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Market Disequilibrium and Ways to Correct Them by the Macroeconomic Policies

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Market Disequilibrium and Ways to Correct Them by the Macroeconomic Policies

Daniel Tobă^α & Dalia Simion^σ

Abstract- In the general economic language, any rise in prices is called inflation, but it is necessary to make a clear distinction between the causes determining a single non-continuous rise in prices and other circumstances that may cause a continuous and widespread growth of them. In the evolution of real economy various events may occur that are able to cause a rise in prices on the whole market. These are called inflation "shocks". In order to analyze these issues more deeply, we will suppose that the economy is in a long-term macroeconomic balance and currency exchange rate operates under a flexible regime. Also, in the initial state, the price level is relatively constant and gross domestic product (GDP) is at its potential level. We intend to analyze in this article how economy is affected by different inflationary shocks (determined either by aggregate supply or aggregate demand), but also the methods to mitigate them. On the other hand, we present a summary of the main effects from anticyclical macroeconomic policies applied in the downward phase of the economic cycle.

Keywords: inflation; prices; aggregate demand; aggregate supply; monetary authority; monetary policy; macroeconomic imbalance; macroeconomic policies.

I. INTRODUCTION

The general economic imbalance reflects the situation of an economy, characterized by the deregulation of the ratio between *global demand* and *global supply*, within the macro-system of markets (goods market, money market, labor market and others). In this respect, one can say that the most significant imbalances in a national economy are: stagnation or contraction of production; inflation or deflation; sub-occupation (unemployment) or, more rarely, over-occupation.

The economic imbalance can be interpreted either as a *normal state* of economic development or as an *abnormal state*, resulting from the violation of the fundamental rules of the market economy. Regardless of the state of its status, the economic imbalance (as well as the dynamic balance) manifests, in the conditions of the real movement of economic life, not as absolute, but as a *tendency*.

Imbalances manifested and perceived as normal economic activity are those that accompany overall economic development and are consequently accepted by society (for example, in a rational economic activity, spending over payment is a form of normal

imbalance). This situation, which occurs in most economic activities, is the basis for the revival of the supply of economic goods and the proper satisfaction of demand.

Imbalances known as abnormal states in an economic activity are those undesirable and unacceptable imbalances of society that can cause social and political tensions and which are usually reflected in the economic downturn (for example, the increase in budget expenditures above the level of budgetary revenues creates a budget deficit, which should be financed, and most of the time this financing will generate either an increase in the fiscal pressure on the population and economic agents, or an increase in state loans).

A set of factors leads to these states of the economy (changing resource and technology limits, economic cyclicism, inadequate macroeconomic policies), so there are *surpluses* on the market at any time from supply or demand. In fact, they capture every moment in the dynamics of economic life, but the important aspect of the economist's interest is the trend of the gap between global demand and supply.

If this margin has a growth trend, the economy is in a process of imbalance, and appropriate macroeconomic policies are needed to stop this process. However, if the gap between the two sizes tends to shrink, the economy is characterized by a *dynamic balance*, the two sizes (demand and supply) are in a process of adapting to the exigencies of the other, and the applied macroeconomic policy measures must continue.

II. INFLUENCE OF AGGREGATE SUPPLY

We shall consider the premise that a negative shock of aggregate supply (it decreases) manifests on short term. This could be caused, for example, by an increase in costs of imported raw materials or higher indigenous labor costs, due to the substantial increase of the minimum wage (as happened recently in the Romanian economy). At a given level of aggregate demand the average level of prices will rise and production will follow a downward trend. This means that GDP will drop and the rise in prices will reflect a sharp inflationary situation. What will happen next in the economy depends mainly on how the public authority will react. Past experience shows that monetary policies have a greater impact on these shocks (at least on short

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term) compared to fiscal policies. There are two alternative solutions in this regard.

First, the monetary authorities should adopt an interest rate policy that keeps the money supply constant so that global demand curve remains in the initial position. If there are no accommodative monetary measures, unemployment should gradually exert pressure on wage costs, which will decrease increasingly more. This will determine the new overall supply curve to move slowly back (to the right), i.e. to increase, returning to its original level and also restoring the balance manifested previously. In these circumstances, it is considered that the supply shock is not accompanied by an increase in money supply, and is a case of *nonmonetary adjustment*.

