



National Bank
of Georgia

INFLATION REPORT

November

2013



MONETARY POLICY IN GEORGIA

- The aim of the monetary policy is to maintain low and stable inflation and thus promote macroeconomic stability, which in turn is a precondition for robust and sustainable economic growth, low interest rates and decreasing unemployment.
- The CPI inflation target is set at 6% for the years 2013-2014 and 5% from the year 2015. The inflation target of the National Bank of Georgia is planned to decrease gradually to 3% in the long term, parallel to the development of the economy.
- Since monetary policy decisions impact the economy with a certain time lag (4-6 quarters), the formulation of the monetary policy is done according to inflation forecasts in order to hit the target in the medium term. The medium term horizon depends on shocks and exogenous factors that influence the rate of inflation and the aggregate demand.
- The primary tool of the monetary policy is the refinancing rate. The change of the policy rate is transmitted to the economy through market rates, exchange rate and credit activity, thus influencing the aggregate demand. The difference between the actual and the natural level of demand is the main determinant of inflation in the medium term.
- Monetary policy decisions are communicated to the general public via press releases. The vision of the bank with regard to ongoing and expected macroeconomic activity is published in the Inflation Report in the second month of every quarter.

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1. BRIEF OVERVIEW

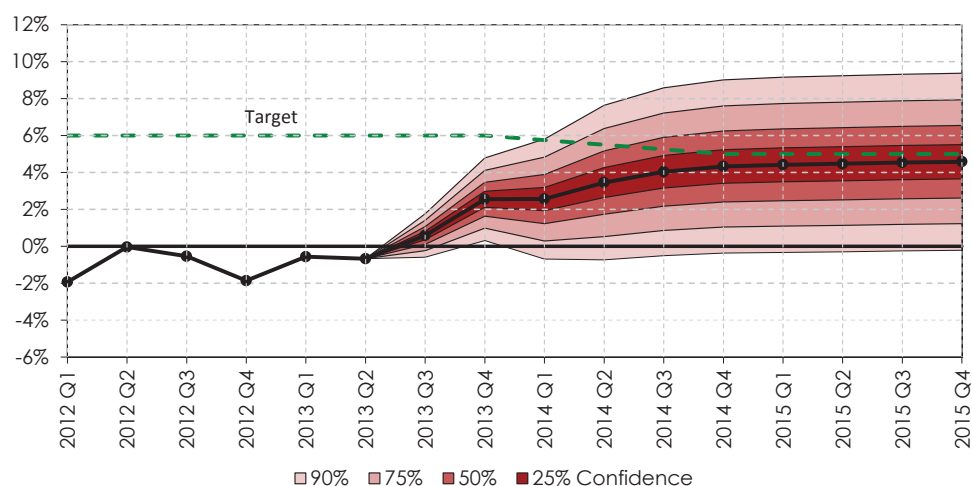
In the third quarter of 2013 CPI inflation remained in negative territory, mainly due to the prolonged deflationary pressure since last year stemming from the supply side. In October, the annual rate of inflation increased to 0.2% year-on-year terms, which is well below the NBG's target of 6%. The main reasons for the deviation from the target were lower food and imported price inflation, as well as the one time utility price cuts, which has created a negative contribution to inflation on a year-on-year basis since the beginning of 2013.

In addition to supply side factors, weak aggregate demand remained a source of lower inflation. In the first half of 2013 the Georgian economy increased by 2% year-on-year, owing mainly to a fall in gross capital formation and an increase in net exports. The contribution of consumption was also weak. In terms of the main economic sectors, the agriculture, tourism and trade sectors made positive contributions, while the construction sector made a negative contribution.

Banking sector activity declined amid abating aggregate demand in 2013. In September, the credit portfolio increased by 10% in year-on-year terms, while growth remains uneven among the retail and business sectors. Credit to the business sector has shrunk, while consumer and mortgage loans increased at a relatively faster rate. Considerably lowered deposit rates and excess liquidity in the banking sector indicates the absence of supply side constraints on the credit market. The eased monetary policy and reduced cost of deposits contributed to a decline in loan interest rates. The decrease is also noticeable in retail products proposed by the commercial banks through the consumer loans.

According to the forecast, inflation will continue to increase in the coming quarters. On the one hand, inflation will be positively affected by fading deflationary factors on the supply side and amid the decreasing impact of the utility price cut. On the other hand, upward pressure on consumer prices from the demand side will also increase. The forecast indicates that the inflation rate will approach the target towards the end of 2014 (see Figure 1.1). The supply side remains a major risk factor for the current forecast. In particular, food and imported energy prices in both international and domestic markets might increase faster than expected in 2014. The demand side is also important – increased social expenditures may be reflected in the prices of consumer goods. On the other hand, the sluggish activity of business and lowered domestic investment create the opposite risks for inflation and may cause insufficient growth in local prices.

Chart 1.1 Headline Inflation

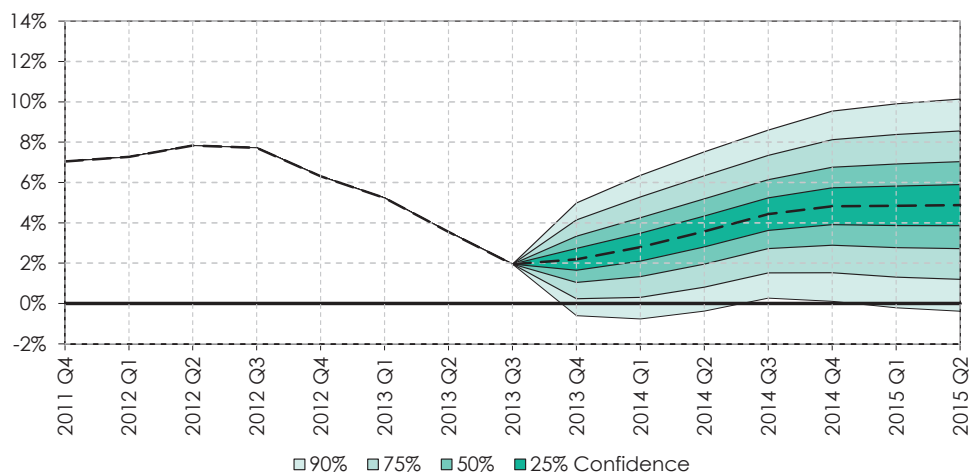


Source: National Bank of Georgia

According to the current forecast, real GDP growth in 2013 will be around 2.5% (see Figure 1.2). The forecast assumes a significant increase in economic activity in the fourth quarter, which will be due to the processing/export of agricultural products in parallel with an increase in government spending. It is also assumed that the growth of the tourism and trade sectors will follow their recent trend.

According to the baseline scenario, the economic growth for 2014 will be around 5%. The risks for the forecast stem from business confidence. The economic outlook of the country's major trading partners is also important, which is reflected in net external demand. Besides net exports, the global macro-economic environment influences the economy through the channels of remittances and foreign investments. In the event of the risks being realized, economic growth will be less than the baseline scenario. In the alternative scenario, economic growth will be around 3% for 2014.

Chart 1.2 Real GDP Annual Growth (Moving Average)



Source: National Bank of Georgia

At its meeting of 6 November 2013 the Monetary Policy Committee (MPC), based on an analysis of the forecast and its uncertainties, decided to keep the policy rate unchanged. At the same time, the NBG is actively promoting the development of the interbank and money market, which increases the efficiency of the financial sector and improves the transmission of eased monetary policy to the economy.

2. MACROECONOMIC FORECAST

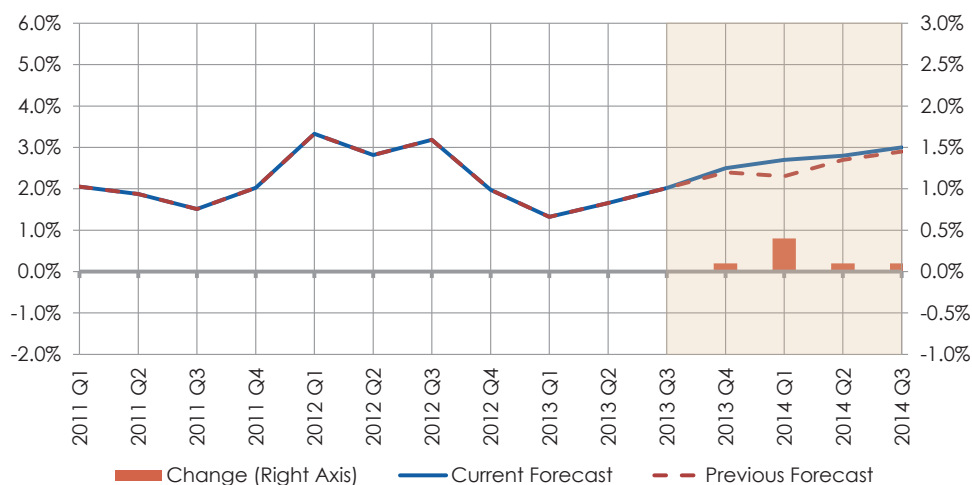
2.1 FOREIGN SECTOR OVERVIEW

The global recovery is proceeding at an uneven pace with accompanying problems. Improved sentiments and an increase in private demand have led to positive trends in developed economies. However, in the emerging and developing world economic growth has slowed to some extent. One reason for this is the weakened demand for imports in China in the wake of reduced investments, which has adversely affected a number of emerging and developing export-oriented economies. In addition, global risks that point towards the development of adverse scenarios are largely related to expectations on international markets that the expansionary monetary policy of the U.S. Federal Reserve is coming to an end. These expectations effectively raise interest on U.S. long-term securities and threaten developing countries with potential capital outflow and financial tightening. The International Monetary Fund estimates global economic growth to be about 3% in 2013, while it will reach 3.6% in 2014.¹

Compared to the first quarter, the second quarter of 2013 was marked by more intensified economic activity in the U.S. – the annualized quarterly growth amounted to 2.5%.² This increase was due to higher private investments in the real estate market and elevated private consumption. There was also a significant increase in inventories during this period. According to current forecasts, the U.S. economy will continue to recover and the annual growth rates will reach 1.5% and 2.5% in 2013 and 2014, respectively.³ Positive expectations are the result of a relaxed monetary policy from the Federal Reserve, reduced unemployment and the revived real estate market. However, given that in early October the U.S. government raised the national debt ceiling, it is important for fiscal consolidation measures to be implemented in the future, which may have a more-than-expected effect on the economy.

