of firms are determined by the amount of resources available to them in the form of goods, money and other financial assets minus the value of debt. The exchange rate fluctuations affect the value in national currency of the assets held in foreign currency and the value of the loans in foreign currency, thus affecting the net wealth of households and firms.

The wealth and balance sheet effect of the exchange rate is manifested by modifying, the resources that can be allocated, on the one hand, to the consumption and investment, and on the other hand, to the lending, respectively the loan repayment, through its impact on wealth and net value.

This effect is particularly important if the foreign currency loans have a significant share in the total debt of households and firms. For loans obtained in foreign currency, the exchange rate appreciation causes a reduction of the present value, measured in local currency, of the obligation for payment (principal and interest). Therefore, there is a growth of wealth expressed in national currency and thus of the opportunities to consume and invest.

The balance sheet effect represents the influence of the exchange rate on the output gap caused by the effect of the adjustment of the wealth and the net value over the availability of the bank credit. Banks take lending decisions based on the analysis of households’ wealth and net present value of the companies, which reflect the credit guarantee. The appreciation of the national currency increases the households’ wealth or the net value of the firm. In addition, reducing the present value in domestic currency of loans contracted in foreign currency increases the ability to repay loans. These effects reduce the risk of default and create the possibility of contracting loans easier. As a result, it also increases the willingness of banks to lend, leading to the increase of consumption and investment spending.

The wealth and balance sheet effect of the exchange rate acts in the opposite direction to the effect which affects external competitiveness. The cumulative effect of the exchange rate through these channels depends on their relative importance.

An important channel for the transmission of external symmetric and asymmetric shocks is the contagion channel. Regarding financial crises, Masson (1999) stated that this channel is the most important in the transmission of crises. Through this channel it can be transmitted “substances” of the nature of information, expectations, psychological and economical factors or otherwise. Since national and regional financial markets are interconnected, there is an international system in a tight connection.

Among others, Perry and Lederman (1998) have studied the contagion effect, considering that the information about the outbreak of a crisis in one country can alter perceptions of international investors on profitability and investment opportunities in other emerging markets.

According to these authors, when investors do not have sufficient information to distinguish between the economic fundamentals of different emerging markets, the existence of a currency crisis in one country can lead to speculations on currencies of other emerging countries, even when they have different economic conditions. Generally, in periods of uncertainty, the contagion effect is manifested by an increased mistrust of investors, these ones associating the realities of a country to the countries in the region, thus being tempted to move their funds to other financial safer destinations.
Given that Europe is facing the euro area crisis and it seeks solutions to overcome this moment, the biggest concern is the risk of contagion.

Currently, Germany, the strongest economy in the euro area, is exposed to the debt of Spain, Greece, Ireland and Portugal, and French banks have the largest amount of the debt of Greece, Italy and Spain. However, more and more voices argue that the crisis of the euro area is not one of the public debt, but rather a crisis of external imbalances and a banking crisis. According to Dăianu, the origin of the euro area crisis is seen in the failure of the euro area institutional architecture (hence the European Union) and in the inappropriate use of macroeconomic policies. In this sense, we can say that although the aggregate public debt and the current account deficit of the euro area are lower than those of the United States, and although Europe owns a significant percentage of U.S. debt along with China and Japan, the American dollar does not go through a crisis like the euro. As it is known, the euro area is not an optimum currency area and it does not have the right tools to cushion asymmetric shocks. Therefore, it is possible that a collapse of a country, even if it is a small one (e.g. Greece, which represents an insignificant percentage of the world economy), to trigger a financial disaster for other economies, especially for those of the euro area and to jeopardize the stability and sustainability of all the world powers because of the trade and financial linkages.

The financial channel plays an important role in transmitting the effects of shocks on the real economy, especially in conditions of increased financial integration, as it is the case of the European Union and in particular of the Economic and Monetary Union. The recent financial and economic crisis plentifully proved this.

The effects of the crisis develop through the financial channel by restricting the volume of credit, particularly the bank lending, but also the lending between companies, due to delays of payments, more restrictive financial conditions and a reduction of the access to external financing, which ultimately generates private debt service difficulties. Following the reduction of external financing, a depreciation of the national currencies can occur.