Secondly, monetary authorities can reduce interest rates sufficiently for the curve of global demand to register a rising trend and intersect the new curve of supply at a point where is restored the amount of balance (potential GDP), but at a higher price level. This mechanism is called, in some papers, "*adjustment of supply shock by increasing the money supply or monetary adjustment*".

Next, must be analyzed the cases in which supply shocks represent *rare unique* occurrences or there is a *continuous series* of shocks which are interdependent and lead to a cost-push inflation in the economy.

Suppose that the decrease of global supply is due to an **isolated event** that could be represented, for example, by the unique growth of cost of imported raw materials.

Nonmonetary Adjustment. In this case, decrease in the level of supply (supply curve is shifting to the left) will determine the increase of prices and decline of GDP below its potential, being created a recession lag. As a result of this lag, market pressures tend to cause a reduction in wages and other production factors costs, relative to productivity. When these developments are beginning to be obvious, aggregate demand begins to increase gradually (in Fig no. 1, the supply curve moves to the right) leading to a rebound of GDP at its potential level and a decrease in prices. The period of inflation that accompanied the initial shock of supply is followed by a period of deflation, which continues until balance on short term is restored.

In other words, in the absence of a component of monetary adjustment, unemployment exerts a downward pressure on wage costs, causing the supply to grow slowly (supply curve moves back to the right). So prices are falling but production is growing, thus restoring the original balance (E_0).

Monetary Adjustment. Another situation is when the monetary authority responds to changes in supply by buying government bonds and generating a surplus of currency in circulation, which causes a shift of demand curve to the right (from D_0 to D_1). Is hereby restored the amount of balance at E_2 level, but at a price higher than the previous (E_1). High prices gradually stimulate supply, which begins to rise (supply curve moves from S_1 to S_0), reaching the initial level, and the balance (E_3) is established, but this time at a price above the initial level E_0 .

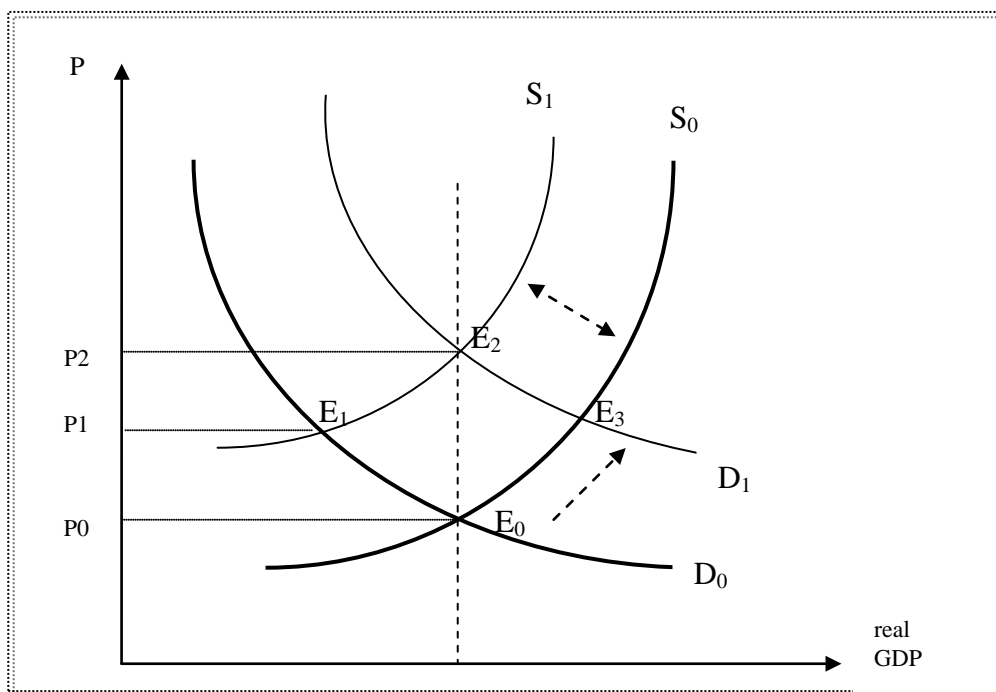


Fig.1

Consequently, the monetary authority involvement can bring back the economy to the level of the potential GDP, but with the sacrifice of an increase in the general price level.

