I. WILL THERE BE DEFLATION AND CURRENT ACCOUNT SURPLUSES?[1]

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Abstract

In this study we show that inflation rate and current account evolved in line with some historical patterns, once the global financial and economic crisis hit Romania in the latter part of 2008. Core inflation declined at a relatively fast pace for a long period of time. It reached negative values in October 2013 and has remained negative since then. The current account deficit also narrowed sharply, turning into a surplus in the first part of 2013 for the first time in the past 24 years, before reaching a record-low of 1 percent of GDP at end-2013. We show that in Romania the cumulated exports-to-cumulated imports index signals the closing (opening) of a deflationary (contractionary) GDP gap when it starts decreasing (increasing). GDP growth moves to relatively high and stable rates two years before a complete closure of a deflationary output gap.

Keywords: output gap, deflation, core inflation, current account, financial crisis, Romania

JEL Classification: E31, E32

1. Introduction

The global financial and economic crisis brought about a sweeping change in numerous countries: the difference between actual and potential GDP (output gap) turned negative and remained in a negative area for the past years, reflecting the steep fall in aggregate demand[3]. In turn, this change puts downward pressure on

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[2] *National BanK of Romania.*

[3] *Aggregate demand and aggregate output are always equal. Obviously, a shock pushing aggregate demand down, pushes aggregate output in the same direction so that the two indicators remain equal. The output gap stays in a negative area until aggregate demand and aggregate supply strike a new balance.*

inflation (or even exerts deflationary pressures) and feeds a massive adjustment of the current account deficit.

Unlike other countries where these changes were very clearly in line with theoretical expectations, in Romania, some factors that will subsequently be mentioned pushed inflation in the opposite direction, while current account adjustment seemed insufficient in relation to demand contraction or to similar adjustments made in other countries.

However, surprisingly enough, the current account deficit moved downward about 3 percentage points in 2013 to one percent of GDP, and the annual inflation went down from about 6 percent in January 2013 to slightly below 1 percent in May 2014. It is for the first time in the past 24 years that both inflation and current account deficit reached such low levels.

Obviously, the question is whether this is a new path or just an episode for the Romanian economy. Taking a different perspective, a question may arise if the negative output gap generates deflationary pressures and current account surpluses in the period ahead.

2. Inflation

One of the monetary policy principles states that, in the short run, output fluctuations are generated by aggregate demand which is sensitive to interest rate changes[4].

[4] *In May 1997,* The American Economic Review *published the papers presented during a symposium dedicated to the guiding principles for macroeconomic policies and macroeconomic modelling. Among the participants we find Robert Solow, John B. Taylor, Alan Blinder, Olivier Blanchard, Martin Eichenbaum. The following ideas were discussed: (i) the output trend is determined by supply-side factors; (ii) in the short run, the fluctuations around this trend are generated by aggregate demand; (iii) it directly reacts to fiscal policy (via a positive fiscal multiplier) and it is sensitive to interest rate changes; (iv) there is a simple linear relation between the percentage changes in real GDP and absolute unemployment (Okun's law); (v) there is no long-rung trade-off between inflation and unemployment, meaning that any attempt to raise employment by resorting to monetary policy will eventually end in inflation; (vi) contrariwise, low inflation levels are not associated with high unemployment rates; (vii) thus, inflation is always a monetary phenomenon and the long-term monetary policy objective must be price stability; (viii) however, there is a short-run trade-off between inflation and unemployment, possibly due to the real and nominal rigidities, including prices and wages; (ix) financial frictions play an important part in business cycles, as they can lead to recession or stagflation. Most aggregate economic fluctuations do not arise from monetary policy shocks; (x) public expectations react to policies and that is why policies must be credible and transparent in relation to their objectives (or otherwise, the ability of private agents to discern systematic policy actions contributes to monetary policy effectiveness); (xi) policies must be assessed based on a series of monetary policy instrument changes governed by a single rule. In 1999, Clarida, Gali and Gertler (1999) identified 13 results with a relatively high level of generality. More recently, Mishkin (2007) reached similar conclusions when analysing the principles that should govern the monetary policy stance:* •there is no long-run trade-off between unemployment and inflation; • inflation persistence is always a monetary phenomenon; •monetary policy is not neutral in the short run; •expectations play a crucial role in the determination of inflation and the transmission of monetary policy to

Considering this and for reasons of clarity, we begin by breaking down inflation into two components: core inflation, which is more sensitive to changes in aggregate demand (also responsive to interest rate changes) and the inflation of goods whose prices are volatile, administered or significantly influenced by tax regulations (i.e. excise duties). The latter category includes fuels, vegetables, fruit, eggs, tobacco and alcohol, etc.

Core inflation links inflation to output gap, which reflects aggregate demand changes, via a New-Keynesian Phillips curve. In the standard curve, inflation at a given time depends on the marginal cost gap, economic agents' inflation expectations and unexplained factors (supply-side shocks).

In practice, in order to render the Phillips curve estimate simpler, many models use output gap[5] instead of marginal cost gap. To get a more realistic picture, other variables such as imported consumer goods inflation or the inertial inflation component are added to obtain a hybrid[6] Phillips curve, so that the influence of unexplained factors should be as weak as possible.

From a New-Keynesian standpoint, if the economy is at its potential and shocks are not manifest, core inflation is equal to expected inflation. Obviously, this condition is not strictly fulfilled in practice[7], but expected inflation generally tends to be the main component of core inflation. In the past decade, inflation expectations made the largest contribution to core inflation in Romania as well, despite the fact that the economy was either above or below potential throughout this period.