Consistent with the latest estimates, economic activity is stabilizing in the periphery

Chart 2.1 U.S. Real GDP Annual Growth



Source: OECD

of the Eurozone, while in the leading economies it is markedly growing. Supported by expansionary monetary policy, domestic demand is improving gradually. Growing foreign demand for exports, fiscal consolidation and positive changes in the financial markets have also contributed to the recovery. Nevertheless, high unemployment remains a severe problem in euro area countries and the European Central Bank es-

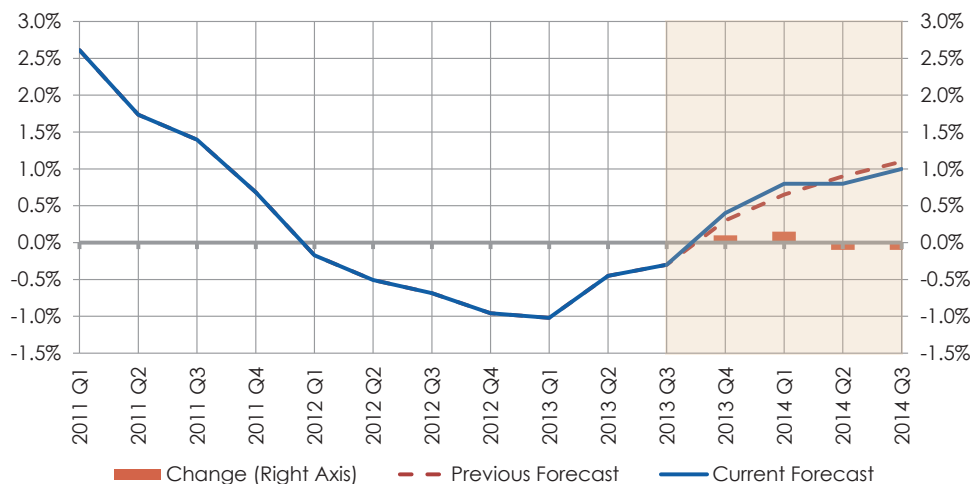
1 Source: WEO, Oct. 2013

2 Source: Bureau of Economic Analysis, News Release, Oct. 2013

3 Source: WEO, Oct. 2013

estimates that other potential risks may also have adverse effects. The main threats are the expected increase in world commodity prices, the weakening of global demand and the slow pace of the implementation of structural reforms. The IMF estimates that the Eurozone economy will grow -0.4% in 2013, while in 2014 the figure will turn positive and equal 1%.⁴

Chart 2.2 Eurozone Real GDP Annual Growth



Source: Eurostat

The slow pace of economic recovery in the Eurozone is an impeding factor for emerging countries, mainly because of the weak European demand on exports. This is accompanied by the reduced funding of Eastern European subsidiaries by Western commercial banks and a poor harvest of agricultural products in 2012. Amid tighter financial conditions, the Turkish GDP dramatically decreased in 2012; however, the IMF has forecasted its growth to reach 3.75% in 2013 and 3.5% in 2014 due to monetary easing and increased government investment. Ukraine's economy is still in recession amid weak exports, political uncertainty and tighter monetary policy. It will grow only slightly in 2013, but in 2014 economic growth is projected to equal 1.5%. As for the Russian Federation, its potential economic growth has recently declined somewhat because of capital flight, reduced investments and a weak external sector. According to IMF estimates, its economic growth will amount to 1.5% in 2013 and 3% in 2014.

The consensus is that global inflationary risks remain low for two main reasons. First, the economic growth of major countries' is still lagging behind its potential level and the expected economic intensification in the near future will not be enough to eliminate this gap. On the other hand, mainly due to the weakened demand for imports in China, the recent increase in supply and the decrease in demand for commodities on international markets creates additional disinflationary pressure. Annual CPI inflation in the third quarter of 2013 equaled 1.1% in the Eurozone and 1.2% in the U.S. Inflation in emerging and developing countries is higher and, according to the forecasts, will remain in the range of 5-6% on average.

⁴ Source: WEO, Oct. 2013

Chart 2.3 Eurozone CPI Annual Inflation

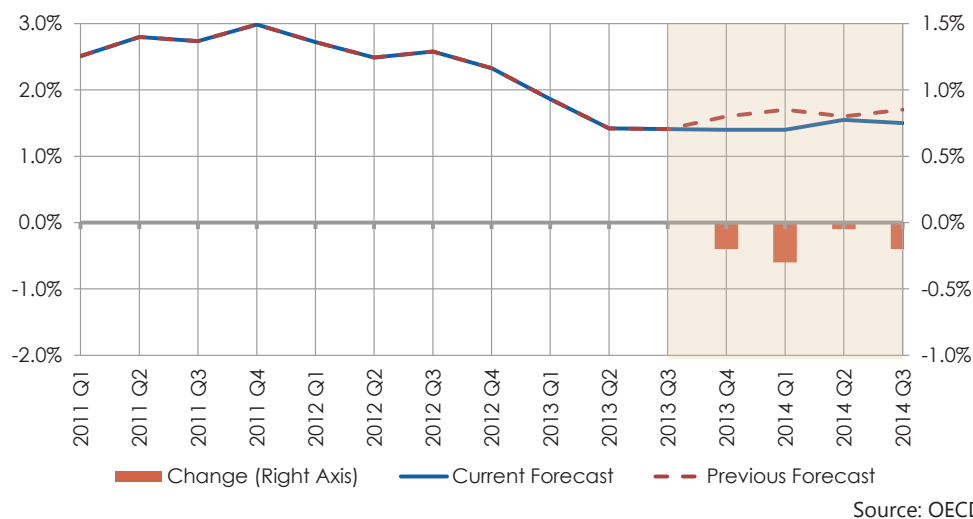
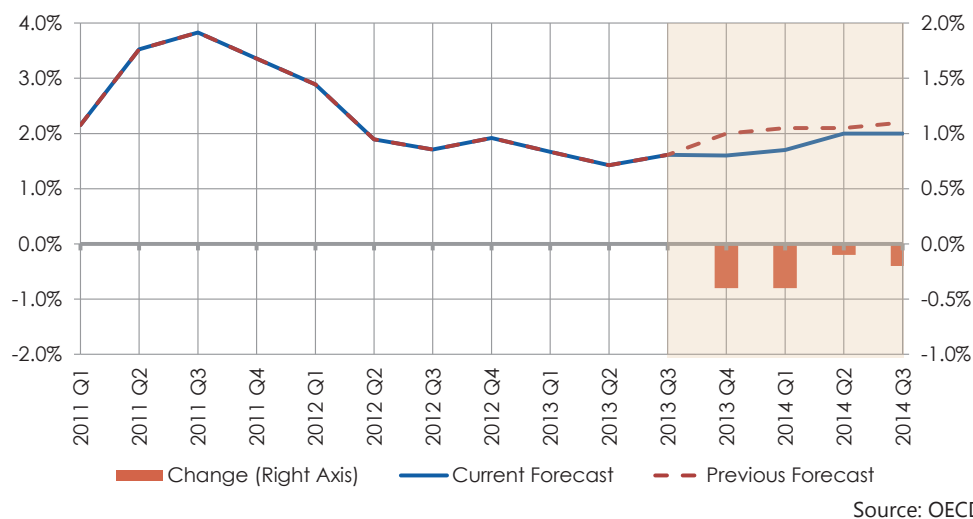