Further, as an example of **repeated supply shock**, suppose that in certain economic sectors (heavily unionized) are recorded successive increases in nominal wages that exceed labor productivity dynamics even in the event of excess supplies of labor. The companies, wishing not to compromise profits, transfer these higher wages in the form of higher selling prices.

This type of supply shock is the origin of what is called cost-push inflation, which, as everyone knows, affects global output on the downside.

Nonmonetary Adjustment. We presume this time that the monetary authority does not get involved so that these supply shocks are not adjusted. The initial effect of the displacement of supply curve to the left is occurrence of a recession lag, as shown in Fig. no 1. If unions continue to negotiate wage growth, subjecting the economy to other supply shocks, prices will continue to rise while production will fall and unemployment will gradually increase. Ultimately, the correlation between higher (too high) wages and unemployment will become obvious. After some time, however, persistent unemployment may erode the power of trade unions so that nominal wages will rise more slowly than labor productivity, leading to an increase in real wages and a reduction of unit costs. Supply curve will shift down until the situation of full employment is restored.

So, the cost-push inflation, generated by the wage-cost correlation and unadjusted from the monetary perspective, tends to be self-limiting in time due to higher unemployment, which in turn determines trends of halting salary increases.

Monetary adjustment. The initial balance point is at E_0 , but a supply shock brings back the balance to level E_1 (fig. nr.2). The movement from E_0 to E_1 corresponds to stagflation, with rising prices and a decreasing global production. Monetary authorities attenuate the shock by relaxing the monetary policy (lowering interest rates) or buying bonds to increase the supply of money. This will lead to a shift of the demand curve to the right, from D_0 to D_1 , until a new balance level E_2 , corresponding to the potential GDP, is reached but the wages and price level have increased. This is an expansionary phase of the rise in prices and production growth. Wage growth is however countered by higher prices, so real wages will not increase too much.

In these circumstances, the unions can start again negotiations with employers, and, if they successfully negotiate further increases in nominal wages, it virtually means that another supply shock is induced to the economy (supply curve moves to the left, and the new balance level will be at E_3). A second adjustment of supply made by the monetary authority will bring the balance point at E_4 , in which is maintained

the relevant situation of full employment, but this occurs at the cost of another round of inflation (average level of prices reaches P_4). If this process is repeated, it may generate continuous cost-push inflation, as shown in Figure no.2.

Cost-push inflation usually leads to the phenomenon of stagflation, which means rising prices and declining production but the monetary adjustment tends to accentuate the rise in prices and counteract the decline in production.

In conclusion, the cost-push inflation will persist in the economy as long as two preconditions are met.

The first of these refers to the existence of powerful interest groups such as industrial unions or government employees, who will continue to put pressure on nominal wage increases. The second is the monetary authority's decision to intervene, increasing the money supply to prevent a possible and likely increase in unemployment. The process triggered by this type of inflation, accompanied by the monetary adjustment is better known as *the wage-price inflationary spiral* [13].