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economy; •monetary policy is effective because the public expectations react to it; •credible monetary policy assessments are based on relatively permanent rules regarding the policy instrument; •in the short run, output fluctuations stem from aggregate demand, which is sensitive to interest rate changes; •most aggregate economic fluctuations do not derive from monetary policy shocks; •financial frictions play an important role in business cycles. *Blinder noted that the core model "falls well short of perfection", but "it is both useful and extensively used in policy analysis, where contact with reality is a necessity, and you cannot beat something with nothing" (Blinder, 1997).*

[5] *The use in practice of the output gap is not risk-free. In the Neo-Keynesian model, the output gap is determined in relation to the output level that might be obtained if prices would be completely flexible, namely in the absence of nominal rigidities. The GDP deviation from its trend is conceptually different from the output deviation from its potential (Gali, 2000).*

[6] *In this case, the* hybrid *term shows that the New-Keynesian Phillips curve is extended by adding the inertial component as an appendix, not because it results from the core Neo-Keynesian model. Blanchard and Gali (2005) modified the standard Neo-Keynesian framework by introducing real rigidities in the wage-setting process. These rigidities become a source of inertial inflation, apart from that arising from the output gap fluctuations. Other explanations for inflation inertia refer to* delayed indexations *(Christiano, Eichenbaum and Evans, 2005),* concerns over relative wages *(Fuhrer and Moore, 1995) and* information rigidity *(Mankiw and Reis, 2002). A discussion on estimates of the New-Keynesian Phillips for Romania is provided in Saman and Pauna (2013).*

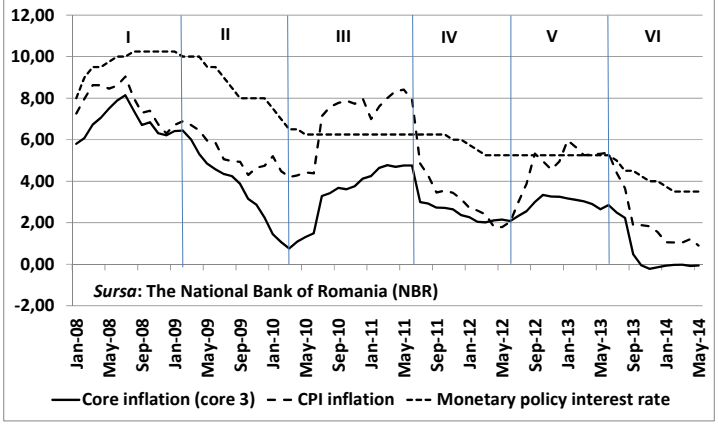
[7] *For instance, when setting retail prices, economic agents do not change their price unexpectedly from one period to another. There are many reasons behind this: asymmetric information (Friedman, 1968; Lucas, 1973; Mankiw and Reis, 2001); cost of price adjustment (Rotemberg, 1982; Mankiw, 1985), departures from rationality (Akerlof and Yellen, 1985). Therefore, inflation persistence is one of the elements differentiating core inflation from expected inflation in practice.*

However, for the purpose of this analysis, one exception is worth mentionioning: a while before the fallout from the global financial and economic crisis was manifest in Romania, the cumulative positive contribution of output gap and import prices to core inflation had exceeded by far that of inflation expectations. The positive output gap was higher than inflation expectations ever since end-2006 and maintained this position until the first quarter of 2009.

This exception was attributed to the fact that the Romanian economy was well above potential during 2006-2008[8]. Also, the contribution of imported inflation was in line with expectations, if we consider: (i) the increase in the prices of oil, copper and other commodities, due to the high global economic growth rate in the pre-crisis period and (ii) the gradual depreciation of the leu from August 2007 until the signing of the agreement with the EU, the IMF and the World Bank in March 2009.

The above-mentioned exception allows us to identify two stages in inflation developments during July 2008-May 2013. The first stage (July 2008-March 2010) is illustrated by bands I and II in Figure 1, marking a decline in inflation. Core inflation (depending on aggregate demand) went down from 8.2 percent in July 2008 to 0.8 percent in March 2010, namely it stood 10 times lower in 22 months. Over the same period, CPI inflation fell from 9.04 percent to 4.2 percent.

Fig. 1: Core inflation, CPI inflation and the monetary policy interest rate in Romania between January 2008 and May 2014 (percent, oya)



The second stage started in April 2010 and is still in progress. In this stage, inflation fluctuated (bands III-VI in Figure 1) posting relatively large fluctuations in both directions.

In the first stage of declining inflation, core inflation was the component that pushed inflation down. The main causes for curbing core inflation were the adjustments of both output gap and imported inflation. Nevertheless, the latter permanently showed relatively high volatility and was atypical of the first stage of declining inflation.

[8] *After the outbreak of the global crisis and the ensuing fallout, the pre- and post-crisis potential GDP of the Romanian economy was subject to reassessment. The new estimates showed the far slow dynamics of potential GDP in the pre-crisis period compared with the real time estimate. As a result, the output gap was re-assessed at higher positive values for the period prior to 2009. As already known,* real time data *related to output gap have a relatively low informative power for the inflation forecast (Orphanides and van Norden, 2002, 2005; Marcelino and Musso, 2010).*

Specific for the first stage was the move of the output gap, which embarked on a steadily sharp downtrend as of 2008 Q2 and entered negative territory in 2009 Q2 (Figure 2). During July 2008-March 2010, output gap saw a 12.8 percentage point adjustment of potential GDP. For comparison reasons, expected inflation declined continuously during 2009-2010 Q2, yet it underwent only a 2.3 percentage point adjustment. After these adjustments, inflationary expectations became again the main contributor to core inflation starting in 2009 Q2.