However, in addition to the negative aspects, the financial channel may contribute to the transmission of positive effects such as dissipation of costs or losses in time and space, so that the shock felt to be less focused on a limited number of countries, areas, businesses, etc.

Moreover, a number of authors such as Bernanke and Blinder (1988) and Bernanke and Gertler (1995) noted that there are several mechanisms that give amplitude to the financial phenomenon, such as the “financial accelerator”, which describes the situation where the information asymmetry about a debtor can increase the cost of his external financing.

If the borrower has a good financial standing, meaning that he has a high net wealth, he can finance a part of his needs from his own capital or he can offer larger collateral, which diminishes significantly his risk premium for external financing. The authors also note that there is a difference between small and powerful companies, the latter being able to borrow on the short-term, even in the conditions of increased restrictiveness of the monetary policy. The tighter monetary policy not only leads to increased interest rates, but it also influences negatively the balance sheets of economic agents, population and commercial banks system, and thus generating a reduction of credibility and a decrease of consumption and of the number of investment projects, finally influencing the accounts of the balance of payments. Consequently, capital flows depend also on the financial situation of the borrower.

Also, according to some authors (Calvo, Leiderman, and Reinhart (1996) and Frankel and Rose (1996)), capital flows are influenced also by the international interest rates differentials. The interest rates increase can lead to capital outflows from other countries and may signal a higher

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cost of financing. The authors point out that a low share of foreign direct investments in the funding of the current account deficit of a country is often associated with an increased possibility of an exchange rate crisis.

One of the operations that can be performed through the financial channel refers to the possible transformation of private debt into public debt. Private debt may become public debt either when the state (borrowing at its turn) pays the debt for private economic agents who are in a difficult financial situation (e.g. providing liquidity to banks on the brink of bankruptcy) or by granting financial aid for small and medium enterprises with debt. This financial operation is reflected in the change of the structure of the balance of payments balance, but not in the balance value, the external deficit being practically the same.

In the context of the crisis, which led to the decrease of financial assets prices and of the housing prices, to the tightening of the financial situation of population and companies, the balance of payments situation has been also affected. If prior to the crisis, a number of countries have been characterized by increased attractiveness for investments, after its first manifestations, the capital inflows have experienced a sudden stop process and the external balance adjustment has been the more brutal the higher has been the external deficit4.

A high financial integration, such as in the EU countries, a complete liberalization of the capital account, a significant variation in the international interest rates and easy access to international loans (including those from organizations such as the IMF, the World Bank) can drive a country or a group of countries in a situation of external vulnerabilities and exposures, without having any possibility to avoid currency, financial or economic crises.

When referring to the trust channel, we note that the occurrence of an asymmetric or symmetric shock with a negative impact on the economy may lead to a general situation of uncertainty and mistrust, so that people will be tempted: either to save more, preventively, or to spend the last savings in the context of employment loss, in the desire to survive. Similarly, firms will see their investment projects under threat, so that they will defer as far as possible, the launch of new investment projects. Furthermore, many investment projects already underway will be at a moment of difficulty, considering that investors will be tempted to withdraw.

Also, companies will stop any employment, or even they will resort to staff layoffs, reducing the number of branches (in order to diminish personnel costs), adjusting operating costs; they will eliminate or minimize the collaborations with those partner companies with problems; in a word, they will restrict their external exposure and they will expect until the overall economic situation improves. All these contribute to the amplification of the crisis due to negative expectations regarding macroeconomic developments and to increasing population and economic agents’ caution.

If we consider that the current economic and financial crisis has the nature of an asymmetric shock, we can consider that the negative effects from a country, materialized in the contraction of output and external demand can be transmitted to partner countries through the trust channel, their balance of payments recording exports reductions or/and a decrease of foreign investment inflows.

If a country is facing various problems of economic, political, social, etc. stability, the trust channel affects also the situation of foreign loans in the direction of reduction of private loans and of those received from international organizations, and of worsening the credit conditions by the increase of the interest rate of foreign loans granted.

Also the trust channel seems to influence best the labor force migration. The announcement that a country faces an imminent economic collapse, leads the employers from that country to reduce the collaboration with the potential foreign labor force and the authorities to restrict the labor rights of the foreigners present on their territory. This aspect will be felt in the balance of payments of the countries of origin of migrants as the decrease of the compensation of employees’ incomes inflows, and in the economies of these countries, by the increase of unemployment, by consumption and investment restriction and by burdening the public social security and healthcare systems.