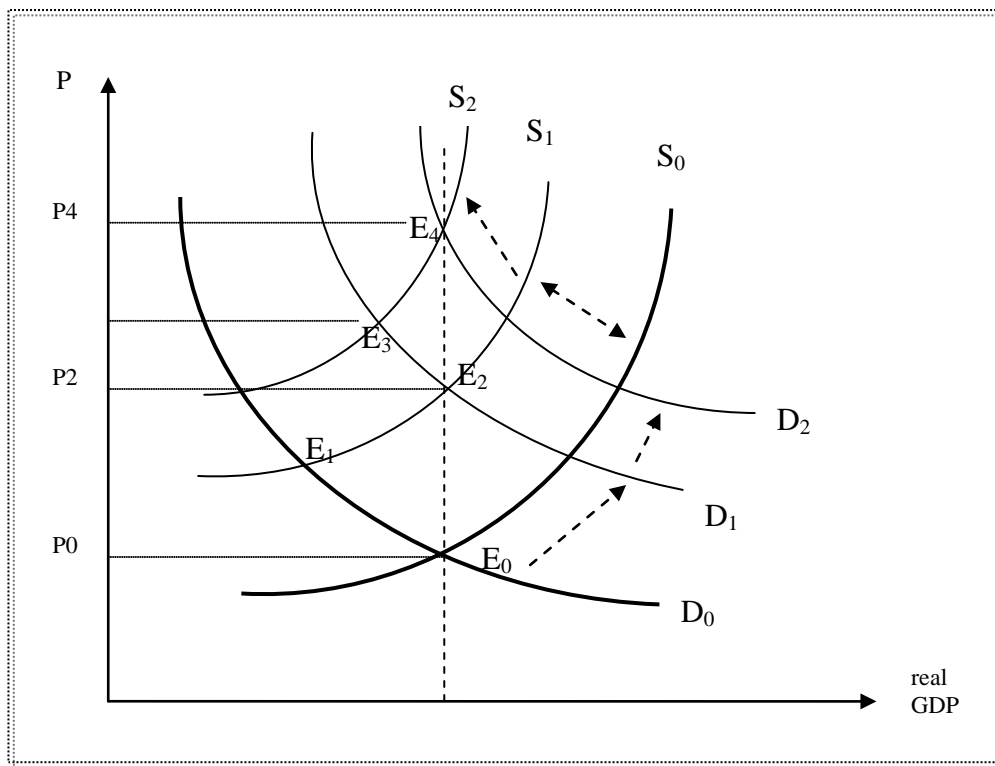


Fig. 2

Finally, here comes the right question: Is it appropriate to resort to monetary intervention or the phenomena and processes triggered should be left to "go out" by itself in the complexity of the economic mechanism? Past experience of European countries shows that political authorities (parliament, government), together with the Central Bank, tend, in most situations, to adopt an active interventionist monetary policy meant to avoid the unpopularity caused by increased unemployment.

III. INFLUENCE OF AGGREGATE DEMAND

Next, we study what impact a demand shock can have on the economy, in the sense of *economic growth (positive impact)*. Given the structure of aggregate demand, its growth must be analyzed starting from the *elements* that compose it. Thus, it can be determined by the following *circumstances*:

- increase of consumer spending made by the population.;
- growth of investments made by companies with delayed productive effects;
- excessive growth of government expenditure, namely government procurement, particularly those unproductive;
- increase of exports, respectively entry of additional foreign currencies in bank accounts.

All these increases, taken either individually or globally, usually have budgetary or monetary causes,

originating from public authority, but may also occur cyclical conjunctural situations or others related to the psychology of markets (a wave of general optimism can trigger a large investment volume).

Figure no. 3 shows how the economy can "evolve" due to a positive shock of demand, from an initial balance situation.

If the initial level of balance is achieved at a total production which is below the real potential of economy (potential GDP is denoted Y^*), the increase of aggregate demand will lead directly to an increase of aggregate supply at a rate higher than the growth of general prices level (demand is elastic). In such a situation are required macroeconomic policies to stimulate aggregate demand, as there is a production potential, with consequences on increasing employment and reducing unemployment.

But if the excess of demand occurs at the potential GDP level, the increase of the general price level is significant, much more than the difference in real GDP growth, as global supply is relatively inelastic. Regardless of the supply's elasticity situations, a positive shock of demand generates a temporary increase in GDP and a permanent increase (in the absence of any policies to reduce global demand) in prices level.

On the graphic representation, the starting point is A with production at level Y^* and a prices level P_0 . The growth of aggregate demand shifts curve D from D_0 to D_1 . Economy will „move” to point B, the new balance level, where we have a superior GDP noted Y_1 , but also

a higher level of prices. The economy will register a temporary boom. In the first phase the prices grow more slowly, but as the GDP shifts away from its potential, the rise in prices becomes more pronounced. Gradually real wages decrease in value, as nominal wages usually have inertia on short and medium term. Pressures of unions and workers in general are inevitable, which will be followed in a certain time by wage increases in the productive sector. Higher production costs will push up the supply curve to the left (due to lower production), and the economy moves from level B to level C. A new balance is restored at the potential GDP, but at a higher price level P_1 .

Adjustment to these movements of aggregate demand and supply are not some line and constant processes in dynamics. We must not forget the multiplier and / or accelerator principle that may enhance the phenomena of economic growth or decline (the latter turning into recession).