In fact, the GDP growth rate changes can be broken down into changes in the growth rates of the output gap and of the trend.

According to Mihai Copaciu's simulations (2012, p. 53) based on the model developed by Christiano, Trabandt and Walentin (2011), in the reported period, the forces triggering changes in the quarterly GDP growth rate were mainly aggregate demand shocks and permanent and temporary productivity-related shocks. One may think that monetary policy also had a significant contribution to changes in the GDP growth rate, yet estimates show that the impact of the monetary policy shock on GDP variation was relatively low (Copaciu, 2012, p. 53).

The cumulative quarterly contribution of the above-mentioned factors may also be identified considering the total GDP change during 2008 Q2-2010 Q1. Therefore, the specified decline in output gap is assumed to have been influenced by the same factors. In fact, the weak demand may be intuitively linked to the output gap change in the said period.

During the period when inflation fluctuated, the changes in core inflation stemmed from the mix between the negative output gap, supply-side shocks, inflation expectations, inflation inertia and imported inflation. In this mix, the factors that had the strongest impact on core inflation were the adverse supply-side shocks (the VAT rate hike) and imported consumer goods inflation. Their impact is visible due to the fact that they largely "offset" (band III in Figure 1) the decline in inflation arising from the output gap adjustment. Supply-side shocks and imported inflation are also responsible for the flare-up in inflation in the latter half of 2012 (band V in Figure 1).

The effects of shocks were weaker in the case of core inflation, yet systematically much stronger as regards other inflation components, such as volatile food prices, fuel prices, etc. Band II in Figure 1 shows that during October 2009-March 2010 core inflation decreased at a faster pace, whereas CPI inflation stagnated in the range of 4.2 percent and 5.2 percent. The different behaviours of the two measures of inflation may be attributed to the shocks exerted by volatile food price inflation, as well as to the considerable hikes in excise duties on tobacco products.

Supply-side shocks and the relatively high inflation expectations prevented inflation from going down to levels that would have raised the issue, even temporarily, of deflation. In order to better understand this issue, let us assume that pre-crisis economic policies would have kept actual GDP and potential GDP equal and that shocks would have not existed. In this case, expected inflation and actual inflation would have been equal. Let us assume these expectations would have overlapped the upper bound of the variation band of the target (3.5 percent) that the NBR has been pursuing as of 2013. Therefore, the output gap widening from 0 in 2008 Q2 to -3.75 in 2010 Q1 would have resulted in -0.25 percent inflation.

Even though changes in inflation expectations did not trigger major changes in inflation, they remained the main determinant of core inflation throughout this period. This is the reason why the monetary policy rate failed to go down below 10 percent in July 2008-April 2009, when both core inflation and CPI inflation decreased from about 8 percent to roughly 6 percent. The persistently high policy rate levels were ascribed to inflation expectations (for instance, expected inflation rose by one percentage point in 2008 Q4 versus the previous quarter). Moreover, only in few cases did expected inflation fall below the upper bound of the variation band of the target. Therefore, the central bank could only gradually cut the monetary policy rate.

3. What Does the Future Hold?

The main influences on the change in core inflation will further be generated by imported inflation and supply-side shocks that are beyond the monetary policy scope.

Inflation Expectations

The changes in inflation expectations, which the central bank can influence, will most likely continue to induce small variations in inflation, in view of primarily backward-looking nature of inflation expectations. As long as inflation expectations remain anchored, potential supply shocks will have no influence on the policy rate. In contrast, as long as the output is below potential and the expected inflation is on decline, a relatively fast monetary policy easing cannot be achieved unless inflation expectations go down to relatively low levels, consistent with the central bank's inflation targets.

Stabilising inflation expectations at relatively low levels in the years to come will be the first major change in inflation developments, after dropping below 10 percent at end-2004. Provided that inflation expectations stabilise at low levels, any shock pushing the output gap to negative levels higher than inflation expectations could produce deflation *ceteris paribus*. In this case, in order to prevent inflation expectations from turning into deflationary expectations, it might be necessary for policy rate cuts to be rapid and significant, a quantitative easing being also possible. In this context, the difference between an inflation target of 2.5 percent and one of 3 percent could be decisive in avoiding such a monetary policy stance.

Output Gap

In the absence of any demand-side shocks in the future, the negative output gap changes will be further small and have a relatively marginal influence on core inflation. However, sooner or later, the output gap will close, so that the negative output gap will put upward pressure on inflation.

The extent to which the economy remains below potential depends, however, on both external and domestic factors. What is particular about Romania is that growth rates could not be high to speed up the negative output gap closing, without substantial foreign capital inflows. In turn, capital inflows depend on (i) developments in developed countries and the ensuing monetary policy changes in these countries and (ii) the macroeconomic policy coherence of national authorities. Before exploring these

two factors, we will investigate the relation between the current account and the output gap.

4. Current Account and Output Gap

The trade balance, which is the main current account component, as well as one of GDP components, ensures the relation between the output gap and the current account.