Chart 2.4 U.S. CPI Annual Inflation

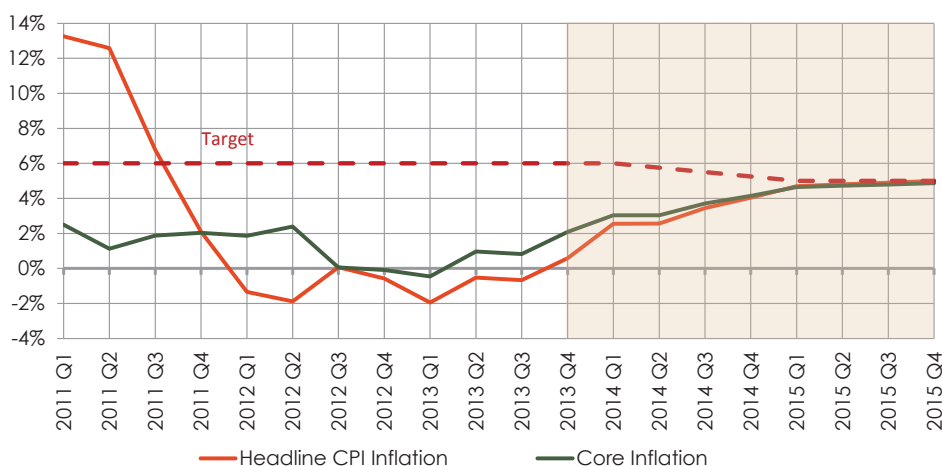


Monetary policy will remain eased throughout the world, however, as noted above, financial market expectations of a likely end of the expansionary policy of the Federal Reserve led to an increase in interest rates on long-term securities in the U.S. in the second half of 2013. In response, the Federal Reserve authorities provided a clear explanation that the termination of the asset purchase process is not planned in the near future, and that would depend on economic growth and employment rates. Similarly, recent announcements from European and Japanese central banks also indicate the retention of relaxed monetary policy for a long period of time.

2.2 THE MACROECONOMIC FORECAST

In the third quarter of 2013, deflation continued in Georgia and the annual inflation rate was -0.7%. In the same period, core inflation, which implies a change in consumer prices, excluding food and energy, was 0.8% (see Figure 2.5). The annual inflation rate is significantly below the National Bank of Georgia’s target of 6%. This undershooting is largely due to exogenous factors; however, insufficient pressure on consumer prices from the demand side is also an important factor. Inflation dynamics in the third quarter were mainly determined by the continuing effect of the exogenous factors raised at the beginning of the year. Deflationary pressure from the supply side has been preserved at a certain level; however, its effect is gradually disappearing, which will be reflected in the rapid elimination of deflation. In addition, due to the low level of economic activity in comparison to its potential, inflationary pressure is not enough from the demand side either (see Figure 2.6).

Chart 2.5 Headline and Core Inflation



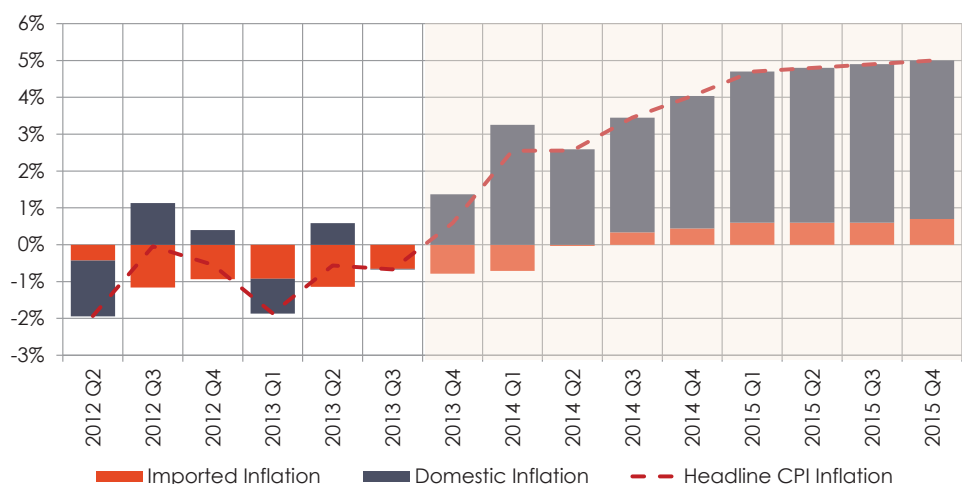
* Core inflation excludes food, energy and utilities' prices from the basket.

Source: National Bank of Georgia

« Annual inflation is to remain relatively low during 2013 and is expected to reach the target indicator in the second half of 2014.

External factors also contributed to deflation in the third quarter of 2013. The appreciation of the nominal effective exchange rate and the decrease of world prices resulted in a decline of imported inflation. The appreciation of the nominal effective exchange rate was mainly caused by the depreciation of the Turkish lira against USD.

Chart 2.6 Headline Inflation Decomposition



Source: National Bank of Georgia

According to the current forecasts, it is expected that consumer prices will rise in the fourth quarter of 2013 and that this upward trend will be maintained in 2014 as well. Annual inflation will reach its target by the end of 2014 (see Figure 2.5). The major risk factor for the forecast remains in the supply side, namely the seasonality of agricultural crop production, which may cause a higher than expected increase in food prices in 2014. The demand side is also important. In particular, the increased social spending of the government may be reflected in the prices of primary consumer goods. On the other hand, low levels of domestic investments and business activity create the opposite risks for inflation and may lead to an insufficient increase in domestic prices.

According to the current forecast, the disappearance of supply shocks alongside a rise in domestic prices (see Figure 2.6), which should be facilitated by an expected growth in economic activity, will determine the convergence of inflation with the target. The effect of reduced utility prices is also important and the base effect of these will be eliminated in the beginning of 2014.

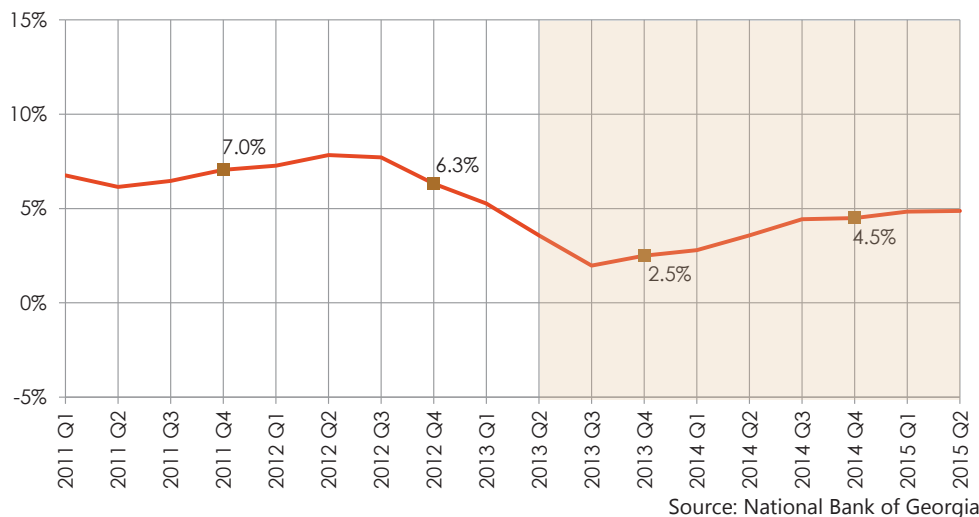
According to preliminary data, in the third quarter of 2013 the growth of economic activity is 1.3%, which is less than the rate expected at the beginning of the year (see Figure 2.7). The low level of economic growth was a result of a number of important

« Annual inflation rate is going to stay low in 2013 and will reach the target in the second half of 2014.

« Slowdown of activity in the financial sector was mainly caused by a decrease in demand for loans and partially by the banks choosing to take on less risk.

factors. Business confidence remained weak, which was reflected in both domestic and foreign investments (see Figure 2.8); consumer confidence was also reduced, which led to a low level of domestic demand. Due to low demand, financial sector activity remains weak. The activity of some large businesses and their subcontractor business entities depends on the implementation of the government's infrastructure projects. Accordingly, in light of the consolidation of the budget in 2013, capital costs optimization caused a short-term reduction in the corresponding sectors of economy, which was reflected in the economic activity.

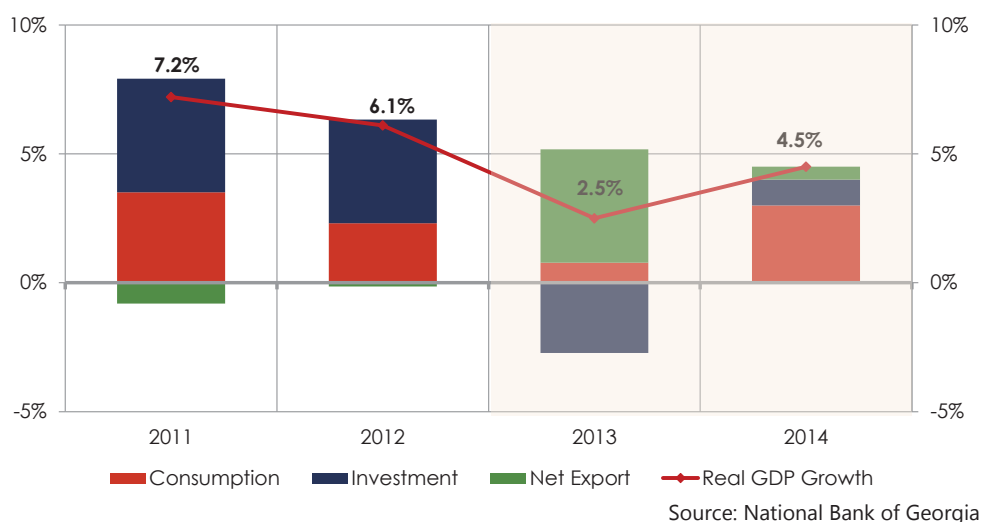
Chart 2.7 Real GDP Growth (Annual Growth of Last 4 Quarters)



According to the current baseline forecast, real GDP growth in 2013 will be around 2.5% (see Figure 2.7). The forecast assumes that economic activity in the fourth quarter will increase significantly as a result of agricultural products processing/export in parallel with an increase in government spending. It is also important to retain the growth trend of the tourism and trade sectors.