Therefore, the analysis of potential GDP is very important (and difficult to achieve at the same time),

because the economic policy decision makers can use it to separate the conjectural factor from the structural one that has impact on the economic growth. When we refer to *potential indicator* we mean the maximum level that the economic growth can reach in the concrete historical conditions of the working population and stock of capital, without causing a rise in inflation.

In the absence of a well defined threshold (the maximum level of growth), any attempt to decrease unemployment by accelerating growth will lead to an acceleration of inflation (Phillips curve). The difficulty lies in determining that threshold, i.e. in measuring the unemployment percentage which can not be absorbed by using simple economic recovery policies but only through structural reforms on medium and long term. If the threshold is known, the rate of growth, without negative side effects, could be determined taking into account the pace of investment, the active population evolution and the forecasted trend of productivity dynamics [5].

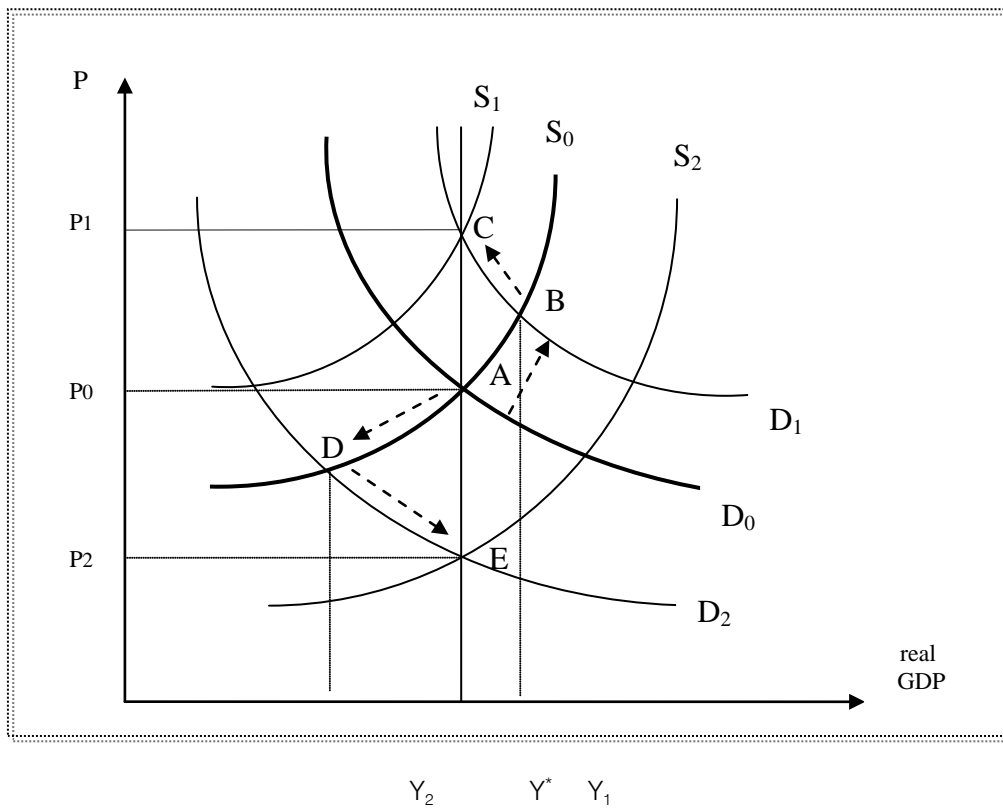


Fig. 3

Suppose now that we have a situation of *decreasing aggregate demand* (negative shock), starting, for example, from the autonomous decrease in consumption.

In figure no. 3 this is outlined by the displacement of curve D from D_0 to D_2 . GDP drops from level Y^* to Y_2 , and the demand of money for transactions also decreases, gradually leading to a

tendency of interest rate reduction. Also, prices and wages get adjusted downward, but not so quickly and stressed as GDP (is an evolution verified by economic reality). Moreover, in the absence of a reaction in terms of economic policy, the economy may remain blocked for a time around the point D. But when unemployment becomes sufficiently high so as to reduce wages and more (which is expected to also have repercussions on

prices), curve S will begin to move from S_0 to S_2 , the economy entering a phase of renewal. It returns to its potential production level somewhere in point E. As we have mentioned before, the multiplier mechanism can hasten recovery of decreases in GDP, just as the accelerator may reinforce economic decline in the previous phase.