Although the trade balance is only a current account component, in emerging economies the trade deficit is usually wider than current account deficit. In Romania, the trade deficit-to-current account deficit ratio stood in the range of 1.04 and 1.7 during 1997-2012, indicating that the change in the current account deficit reflected and is likely to further reflect to a large extent the change in the trade deficit.

In emerging economies, during an economic boom (rapid expansion) when the output gap is positive, trade deficit and current account deficit are usually widening, whereas net exports make a negative contribution to economic growth rate. In fact, the stronger domestic demand in these economies is financed from external funds, which reflects in the worsening current account. The capital inflows financing excess domestic demand lead to the national currency appreciation, fostering imports which, thus, increase at a faster pace than exports.

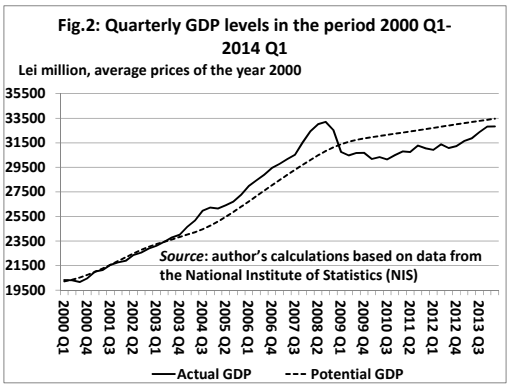
In contrast, when demand deficit (negative output gap) is manifest in an economy, imports and exports are adjusted downwards at first. Then, *ceteris paribus*, the currency depreciation during such a crisis has also a positive impact on exports, to a larger extent than the restrictive impact on imports, so that exports go up at a faster pace than imports, while the trade deficit is narrowing. Net exports come to have a positive contribution to economic growth rate or have a lower negative contribution, depending on the performance of other GDP components.

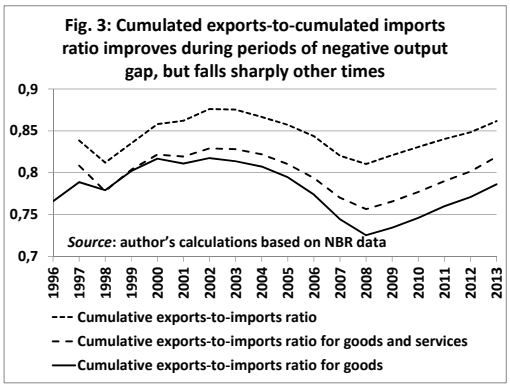
To sum up, when the output gap is positive, the trade deficit and, thus, the current account deficit are expected to widen (net exports go down), but when the output gap is negative, the trade deficit and the current account deficit are expected to narrow.

On an annual basis, we can ascertain to what extent net exports contributed to economic growth and whether the contribution was higher or smaller than that of other GDP components. Data for Romania show significantly lower positive or negative contributions of net exports in most years of negative output gaps (the post-crisis period after 2008). In contrast, the contributions of net exports are negative during an economic boom (pre-crisis years).

The Strong Net Export Channel

In order to determine whether net exports had a positive contribution to the economic growth of a period characterised by negative output gap, we calculated the ratio of cumulative exports to imports of goods and services. Figures 2 and 3 show that this ratio increased during the years when the positive output gap narrowed considerably or was negative, i.e. after 1997 until 2003 Q2 and during July 2008-December 2013.





The data presented so far lead to two conclusions. The first is that, during periods of negative output gap, net exports of goods and services had a larger contribution to mitigating contractionary effects of other components of GDP, in line with expectations. In addition, the cumulative real depreciation of the leu during July 2007-May 2013 was significant, thus fostering exports.

These data show that net exports and the currency depreciation are channels with a very powerful capacity to boost production[9], thus making a significant contribution to closing the negative output gap[10]. Insofar as the export-oriented production increases, the production capacities of the domestic export-oriented sectors tend to be used more efficiently. Thus, net exports tend to contribute to closing the negative output gap. Therefore, *ceteris paribus*, inflation expectations remain higher than inflation until the output gap is closed and inflation is again equal to inflation expectations[11].

To make a comparison between the net export channel and fiscal policy is impractical as the latter was contractionary after the crisis broke out in Romania. The fiscal impulse was declining, yet constantly negative as of 2009, triggered by the fiscal consolidation effort implemented during this period. In contrast, the net export adjustment may be compared to monetary policy, which was gradually eased starting with 2009, in line with inflation targeting.

[9] *Mention should be made that, apart from the stimulating effects of the national currency depreciation on the domestic economic activity, the private sector's high indebtedness in foreign currency also induces contractionary effects on the GDP generated by the wealth and balance sheet effect of the exchange rate movements.*

[10] *For the economies currently stuck in the liquidity trap and where inflation is below the inflation expectations intended by the respective monetary authorities, positive net exports or currency depreciation help inflation return to the level of inflation expectations.*

[11] *The situation may be different in large economies, such as the USA and Japan. Theoretically, in these countries, creating inflation expectations should foster firms to produce more in order to charge higher prices in the period ahead. This should entail the more intensive use of production capacities. When these capacities are overused, the rewarding inflation sets in. However, in the large economies, this causal chain might not work on the left end: it is very difficult to create inflation expectations and, for this reason, achieving the intended inflation level is difficult.*

The real interest rate declined between 2009 H2 and end-2010, entering a negative area during 2010 Q4-2011 Q2. Monetary policy easing caused consumption and gross fixed capital formation make a lower negative contribution to the GDP growth rate, from -6.0 percent (consumption) and -9 percent (fixed capital formation) in 2009 to -1.1 percent and -0.4 percent, respectively, in 2010. The net export contribution to the GDP growth rate went down from 7 percent in 2009 to 0 percent in 2010.