« Forecast for real GDP growth in 2013 is still positive in spite of low economic growth in the fourth quarter of 2012.

Chart 2.8 Components of Real GDP

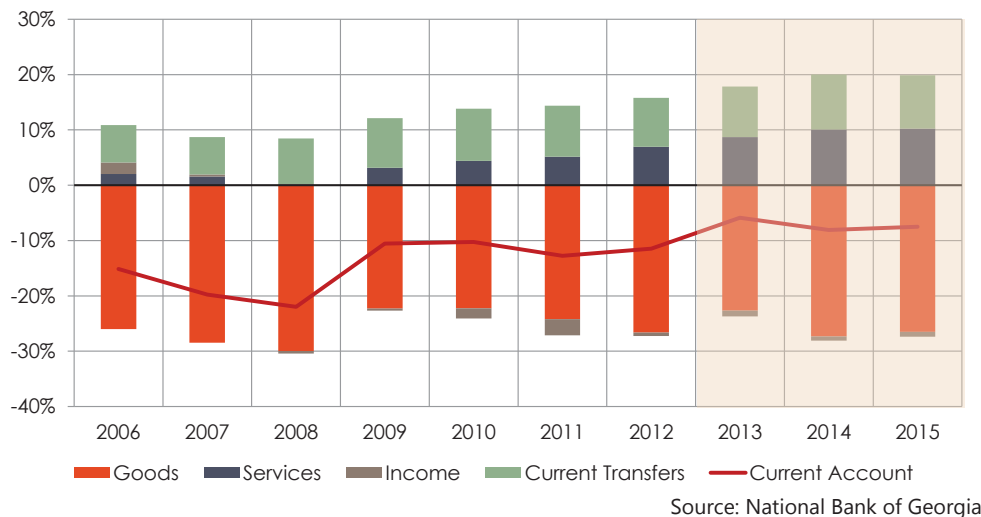


In 2013, net export contributed the most to real GDP growth. After the high growth of the current year, the contribution of net exports will decrease in 2014, but will still remain positive (see Figure 2.8). According to the forecast, the contribution of consumption to GDP growth will increase significantly in 2014 and will become one of the major determinants of growth. The slowdown in economic growth in 2013 was largely due to a reduction in investments and their share in growth was negative. However, in 2014 investments are projected to contribute positively to economic growth.

Due to significantly increased exports and reduced imports, the trade balance con-

tinues to improve. In the third quarter of 2013, the trade balance improved by 11.2%, amounting to 164 mln USD. According to preliminary data, in the third quarter exports of goods and services increased by 24.2%, while imports of goods and services declined by 0.5% annually. Export growth has largely come from consumer goods, but investment goods also increased. The export of goods largely depends on the domestic demands of trading partner countries and global economic growth. The service sector's (including tourism) potential for growth also contributes to export growth. The decline in imports is steady, which largely comes from investment goods.

Chart 2.9 Current Account Components Ratio to GDP

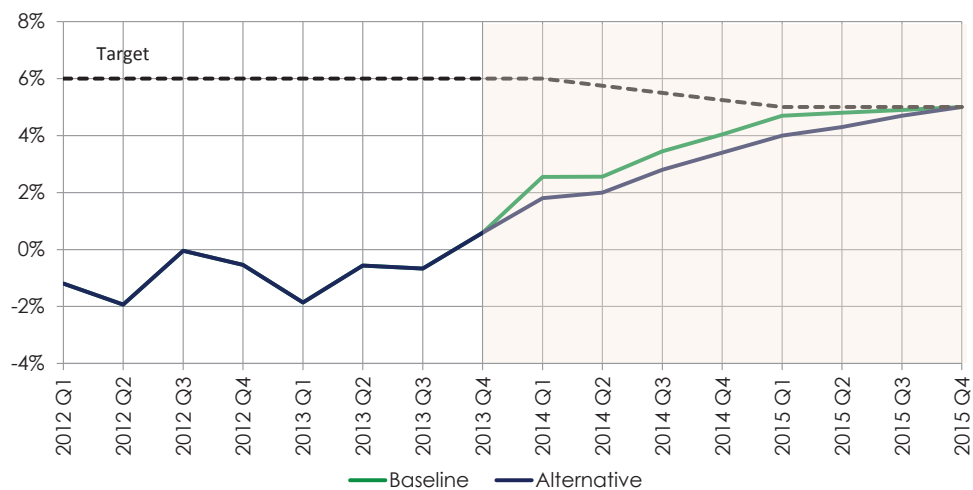


A reduced trade deficit will have a positive impact on the current account deficit for 2013, which is an important indicator of macroeconomic imbalances. According to the current forecast, the current account deficit in 2013 will be within 6% of GDP, in 2012 this stood at 11.5%. The reduction of the current account deficit in 2013 is due to an increase in exports and a decline in investments and intermediate goods imports. It is expected that the import of this type of goods will increase in subsequent years with the inflow of foreign capital, which in the short term will have a negative impact on the current account deficit.

2.3 ALTERNATIVE FORECAST SCENARIO

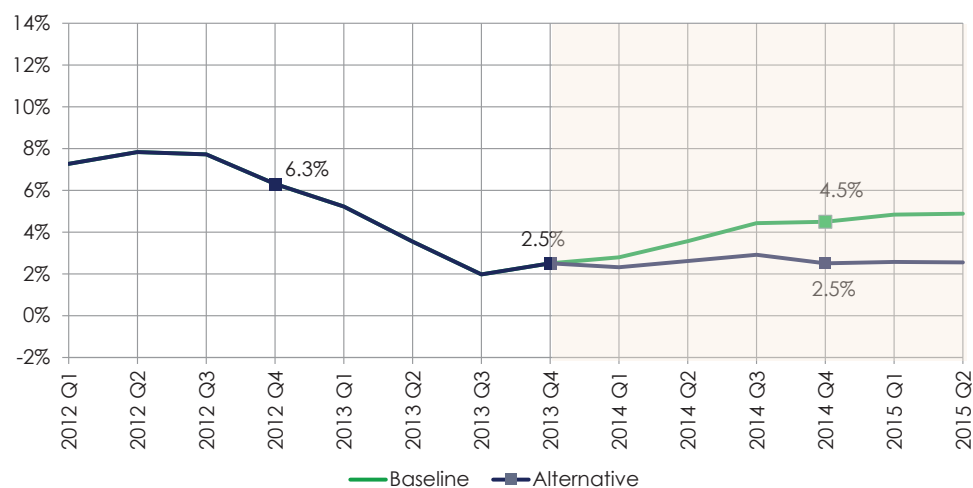
The alternative forecast scenario considers the possible impact of those macroeconomic risks, as mentioned in the previous sections, on the macroeconomic forecast. In particular, it describes the scenario of a slower pace of business confidence and investment (private and public) recovery as compared to the baseline scenario. Weak aggregate demand in the first half of 2013 indicated uncertainty from the side of investors and delayed business activity. According to the hypothetical scenario, if recovery happens at a slower pace than the basic scenario, it will lead to a slowdown in the recovery of business activity, which will be reflected in GDP growth in 2014. In the event of the risks being realized, weakened demand will generate additional deflationary pressure and will cause a slowdown of price growth. The impact of these risks is discussed in the alternative forecast scenario (see Figure 2.10 and Figure 2.11).

Chart 2.10 CPI Inflation According to Baseline and Alternative Forecasts



Source: National Bank of Georgia

Chart 2.11 Real GDP Growth According to Baseline and Alternative Forecasts



Source: National Bank of Georgia

The reduction of demand caused by a negative shock has an undesirable impact on GDP growth and consumer price inflation. In particular, in the alternative scenario GDP growth is 2.0 percentage points lower than in the baseline scenario and reaches 3% in 2014. Under the alternative scenario, the impact on consumer price inflation is relatively low; the overall inflation rate is 3.4% by the end of 2013 and reaches the target rate by the end of 2015.

In the case of the alternative scenario, the results from the risks being realized are partially balanced by corresponding monetary policy easing that will reduce the extent to which the deflation shock on food prices spreads to other goods (second round effects), and will also encourage economic activity.