As can be observed, the economy has its own resorts for rebalancing after various shocks to which it may be subject over time. The question that must concern economic policy decision makers (and political class in general) is their response or reaction in the face of such circumstances arose. It would be utopian to imagine an economy fully protected from such turbulence that is found in a continuous static equilibrium. The cyclicity of economy is an absolute truth that can not be challenged by anyone.

It is therefore very important for economic life in general the amplitude of these phases or imbalances when they emerge as the social costs are based on them. One is to go through four years of recession, with all the features of this phase, and another to go through it in just two years, for example. Also, economic recovery can sometimes have "pitfalls" of growth (such as unsustainable increases, based mostly on consumption or circumstantial increases that are not closely related to the economy's potential) that can make the economy vulnerable to other possible future shocks.

Still considering *the economic policies*, public authorities could prevent the effects of a positive shock of demand if they would know, for example, that investment / consumption is expected to rise sharply in the next period. Returning to Figure no.3, the monetary authority can implement a policy of increasing interest rates and fiscal authority can raise the taxes, so that curve D_0 will be pushed towards D_2 . When the shock wave would eventually make its presence felt (it cannot be avoided), it will move back the D_2 curve to D_0 , and will thus return it to its original state (demand will not pass over level or it will just slightly). This would be a short example of anti-cyclical policies that would make the magnitude of unwanted demand shocks (in our case) to be more subdued or even stopped. We have to point out that monetary and fiscal policies have identical effects on prices and GDP, but different in terms of its structure and this must be taken into account when adopting such policies.

But what is worth remembering in this case is probably not the type and manner of implementation of economic policies, but the *difficulty (sometimes impossibility)* of authorities to predict or forecast an evolution of the economic cycle and to act in consequence. Also, neither is it realistic to assume that policy decision makers can react simultaneously with the occurrence of shocks nor those policies can be changed immediately. The impact of fiscal and

monetary policies is subjected, in the words of M. Friedman, to "long and variable lags".

But suppose that the positive shock of demand has already occurred. If the authorities respond appropriately and programmed, the consequences of its growth can be alleviated or counteracted, thus the economy is helped to turn from point B to A. The decrease of supply, respectively the movement of curve S_0 towards S_1 does not have to happen (as in the case of automatic reinstatement of balance) and a high inflation is avoided.

Also, is worth mentioning a very important fact: the implementation moment of measures and their type. If this is not well chosen and affects aggregate supply, the economy can, for example, get in a situation where the impact of a tight monetary policy could be felt most strongly precisely when the economy reaches the point C. The regime of austerity will push the economy to the left of point C and will cause a recession, which otherwise would not have occurred. A fiscal policy staggered in a mistaken manner can lead to the same effect.

When there is a *negative demand shock*, the economic policies implemented can be better highlighted and it is desirable to be even more active. This is because the automatic adjustment processes are much slower in the downward phase compared to upward phase (downward adjustment of wages is slower than up). If the theory (of Keynesian origin) is true, that the recession lags may persist for long periods in the absence of an active policy of stabilization, then an interest rate cut combined with a reduction in taxation or an increase in government spending, could help the economy return at the A level.

IV. ANTICYCLICAL MACROECONOMIC POLICIES APPLIED IN THE PHASE ECONOMIC REVIVAL

Budgetary and fiscal policies: The process economic recovery (which marks the end of the downward phase of an economic cycle) may proceed through the system of public expenditure (upside) or applicable tax system (tax pressure down ward, respectively reduce the tax ratio in taxable matter). Effects phase of this process could be the following:

- The first consequence would be increased domestic demand (consumption and / or capital goods). This is due either to increase public spending or increasing disposable incomes of economic agents, by lowering taxes / duties.
- Increased demand will lead to increased domestic production (acceleration effect), so GDP growth and, obviously, will generate an increased supply of jobs in the productive sectors. This will reduce cyclical unemployment (non-cyclical).