The real interest rate entered positive territory in 2011 Q3-Q4 and then resumed a downward path in 2012, approaching zero in 2012 Q4 and staying below 1 percent up to now. Accordingly, the contributions of consumption and gross fixed capital formation to the annual GDP growth rate rose to slightly positive levels in 2011 and 2012. In contrast, the contributions of net exports turned slightly negative. The data available so far showed that, in 2013, net exports made again[12] the main positive contribution to economic growth.

The Pattern of Current Account Adjustment

The second conclusion is that the 1997-2003 data (Figure 3) highlight a certain pattern of current account adjustment in a period of negative output gap. The pattern has three specific features. The first is that the cumulative exports of *goods* tend to outpace cumulative imports less firmly compared with other current account components.

The second refers to the enhanced firmness in the case of *goods and services*. During 1997-2002 there were two years (1998 and 2001) when the ratio of cumulative exports to imports of goods decreased. In the case of *goods and services*, the above-mentioned ratio declined solely in 1998. In other words, the cumulative exports of services outpaced the cumulative imports of services in several cases, making a higher contribution to economic growth.

According to the third feature, the firmness increases even more in the case of the cumulative positive contribution of *current transfers* (remittances from abroad) and of *net factor income from abroad*. This peculiarity led to a faster rise in the ratio of cumulative current account credit to debit than in the ratio of cumulative exports to imports of goods and services in a period of negative output gap.

Counterintuitively, the cumulative contribution of "net current transfers" and "net factor income" to the improved current account position rose from EUR 6.3 billion during the economic boom (2004-2008) to EUR 6.7 billion during 2009-2012. The rise is the result of a crisis-induced adjustment, reflected in the faster narrowing of the "factor income" deficit as compared with the drop in the "current transfers" surplus. The latter contracted from about EUR 6 billion in 2008 to EUR 3.4 billion in 2012 and to EUR 1.6 billion in January-May 2013.

[12] *This time, due to some relatively important structural changes in exports and imports of goods and services, corroborated with a more pronounced shift of domestic exports to non-EU markets, which have a higher growth potential.*

What Does the Adjustment Pattern Reveal?

The previously described model functioned during 1997-2003 Q2. It repeated itself flawlessly in 2009-2013, if we refer to the strength of net export contribution to economic growth during a period of negative output gap.

If the pattern of current account adjustment is also robust, particularly that related to the developments in the balance of goods and services, then the incipient signs of the firm return to higher economic growth arise from a lower ratio of cumulative current account credit to cumulative debit. If the model identified for the 1997-2003 period repeats itself, the output gap closes in the year when this ratio starts to decrease.

We can use the relation between the output gap and the above-mentioned ratio to estimate the period when the said ratio remains in an uptrend. Assuming that, after the crisis triggered in 1997 in Romania, the output gap turned negative as late as in the current crisis (2009 Q2) and that the current negative output gap would require the same number of years to close, then the negative output gap could close somewhere in 2015[13]. However, given the large number of crisis-hit economies and the fact that numerous euro area-related issues are still pending, the gap may close towards the end of the decade.

If the model that was valid during 1997-2003 with regard to cumulative exports-to-cumulative imports ratio works again until the output gap is closed, then the trade deficit and, thus, the current account deficit could narrow and remain at relatively low levels until the end of the decade. It is even possible for the current account to record surpluses continuously or alternatively by this horizon.

If we consider that, during the previous crisis, the economic growth rates shifted consistently to relatively high levels two years before the closure of the negative output gap, then the Romanian economy is likely to exit the stage of "crawling" growth at low levels no sooner than in 2016.

5. An Expected "Surprise"

The current account deficit of about 1 percent of GDP recorded for the first time in the past 24 years came as a surprise judging by the forecasts made earlier in the year. After the strong adjustment of 2009, the current account deficit further posted relatively high levels (slightly more than 4 percent of GDP, on average, during 2010-2012) and was estimated to stand at about 4 percent of GDP in 2013.

It is difficult to say exactly why the current account deficit in Romania has remained relatively wide after the crisis, while the current accounts of other countries also recording negative output gaps showed considerably lower deficits or even surpluses. For instance, the current account balance in Romania stood at -11.6 percent of GDP in 2008, while the average of current account balances during 2009-2012 equalled -4.3 percent of GDP.

[13] *However, mention should be made that the current global economic crisis and that of 1997-2003 were different, thus implying a certain degree of relativity in extrapolating some economic regularities in the specified interval on the current developments.*

In most countries presented in Figures 4-11, adjustments were higher than reported by Romania. However, for all those countries, the 2009-2012 average current account deficit as a share in GDP is smaller than that calculated for Romania. The data show that Romania has been one adjustment behind. From this standpoint, the strong adjustment of Romania`s current account in 2013 was not at all surprising.