Table 2.1 Comparison of Baseline and Alternative Scenarios
(in deviation from baseline, percentage points)

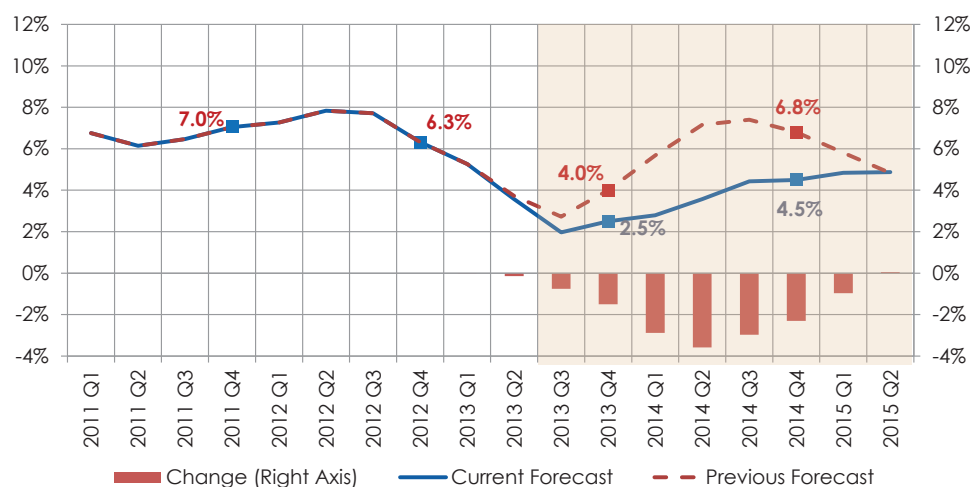
	Inflation	Real GDP Growth
2012 Q4	0.0%	0.0%
2013 Q1	0.0%	0.0%
2013 Q2	0.0%	0.0%
2013 Q3	0.0%	0.0%
2013 Q4	0.0%	0.0%
2014 Q1	-0.7%	-0.5%
2014 Q2	-0.6%	-1.0%
2014 Q3	-0.7%	-1.5%
2014 Q4	-0.6%	-2.0%

Source: National Bank of Georgia

2.4 COMPARISON WITH THE PREVIOUS FORECAST

The change in the annual real GDP growth forecast is due to several factors. In the third quarter of 2013 business activity was less than expected, which indicates the improvement in business and consumer confidence at a slowed pace. In addition, the increase in domestic investment has been sluggish. As a result, the real GDP forecast for 2013 was reduced, which is also reflected in the forecasts for subsequent periods (see Figure 2.12).

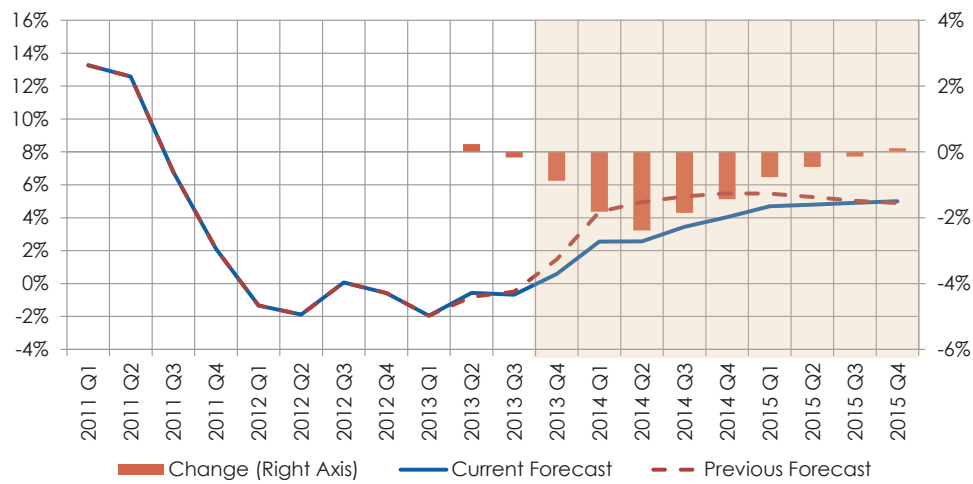
Chart 2.12 Change in Forecast of Real GDP Growth



Source: National Bank of Georgia

Along with changes to the economic growth forecast, the total annual inflation forecast was also updated (Figure 2.13). As a result of lower than expected economic growth, there was no demand-side inflationary pressure, which led to the downwards revision of the inflation forecast.

Chart 2.13 Change in Forecast of CPI Inflation



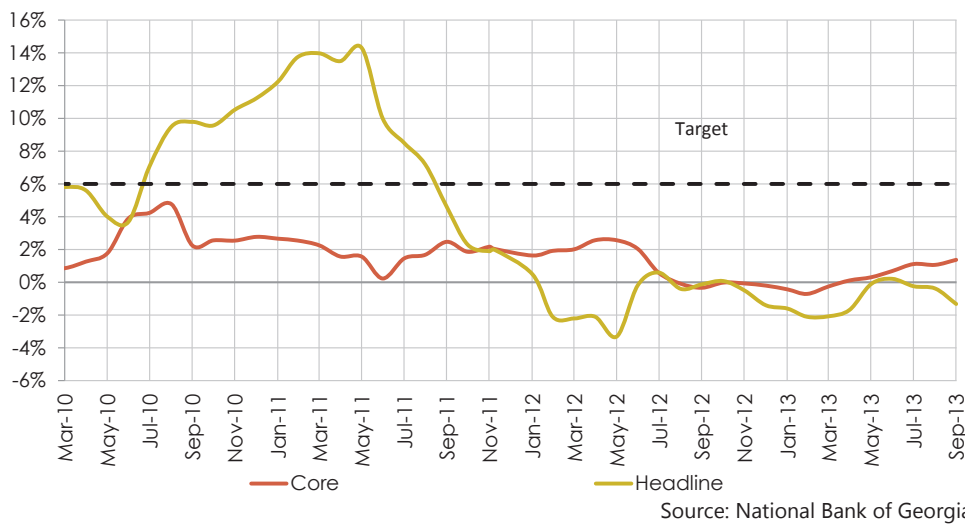
Source: National Bank of Georgia

3. CONSUMER PRICES

The decline of the overall price level continued during the third quarter of 2013. Consumer prices decreased by 1.3% during this period compared to the same quarter in 2012. In October CPI inflation started to increase and, consequently, the annual inflation rate stood at 0.2%. As one can see, headline inflation is at a significantly lower level than the NBG's target of 6%.⁵ Core inflation (excluding food and energy) has improved slightly and stood at 1.3% by the end of October (see Figure 3.1).

« Headline inflation in October 2013 is at a significantly lower level than the NBG's target and stands at 0.2%.

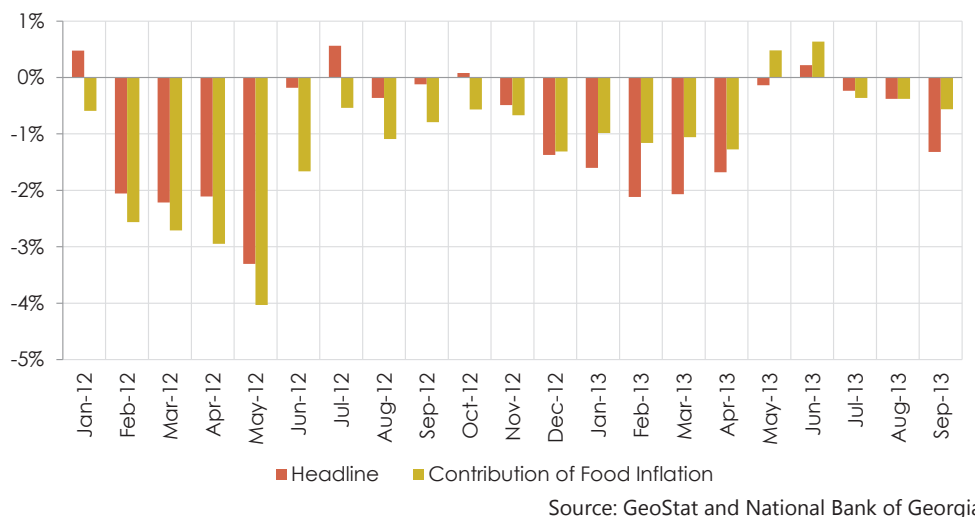
Chart 3.1 CPI and Core Inflation



The base effect is still important for the dynamics of the development of the consumer price index. The more rapid than expected growth in food prices during the second quarter had a temporary character. From July the overall price level of food decreased again. Food deflation deepened in the following months. The annual price change on food products stood at -0.8% by the end of October, contributing approximately -0.2 percentage points to headline inflation (see Figure 3.2).

« The significant deviation of inflation from its target level is largely caused by the decline in food prices.