Thus, the external tensions will be imported into the partner economies through all or almost all of the transmission channels (commercial, financial, trust, etc. channel).

**The Relationship between the Properties of the Transmission Channels of Macroeconomic Asymmetric Shocks and the Factors that Influence Them**

Summarizing the above-mentioned ideas and correlating them with the properties of the transmission channels\(^5\), we note the following aspects and correlations (see table no. 1).

**Table 1.** The factors influencing the properties of the transmission channels of the identified asymmetric macroeconomic shocks

<table>
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<th>Properties of the transmission channel</th>
<th>The factors influencing the properties of the transmission channels of the identified asymmetric macroeconomic shocks</th>
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<tbody>
<tr>
<td>The narrowness of the channel</td>
<td>This depends mainly on the openness degree of the economy (i.e. an economy with a high degree of economic openness can attract more commercial and other nature advantages, but in a crisis situation, such as the present, it can also attract strong vulnerabilities)</td>
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<tr>
<td>The trade channel</td>
<td>It depends on the openness of the economy, but it also regards the chosen monetary policy strategy, namely the countries targeting the flexibility of the exchange rate have an exchange rate policy that enables a decisional “width” larger than in the countries with fixed exchange rate regime.</td>
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<td>The exchange rate channel</td>
<td>It may depend on the level of economic development, the mentalities, the culture, the traditions, the population’s propensity for saving, consumption or investment, the economic, social and political stability, the risk propensity of the investors from the countries analyzed.</td>
</tr>
<tr>
<td>The contagion channel</td>
<td>This depends mainly on the openness degree of the economy, the liberalization degree of the capital account, the level of development of the banking system and the capital market etc.</td>
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<tr>
<td>The financial channel</td>
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<td>The trust channel</td>
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<tr>
<td>The density of the channel’s material</td>
<td>It depends on the structure of factors or determinants of the exchange rate, more exactly how much and what of the composition of the exchange rate has a justification in the real economy.</td>
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<tr>
<td>The length of the channel</td>
<td>It depends on the geographical distance between countries.</td>
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<tr>
<td>The channel’s flexibility</td>
<td>It depends, on the one hand, on the quality and “elasticity” of the agreement between direct or potential trading partners, and on the other hand, it may refer to specific situations where the structure of the channel’s “material” can adjust so that a change in the trade routes should not cause disturbances of the trade flow between source and destination.</td>
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Aspects Regarding the Identification of Factors that Influence the Properties of the Transmission …

Table 1 (cont.)

| The quality of the channel’s “material” | It may depend on the political, economic, financial, social, etc. situation of the partner countries, but also on the public policies adopted by these countries which affect directly or indirectly the trade. | It may depend on the political, economic, financial, social, etc. situation of partner countries, but also on the public policies adopted by these countries, which affect directly or indirectly the exchange rate. | It may depend on the relevance of information with impact on the external equilibrium. It depends also on the level of development of media institutions, on the access to information, on the economic culture of economic agents and population. | It depends on the level of economic development, the mentalities, the culture, the economic, social and political stability, the economic culture of the population, the risk propensity of the investors from the countries analyzed, the relationships between partners. |

Source: authors’ conception

Conclusions

Based on the identification of the transmission channels of macroeconomic asymmetric shocks on the external equilibrium, by highlighting the transmission channels’ properties and the factors that influence the properties of the identified transmission channels, we can better understand the mechanism of transmission of macroeconomic asymmetric shocks on the external equilibrium.

We notice that, in the context of the international financial and economic crisis, it is difficult to fully clarify the way of action of the each factor of influence on the properties of the transmission channels of macroeconomic asymmetric shocks which affect the balance of payments and hence the way of action of the transmission channels of macroeconomic asymmetric shocks, especially since a number of factors with a positive impact on the balance of payments in the period before the crisis have reversed their influence during the crisis and have showed adverse effects for a period of time. For example, the contagion and the confidence phenomena that have acted in the period before the outburst of the crisis as vectors of prosperity, welfare, trade openness, trade and investment expansion, have determined later, after the crisis’s emergence, the growth of distrust, uncertainty, instability, asymmetry of information, both between and within different countries, fields of activity, companies, people, institutions and organizations.

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