Fig. 4: Changes in the share of the current account balance in GDP in 2013 as compared to 2008 (percentage points)

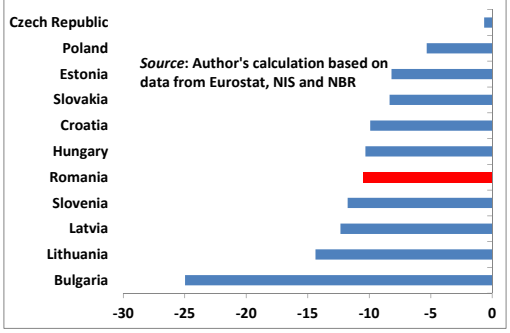


Fig. 5: Changes in the share of the current account balance in GDP in 2012 as compared to 2008 (percentage points)

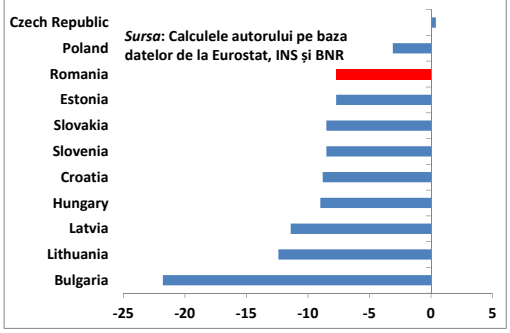


Fig. 6: The current account balance in 2008 and 2013 (% of GDP)

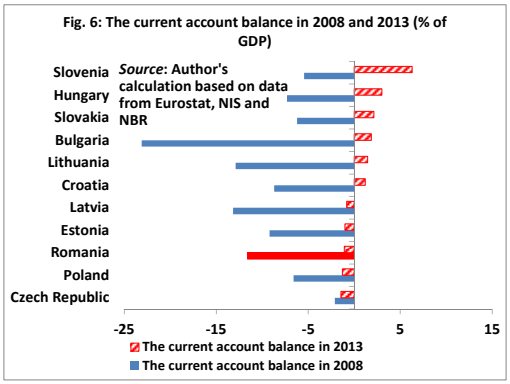


Fig. 7: The current account balance in 2008 and 2012 (% of GDP)

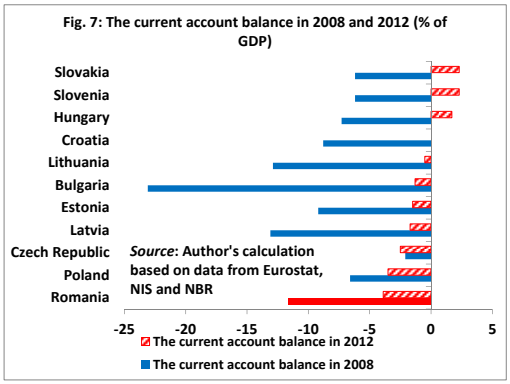


Fig. 8: Changes in the share of the average current account balance in GDP during 2009-2013 as compared to 2008 (percentage points)

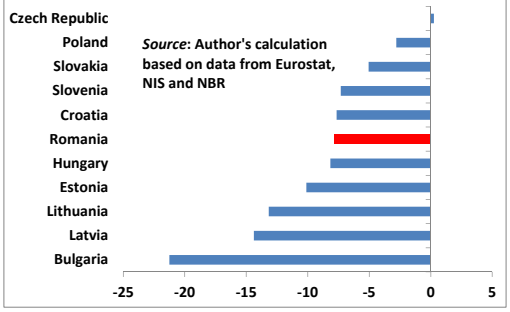
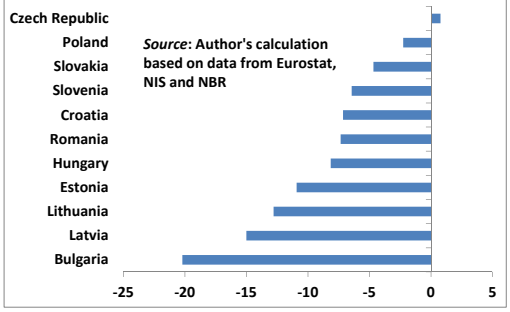


Fig. 9: Changes in the share of the average current account balance in GDP during 2009-2012 as compared to 2008 (percentage points)



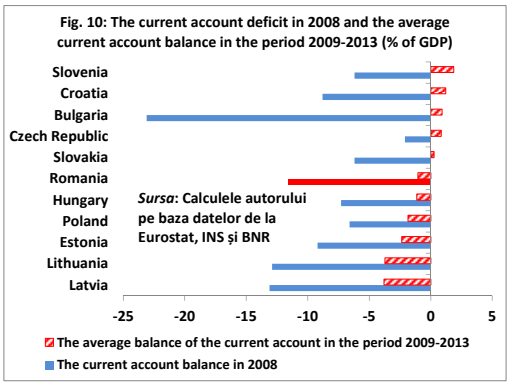


Fig. 10: The current account deficit in 2008 and the average current account balance in the period 2009-2013 (% of GDP)

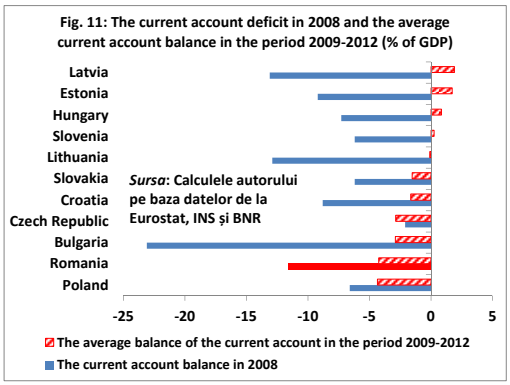


Fig. 11: The current account deficit in 2008 and the average current account balance in the period 2009-2012 (% of GDP)

Budget arrears and the efficiency reserves of the Romanian companies may explain why relatively wide external deficits coexisted with relatively large GDP gaps. Some exporting companies may have put on hold payments to domestic suppliers or the state in order to increase their imports. In addition, certain exporting companies, whose production is oriented to the domestic market as well, may have used their efficiency reserves completely or partially as they also conducted activity on scarcely competitive domestic markets.