Chart 3.2 Contribution of food inflation in headline inflation



5 The inflation target will decrease to 5% in 2015.

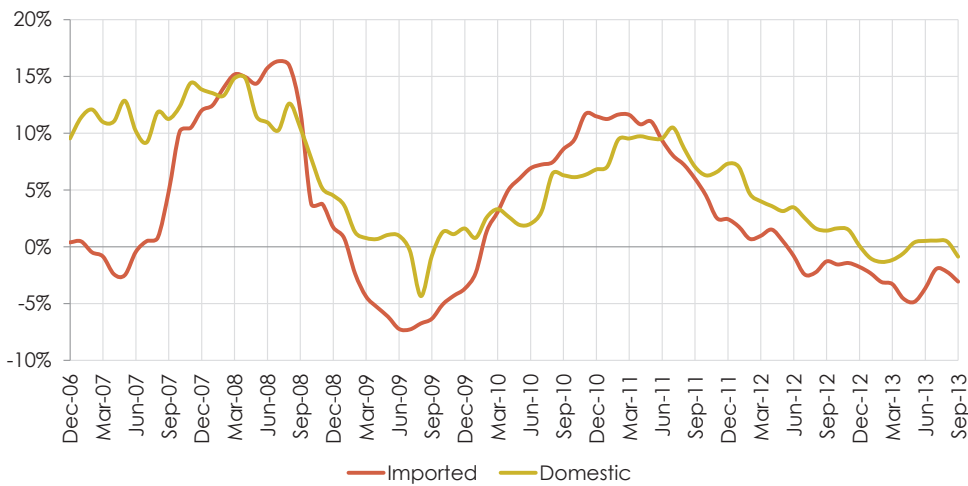
It should be noted that electricity tariffs were reduced at the beginning of the year and gas tariffs were cut in March, amplifying the negative base effect on inflation. The decline of these utility prices has contributed -0.6 percentage points to the annual inflation rate.

In terms of supply factors, it is worth noting that last year low inflation rates were prevalent in our main trade partner countries – Azerbaijan, Armenia and Ukraine. The growth in the price of imported goods exhibited a downward trend since June 2011, before switching to deflation by the end of the second quarter of 2012. This trend continued in both the third and fourth quarters of 2012, with the deflation rate further increasing. By the end of October of 2013 the rate of the decline of the overall price level for imported goods slightly decreased and stood at -1.9%, while the contribution of imported inflation to headline inflation was equal to -0.4 percentage points (see Figure 3.3).

« A decline in administered prices creates an important negative effect on annual inflation.

« Imported goods inflation was still negative and stood at -1.9% by the end of October 2013.

Chart 3.3 Imported and Domestic Inflation



Source: GeoStat and National Bank of Georgia

Just like in the first half of 2013, factors existing on the demand side of the economy continued to have a negative impact on overall prices. The significant fiscal consolidation implemented over recent years and the appreciation of the nominal effective exchange rate during the same period acted to weaken demand and exerted deflationary pressure on the overall level of prices. Against the backdrop of fiscal tightening and exchange rate appreciation, the NBG continued to implement a gradual loosening of monetary policy in order to stimulate demand. In 2013, the NBG has cut its policy rate by 1.50 percentage points to 3.75%. However, credit activity in the economy remained at a low level. Existing uncertainty has hindered the transmission of monetary policy to the real economy; the cut in the refinancing rate did not result in a sufficient growth of demand for bank loans.

« Factors weakening aggregate demand have also caused the rate of inflation to deviate from its target.

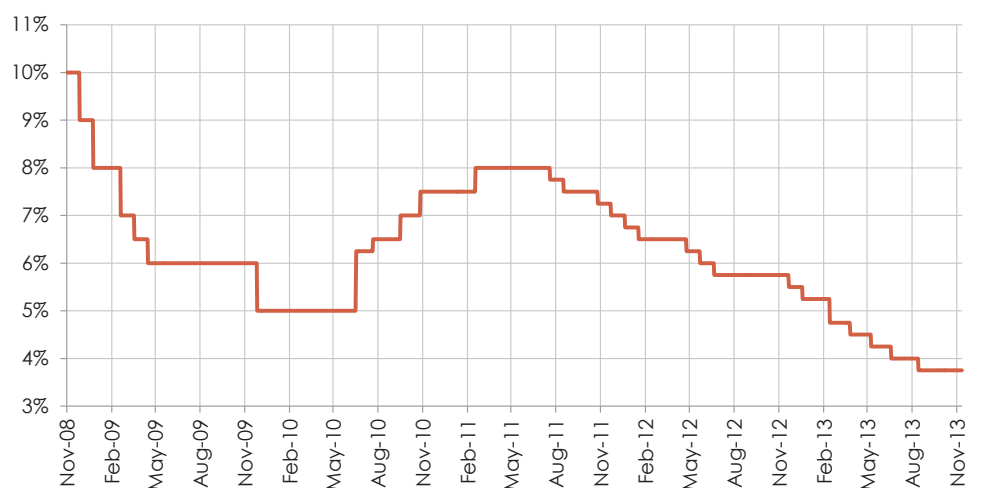
4. MONETARY POLICY

The NBG implemented the loosening of monetary policy from July 2011 until September 2013. The monetary policy rate decreased by a cumulative 4.25 percentage points to 3.75%. This decision was based on the forecasts existing at the time, according to which inflation was to stay below its target level.

Along with the reduction of the policy rate, the loosening of monetary policy was reflected in the expansion of the collateral base used in operations with the National Bank, which thus increased the availability of GEL funds for commercial banks. The measures undertaken have already encouraged the reduction of long term interest rates to some extent, which in turn supports the growth of aggregate demand. From June, the growth of GEL loans with variable interest rates has been remarkable. These loans are characterized by low interest rates. Because they increase the influence of the monetary policy rate on market rates the popularization of variable interest rate loans is important in order to increase the efficiency of monetary policy.

« The NBG maintains the policy rate unchanged.

Chart 4.1 Monetary Policy Rate



Source: National Bank of Georgia

The last Monetary Policy Committee meeting was held on 6 November and, as was the case in the previous meeting, the monetary policy rate was left unchanged. The policy rate thus stands at 3.75%. This decision was based on the existing inflation forecasts and on the macroeconomic analysis of ongoing events in both Georgia and outside its borders.

The third quarter of 2013 has been marked by higher economic activity, but this still remains lower than its potential level and puts downward pressure on prices.

Against the background of loose monetary policy, commercial banks' credit activity is evolving. However, with the demand for loans being low, the transmission of policy changes to the economy is impeded. Along with low aggregate demand, temporary supply-side factors put further downward pressure on prices. These factors create a base effect that lasts for over a year (e.g. changes in administered prices).

Positive trends have been evident in the external sector, which encourages aggregate demand to some extent. The growth rate of remittance inflows remained high in the third quarter, standing at 14.1%. Moreover, the current account deficit is expected to improve, which will further support the growth of aggregate demand.

According to the current forecasts, inflation is expected to follow an increasing trend, but it will remain below the target level during 2014. The convergence of inflation with its target level is forecasted by the end of 2014. The inflation target is set at 6%

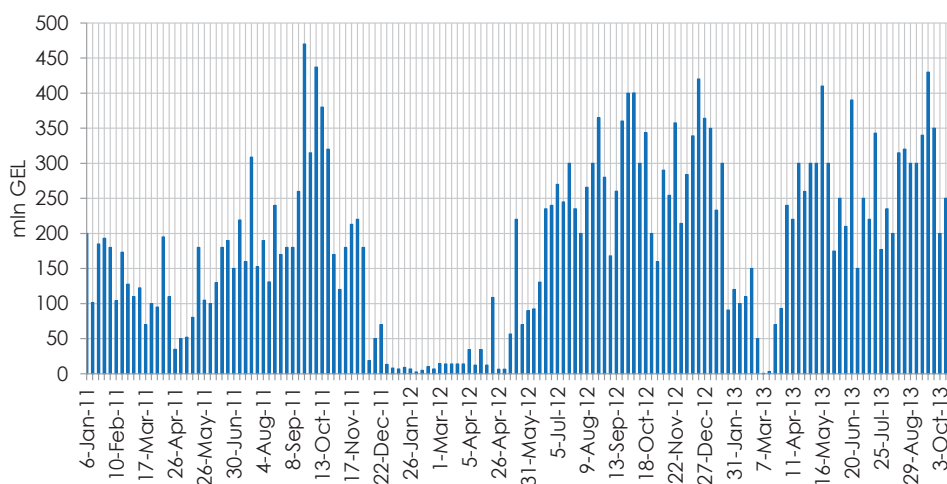
for 2013-2014 and will be decreased to 5% in 2015.

Considering that the effects of the loose monetary policy have not been fully realized in the economy, the NBG is maintaining this policy and leaves the policy rate unchanged at 3.75%.

In order to ensure the efficiency of monetary policy, it is important for changes in the monetary policy rate to be reflected on interbank interest rates, and ultimately affect the real economy. With the given level of short-term liquidity in the banking system, commercial banks are capable of raising the necessary additional funds through the refinancing loans of the NBG. At this stage the demand for this instrument is high, which improves the transmission of changes in the policy rate to interbank interest rates. The refinancing instrument enables commercial banks to manage liquidity efficiently and avoid the extra operational costs that arise from excess liquidity.