- In time, however, domestic demand growth will begin to exert inflationary pressure on the economy, which will lead to increased inflation (due to aggregate supply that stabilizes).
- A portion of the total domestic demand (rising) addresses and imported products, so that imports will increase gradually. Associated with rising inflation, prices of imported goods become more competitive on the market and thus there will be a substitution effect, leading to a further increase in demand for imports (trade balance deficit increases).
- On the other hand, increased demand for goods and services leading to greater demand for money supply, which will lead to an increase in interest rates on financial markets.
- Also increased public spending or lowering taxes / duties is equivalent to an increase or decrease state spending its revenue, which in the short term is reflected in an increase in the deficit.
- Coverage of the general government deficit is by attracting domestic resources (issuance of treasury bills) which will lead to higher interest rates on medium and long term (which will inevitably lead to a decrease in investment, so a diminishing effect accelerator of GDP) .
- On the other hand, higher interest rates attract capital flows from abroad, leading to increased capital balance surplus. How is deficient trade balance and the balance is in surplus capital, the total effect on the balance of payments is uncertain. However, this effect depends largely on the degree of mobility of international capital.

A *high mobility of international capital* will generate increased capital inflows due to increased interest rates and thus a balance of payments surplus. This will lead to exchange rate appreciation in flexible exchange regime, which will have repercussions in domestic products less competitive on the international market (they become more expensive in foreign currency). In this way, losses in competitiveness via prices will lead to increased imports, due to lower prices of imported products. The decline of exports, with import growth leads to increased trade deficit, ie the external deficit.

A *low mobility of international capital* will be equivalent to an excess demand for foreign currency by businesses in relation to domestic demand (due to the need to cover foreign obligations), which will determine the exchange rate depreciation. Increase the competitiveness of domestic products (they are cheaper), thus registering an increase in exports. It also determines the exchange rate depreciation and a fall in imports as foreign goods become more expensive domestically. Decrease in imports associated with export growth causes a surplus trade balance.

Finally, it must be said that the effectiveness of budgetary policies in a flexible trading system depends on two fundamental premises: a large initial acceleration effect (this requires a strong under spending from the productive potential); significant share of unemployment term unemployment in general (if structural unemployment holds the largest share, then relaunch budgetary policy may become ineffective).

Monetary policies: Together with fiscal policy can be developed and revival monetary policy (characterized either by increasing the money supply or by reducing interest rates monetary policy). The effects of that policy (which is responsible Central Bank) could be the following:

- Credit expansion (increasing the money supply by lowering interest rates or monetary policy), which will lead initially to lower interest rates charged by commercial banks.
- The decrease in interest rates would generate an increase in domestic demand accelerator effect on GDP, which in turn will increase the supply of jobs and lowering the unemployment rate term.
- Will gradually increase the pressure on the supply of aggregate demand, which will lead to higher prices and therefore inflation so.
- Also imports as part of aggregate demand will also increase and, accompanied by inflation, will increase the trade deficit.
- The decrease in interest rates may also cause capital outflows abroad, capital will turn to capital markets with attractive interest rates. Capital outflows will increase capital deficit.
- Increasing capital deficit determines, to a flexible exchange regime, the exchange rate depreciation.
- Exchange rate depreciation will increase the competitiveness of domestic products in the international market, which will be passed in an increase in exports and a decline in imports.
- Finally, a decrease in imports linked to increased exports will decrease the external deficit.

As with fiscal policy, monetary policy more effective economic recovery depends on several conditions: strong investment in relation to interest rate sensitive (high acceleration effect); term high unemployment rate; imports or exports is elastic with respect to exchange rate variation.

V. CONCLUSION

Thus, the combined application of two types of policies aims to increase income and achieve that objective in a timely fashion, it can be done by adopting policies and expansionary monetary and fiscal budget. However, in this case there is a risk of stronger inflation, which can be installed fairly quickly, which will reduce income in real terms.

A better solution (with long-term effects) could be the combination of a restrictive budgetary policy with expansionary monetary policy. In this way, the interest rate will decrease, fiscal policy will be cause a decrease income and monetary policy will generate of its increase. The final effect (net) on revenue margin will depend on amending its policies-specific basis. In some periods, such an economic policy is beneficial, because we have low interest rates in the economy that will spur investment and without the income to decrease automatically.

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