6. The External Environment and Romania

The debt-to-GDP ratios of some developed (including euro area) countries exceed 100% and the unemployment rate is high too. Therefore, deflation should not be viewed as a solution. In order to prevent it, the central banks of these countries cut interest rates close to zero (thus facing the liquidity trap) and chose to foster demand via quantitative easing. Thus, deflationary expectations are expected to turn into inflation expectations[14]. To this end, central banks bought private-sector financial assets and government bonds well about USD 12 trillion by December 2013.

Such policies have as a consequence the migration of large amounts of private money to countries with faster economic growth rates and higher yields. Part of that money was channelled to purchases of Romanian government bonds, being underpinned by the fiscal adjustments in 2010-2013. Capping or reversing such flows will have a significant impact on Romania's financing as well.

2013 seemed to be a year of important decisions for quantitative easing. On the one hand, Fed chairman Bernanke announced he could taper off purchases of financial assets from the state and the private sector. That was an indication that US inflation expectations have increased in line with the Fed-intended level. His statement sent US bond prices down, raising concerns among bondholders.

On the other hand, Japan has been attempting to produce inflation expectations for about 20 years, yet in vain. In 1937, the US have learned their lesson about the

[14] *In some of these countries, inflation came quite close to zero, yet inflation expectations hovered around the inflation target. This shows that the negative output gap neared the size of inflation expectations.*

severe contractionary consequences caused by the early discontinuation of inflation-boosting programs. The decision to stop or reverse quantitative easing is difficult and Yellen's more nuanced talking regarding tappering is a proof to this end.

In the assumption that developed economies will not escape the liquidity trap very soon, deflationary pressures might, in the absence of supply-side shocks, occur in some emerging economies, Romania included. According to this scenario, output may remain below potential for some more years, going beyond 2016.

On the one hand, the negative output gap will push for further improvement in current account deficit of Romania. On the other hand, disinflationary pressures will send government securities yields down across the entire maturity spectrum.

With interest rates approaching the levels close to those seen in developed countries, the private financing available for Romania will see a decline. Incentives to invest in Romanian bonds will come only from a tight fiscal policy and from preserving low levels of public debt. In this case, the central banks in emerging countries may have to lower the interest rate close to zero, a level from which the non-standard measures will be the only instruments left. Nevertheless, their effect will be contained, given the relatively high euroisation of the economy.

In the assumption that developed economies would however soon escape the liquidity trap, their central banks would start to reverse the quantitative easing operations. As a result, government bond prices would fall and yields would go up, in developed countries as well, where yields are relatively low at present. Both trends would again lead to a contraction of financing available for emerging markets, Romania included. The operation might inflict losses on the central banks, as well as on other bondholders.

Anticipating the losses that may result from stopping the quantitative easing by the Fed, the ECB and the BoE, many will seek to quickly sell their bond holdings, including the Romanian bonds in lei. Such sales will reflect in episodes of the leu depreciation, similar to those between the end of May and early June 2013. Even though the fiscal adjustments made in 2010-2013 led to a relatively small budget deficit and a relatively low debt-to-GDP ratio, problems will still arise.

The source of problems is the high indebtedness of the private sector. Romania's total external debt is of about EUR 100 billion, of which private debt accounts for nearly 64 percent. The value in lei of the high external debt will increase once the leu weakens. The ensuing contractionary effect will be difficult to counteract by the increase in exports that could result from the leu depreciation. In this context, rising the interest rate would be the main option for monetary policy, depending also on the size of the depreciation: it would slow down depreciation by raising new capital and producing relatively small net contractionary effects.

7. Beneficial Coincidence of Time

Romania's annual borrowing requirements are determined by the external debt with a residual maturity of one year and the current account deficit. The potential decrease in funding available for Romania would be more consistent with lower current account

deficits or surpluses. If, according to the pattern described above, the output gap stays in negative territory until 2016 at the earliest, triggering a decrease in or surpluses of the current account deficit, the drop in external financing due to external environment will therefore be partly offset.

Reducing borrowing requirements is in itself a good thing. The less foreign funding available to Romania in case of a halt in quantitative easing in developed countries, the more welcome the reduction in the current account deficit. A significant drop in foreign capital is visible even by comparison with the levels that seemed to have stabilised at lower levels following the first years of the crisis. This trend would become sharper if the scenarios envisaging a tapering-off the quantitative easing materialised.

However, the record-low current account deficit in 2013 also shows that private saving exceeds investment by an amount higher than the fiscal deficit. On the one hand, the relatively high private saving has an impact on economic growth by slowing it down. On the other hand, given the wide external surpluses run by the private sector, politicians may think it is possible to relinquish the low budget deficit policy in order to foster economic growth. Yet, this argument would be fallacious.