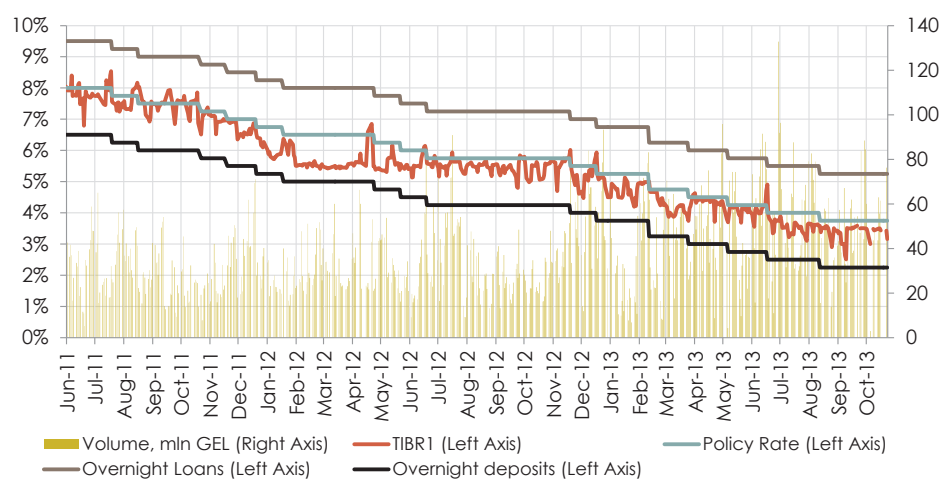
Since the demand for refinancing loans increased after the sterilization of excess liquidity in the banking system, from July the NBG decreased the issue of 6-month certificates of deposit to 30 mln GEL for each auction. As a result of operations with certificates of deposits, the liquidity in the banking sector will increase by 140 mln GEL during the fourth quarter. Short-term interbank rates remain stable and hover around the policy rate.

Chart 4.2 Refinancing Loans



Source: National Bank of Georgia

Chart 4.3 Interbank Money Market



Source: National Bank of Georgia

BOX 1 THE MAIN DIRECTIONS OF MONETARY POLICY

The National Bank of Georgia accomplishes its main goal of price stability by means of a modern inflation targeting monetary policy regime.

The main principles governing monetary policy implementation by the NBG are given in the decree of the Parliament of Georgia – “The main directions of monetary and exchange rate policies for the years 2013-2015”. This document describes the inflation target, the main instruments and the risks that might cause a deviation of the inflation rate from its target.

The long run inflation target of the NBG is 3%. Considering that Georgia is an emerging economy and such economies are characterized by high levels of inflation and economic growth, the inflation target is set at 6% for the years 2013-2014 and 5% for 2015. In the long term, alongside the convergence of the Georgian economy with developed ones, the optimal inflation level will gradually decrease and therefore the NBG’s inflation target will be reduced to its long run target.

Monetary policy is an instrument for influencing aggregate demand. The goal of central banks is thus to control inflation evolving from demand-side factors. Changes in prices due to supply side shocks or other exogenous factors cannot be regulated by means of monetary policy. The use of monetary policy actions in response to such factors will have a negative effect on economic growth and unemployment, thus serving as a possible reason for the decrease in social welfare. The goal of keeping inflation at its target is oriented towards the medium-term horizon and allows for temporary deviations of inflation from the target level due to factors that are independent of monetary policy. Correspondingly, the document on the main direction of monetary policy states that: “The monetary policy of the National Bank will not react on temporary deviation from the inflation target caused by exogenous factors, except in the case when the deviation is so large that it has an impact on fundamental factors influencing inflation (inflation expectations, deviation of GDP from its potential level)”.

Since monetary policy is characterized by a time lag (2-3 years for developed countries, 1-2 years in economies similar to Georgia), the inflation forecast is used as an intermediate indicator for inflation targeting. The NBG constantly monitors developments in the local economy and partner countries, along with developments in the international financial markets as they influence the price formation process in Georgia through direct and indirect channels. Inflation forecasts are based on the existing information and data and are formed using modern macroeconomic models and expert judgment. If the inflation forecast is above the target, the NBG will tighten the monetary policy and, vice versa, it will loosen the monetary policy if inflation is believed to be below the target after 4-6 quarters.

THE DYNAMICS OF INFLATION IN 2012-2013

During 2012 through to October 2013 inflation remained below the target in Georgia. The decreasing trend of inflation that evolved in June 2011 was initially caused by supply-side factors and was further deepened by demand-side processes. The base effect also proved crucial. The following factors can be distinguished as the main processes influencing inflation:

- The decrease in food prices in international markets;
- The decrease in administered prices;
- Low levels of inflation in partner countries;
- Fiscal consolidation;
- The appreciation of the nominal exchange rate;
- Uncertainty related to the pre- and post-election periods;
- The decrease in economic activity.

Since the spring of 2011 trends of decreasing prices have been observed in international commodity markets, with oil and sugar prices declining in particular. The lifting of the Russian and Ukrainian grain export embargo led to reduced prices for bread and baked goods and further contributed to the decline of inflation. The decreasing trend of the inflation rate was sustained in the first half of 2012, with inflation reaching its negative peak of -3.3% in May. This trend was largely influenced by the base effect, since inflation was increasing during the same period of the previous year and reached its highest level in May 2011.

In the second half of 2012 a decrease in the demand for bank loans became apparent. This was linked to the low economic activity that was to some extent related to the natural uncertainty evident in pre-election periods. This was reflected in the decrease of aggregate demand and put downward pressure on inflation. The low level of credit activity continued after the parliamentary elections, despite ample liquidity in the banking system.

The decrease in administered prices was among the factors influencing headline inflation. Of particular note is the reduction of the electricity tariff from January 2013 followed by a decrease in the gas consumption tariff in March. This had an overall impact of 0.54 percentage points on headline inflation.

A decreasing trend of inflation was prevalent in Georgia’s main trading partner countries. The growth rate of the price of imported goods (which are part of the consumer basket) has remained negative since June 2012. In addition, worsened economic conditions in Europe prompted a decline in external demand.

In addition to the factors described above, long-run demand-side factors were also important, among which are the budget deficit and exchange rate changes. Over the past three years remarkable fiscal consolidation has been implemented – the consolidated budget deficit decreased by 6.5 percentage points of GDP. As for the exchange rate, during 2009-2012 the nominal effective exchange rate appreciated by 9%. These processes led to downward pressure on prices.

MONETARY POLICY ACTIONS

The central bank reacts to demand-side inflationary factors and public expectations. To avoid the deviation of inflation from its target in the medium term as a result of lower aggregate demand stemming from fiscal tightening and exchange rate appreciation, the NBG began monetary policy loosening from July 2011. At that time headline inflation still exceeded the target level, but forecasts indicated that

it would drop below 6%.

The NBG continued the loosening of monetary policy in the beginning of 2012. The decision to do so was consistent with the forecasts then existing that inflation would drop below the target during the year. Considering these estimations and other factors, the Monetary Policy Committee reduced the policy rate in January and April-June by a cumulative 1 percentage point from 6.75% to 5.75%. In the second half of 2012 the deviation of inflation from its target became more prevalent due to both domestic and foreign factors. As mentioned above, from this period onwards, banking activity started to decline and this was accompanied by reduced inflation in partner countries and low demand from Europe. With the goal of encouraging domestic demand, the NBG continued loosening the monetary policy and further decreased the policy rate by a cumulative 0.5 percentage points. However, monetary policy transmission to the real economy was halted because the low credit activity did not translate into the growth of aggregate demand, which would have supported the growth of inflation to the target level. Overall, the policy rate decreased by 1.5 percentage points to 5.25% by the end of 2012.

In the first half of 2013 low credit activity persisted. As the demand for loans remained low, the loose monetary policy could not provide sufficient stimulation for aggregate demand. The NBG therefore continued further loosening its monetary policy and gradually decreased the policy rate by another 1.5 percentage points to 3.75%.

“ADDITIONAL” MEASURES OF THE MONETARY POLICY

Despite the improved efficiency of the monetary policy transmission mechanism in recent years, the effects of an additional decrease in the policy rate has been marginal due to high dollarization, the low demand for loans and low short-term interest rates. The changes in the policy rate affect already low short-term rates, but the rates remain high for long-term funds. Long-term loans are of an investment nature and encourage aggregate demand through the promotion of economic growth and employment; while short-term funds are directed towards consumer loans, which have a lower impact in stimulating aggregate demand. In addition, domestic currency loans do not carry exchange rate risks (as they do not face additional transactional and conversion costs) and, *ceteris paribus*, they bear lower costs compared to foreign currency loans and support long-run economic growth. Therefore, the NBG aims to implement monetary policy supporting the increased availability of long-term loans denominated in the domestic currency.

For this purpose, the NBG has planned several measures. Loans with variable interest rates were introduced by the commercial banks – this product is predominately spread among mortgage and other long-term loans in various banking systems throughout the world. For developed countries their share often exceeds 90%, but for Georgia this indicator is around 1%. The NBG began working on the development of this product in 2010. For the existence of GEL variable interest rate loans, it is important to have a transparent and reliable index that can be used as a benchmark for variable interest rates. The banking system, as well as borrowers, should have confidence that the basic principles related to the index will not change drastically over time or as a result of political or economic disturbances. The higher the level of trust in the government

and the central bank, the lower the interest margins and long-term interest rates.

The interbank market indicator “Libor” is used as a benchmark index for variable interest rates in developed markets. This indicator is influenced by the policy rates of central banks. The policy rate itself is used as a benchmark in countries with less developed financial markets. In Georgia the variable interest rate is indexed to the monetary policy rate. The policy rate started functioning effectively in the spring of 2010. Since then it took some time for sufficient historical data to be accumulated in order to judge the speed of change in the policy rate, its direction and possible magnitude. To speed up and further support this process, the NBG expanded the collateral base for its operations with commercial banks to include long-term GEL loans disbursed to small and medium enterprises and individuals. This created a credit line of long-term GEL loans for commercial banks whose interest rates are linked to the policy rate.