8. How Should Fiscal Policy Look Like

We have already shown the possible changes in Romania's monetary policy depending on the development of some advanced economies caught in the liquidity trap. In short, we have reached three conclusions: (i) lowering the policy rate has been possible so far only in small steps, given the powerful shocks and the inflation expectations; (ii) if the advanced economies remain caught in the liquidity trap and provided that no other shocks emerge, there might be a need for monetary policy easing in Romania, maybe even for a shift to quantitative easing; and (iii) if developed countries recover and decide to reverse their quantitative easing, Romania might need to strengthen its monetary policy.

It remains to be seen however the direction in which fiscal policy in Romania will embark upon. Political pressures to ease fiscal policy have increased. The imitation effect acts as a source of these pressures. The idea of ending fiscal austerity is rapidly spreading across the euro area and Romania has embraced it as well, at odds with actual facts. Adding to this was the weak economic activity persisting over a longer-than-expected period of time. Lately, an argument in favour of moving away from fiscal discipline is brought by the unexpectedly low current account deficit in 2013. This performance could be perceived by some politicians as an opportunity for fiscal policy easing.

But fiscal policy easing will neither foster economic growth nor lead to job creation. As long as the negative output gap persists, a high budget deficit will have three concurrent results, namely pressures for a stronger aggregate demand, higher interest rates and, finally, upward pressures on public debt.

The first two outcomes are mutually exclusive, so that there will be no sign of economic growth and no increase in the number of jobs. Romania reports a low debt-to-GDP ratio, judging by the standards of developed countries, but investors would

hardly tolerate any increase in this ratio, and therefore higher interest rates and debt levels might act jointly to trigger a financial crisis. To conclude, even if the negative output gap persists, the wider budget deficits cannot be a solution.

The increase in the budget deficit would not be a solution even once the output gap is closed. Higher public expenditure would rekindle inflation, so the central bank would have no option but to raise the policy rate to keep inflation within the band around the target. Due to the higher policy rates, consumption and private investment would decrease, the domestic currency would strengthen, thus squeezing private expenditure. In the end, fiscal easing would have virtually no impact on aggregate demand.

The solution may lie with further pursuing the low budget deficit policy, together with improving the expenditure policy. Basically, the share of transfers in total expenditure must be reduced, while boosting investment expenditure. This was the philosophy of Romania's fiscal plans for 2010-2011, which prestigious economists, like Martin Feldstein (2013) from Harvard University, recommend for euro area countries as well.

This policy implies that transfers should increase at a slower pace, while public investment in infrastructure should rise at a faster pace, insofar as budget revenues rise. As regards transfers, this policy would translate into a slowdown of the public debt growth rate, including by narrowing the pension budget deficit, while in terms of investments, it would bring about GDP and private sector productivity growth thus vouchsafing future pension increases. At the same time, the opposite policy, i.e. a rapid increase in transfers, including pensions, versus investments, is unsustainable.

In 2010, transfers accounted for 55 percent of Romania's general government budget (GGB), while the share of capital spending[15] in GGB was 9.6 percent. In 2011, these two indicators reported a significant performance, reaching 53.5 percent of GGB and 11 percent of GGB respectively.

The 2012 budget execution further featured the adequate policy stance of cutting transfer expenditure, the share of transfers coming at 52 percent of GGB. The share of capital expenditure dropped to 9.3 percent of GGB, below the 2010 level.

The implementation of fiscal plans in 2010 and 2011 was challenging, given the government's frail majority in the Parliament. The current parliamentary majority supporting the current cabinet is strong enough to stick to the policy of a slower increase in transfers and a faster increase in capital expenditure.

9. Conclusions

In this study, we showed that inflation rate and current account evolved in line with some historical patterns, once the global financial and economic crisis hit Romania in the latter part of 2008. Core inflation declined at a relatively fast pace for a long period of time. It reached negative values in October 2013 and has remained negative since then. The current account deficit also narrowed sharply, turning into a surplus in the

[15] *Capital expenditure refers to the discretionary expenses incurred by the government for investment purposes, without prior negotiation. The government may incur higher investment expenditure if it borrowss following negotiations with lenders or attracts EU funds.*

first part of 2013 for the first time in the past 24 years, before reaching a record-low of 1 percent of GDP at end-2013.

The output gap dropped from 9 percent of potential GDP in 2008 Q2 to -3.7 percent in 2010 Q1. Supply-side shocks and the relatively high inflation expectations prevented the gap adjustment from reflecting in lower inflation levels that would have raised the issue of deflation. However, there were only few cases when expected inflation declined below the upper bound of the variation band of the target. Consequently, in the reviewed period, the central bank could only gradually cut the monetary policy rate.

We showed that, during economic booms when the output gap was positive, net exports made a cumulative negative contribution to economic growth. In contrast, during periods of negative output gap, net exports had a cumulative positive contribution to economic expansion. These data reveal the extremely powerful contribution of net export channel to economic growth.

We used this relation to illustrate that the economy could function on relatively small current account deficits or even surpluses until 2018 and that it would revert to relatively high and stable growth rates no sooner than 2016.

In addition, we point out that if developed countries remain caught in the liquidity trap, then the monetary policy easing might be necessary in Romania. If the Fed, the ECB and the Bank of England give up on the quantitative easing policy, then the monetary policy might be tightened.

Eventually, we show that fiscal policy in Romania has to further rely on relatively small budget deficits and revert to the faster increase in capital expenditures, particularly those related to infrastructure, as compared with transfer and current expenditures. This would ensure public debt contraction and contribute to the long-term rise in productivity.

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