The commercial banks started to actively use this instrument in June 2013 and that resulted in a rapid decline in the interest rates for long-term GEL loans. The number of participating banks is expected to grow and the availability of long-term loans will increase, thus supporting economic growth and the creation of jobs. The NBG is simultaneously collaborating with the Ministry of Finance of Georgia to introduce additional measures for stimulating the economy.

The other measures implemented to stimulate the economy and reduce the macroeconomic risks are: the introduction of retail certificates of deposit (the liability side of commercial banks became more stable and the transformation of maturity is improved, thus encouraging long-term loans) and the development of the financial market. The latter is a long-term objective and requires a successive approach. The bases of financial markets – the money market and FX market – are both sufficiently liquid to create a liquid market for Treasury bills. Some liquidity exists on the longer-end of the yield curve of Treasury securities as well. This creates the foundation for the further development of the financial markets. The development of a corporate bonds market currently represents the next task for the NBG. This will prepare the ground for the development of capital and derivative instruments markets. The NBG works closely with international financial institutions so that they issue GEL debt instruments on the domestic market. Along with the market infrastructure development, this will serve as the basis for the issuance of private debt securities.

These and other measures increase the availability of long-term financing and improve the monetary policy transmission mechanism. Although the NBG has succeeded in improving the monetary policy transmission mechanism, its efficiency still remains below the desirable level. As an efficient monetary policy lowers the social costs required for achieving price stability, the growth of monetary policy efficiency remains a constant objective for central banks.

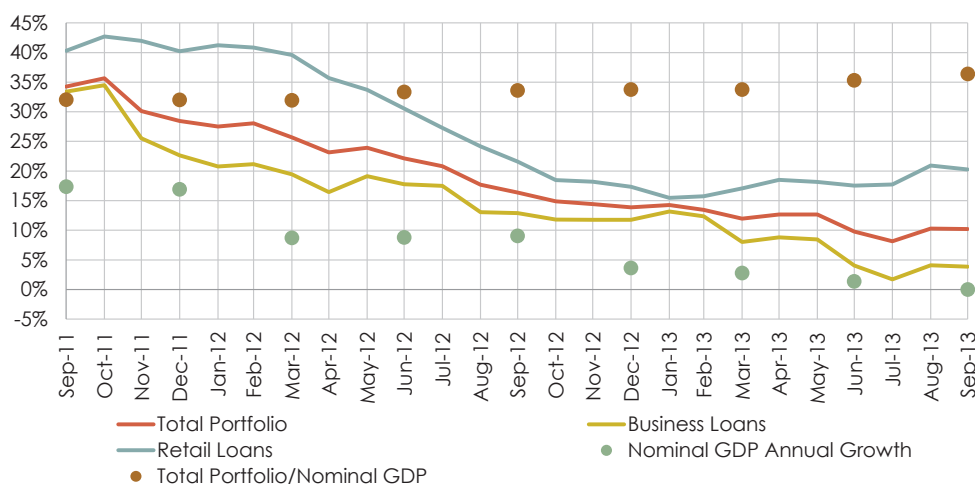
In recent years the NBG has implemented various measures to improve the monetary policy formation process, to increase its efficiency and to promote dollarization. Detailed information about the monetary policy of the NBG and its consequences can be found in the Annual Reports and the quarterly Inflation Reports.

5. FINANCIAL MARKET AND TRENDS

5.1 LOANS

In the third quarter of 2013 credit activity improved slightly compared to the previous period, but the annual growth rate is still significantly below its trend (during 2010-2012 the annual growth rate of the loan portfolio was 15% on average). In September, the growth rate of loans increased by 0.4 percentage points compared to June and amounted 10.2%. Negative expectations and uncertainty, which were significantly hindering the growth of loans, have decreased.

Chart 5.1 Credit Portfolio Annual Growth

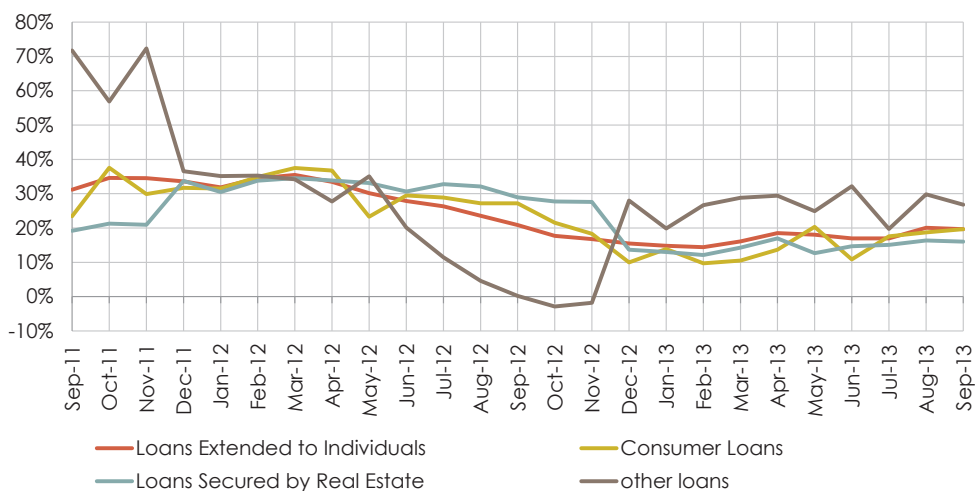


Source: National Bank of Georgia

Retail loans – which predominantly include consumer and mortgage loans – exhibit relatively higher growth rates, while loans to legal entities are characterized by a slowdown of growth. In September 2013 the growth rate of loans to legal entities amounted to 3.8%, which is 0.2 percentage points lower compared to June. The reduction of business loans partially stems from the delay of investment projects, while small and medium sized businesses have started to recover.

« Compared to the previous quarter, small and medium-sized businesses have started to recover, but large enterprises are still inactive, which is reflected in the delay of new investment projects.

Chart 5.2 Retail Loans Annual Growth



Source: National Bank of Georgia

An analysis of business loans by sector reveals that the transport, energy, agriculture and trade sectors have posted growth in terms of credit, while the volume of outstanding loans disbursed to the construction and manufacturing sectors has declined. The agricultural sector started to recover after its negative trend in recent years mainly due to the state assistance program. In September, loans to the agricultural sector grew by 122%. It should be noted that agricultural sector loans make up only a small proportion of the total loan portfolio (1.5% of loans to legal entities) and, therefore, have little influence on the growth of the credit portfolio overall. However, due to the specifics of this sector, the increase in the availability of loans will be directly reflected in the promotion of employment.

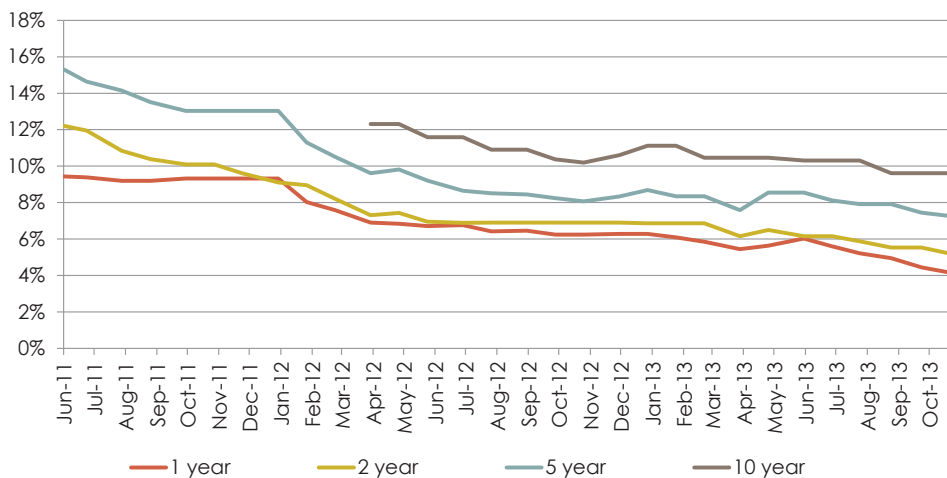
The share of non-performing loans decreased by 0.5 percentage points in the third quarter of 2013 as compared to the previous quarter and stand at 9%. According to the data from September, the share of non-performing loans in the national currency decreased by 1.4 percentage points compared to June and amounted to 5.7%, while the share of non-performing loans in foreign currency increased by 0.2 percentage points and amounted to 10.6%.

5.2. INTEREST RATES AND CREDIT CONSTRAINTS

Monetary policy continued to soften in the third quarter and the National Bank's key interest rate has been reduced to 3.75%. Since changes in monetary policy are transmitted to the real economy with a time lag, the loosening of the monetary policy has not yet been fully reflected on the economy. However, the easing of monetary policy over the past quarters partially reduced interest rates on loans. Deposit interest rates have been significantly reduced during the last quarters (see Figure 5.6). Yields on government securities still exhibit a declining trend and yields are reduced on both short- and long-term government securities (see Figure 5.3).

« Monetary policy easing over the past quarters and increased competition among commercial banks have reduced interest rates on both retail and business loans.

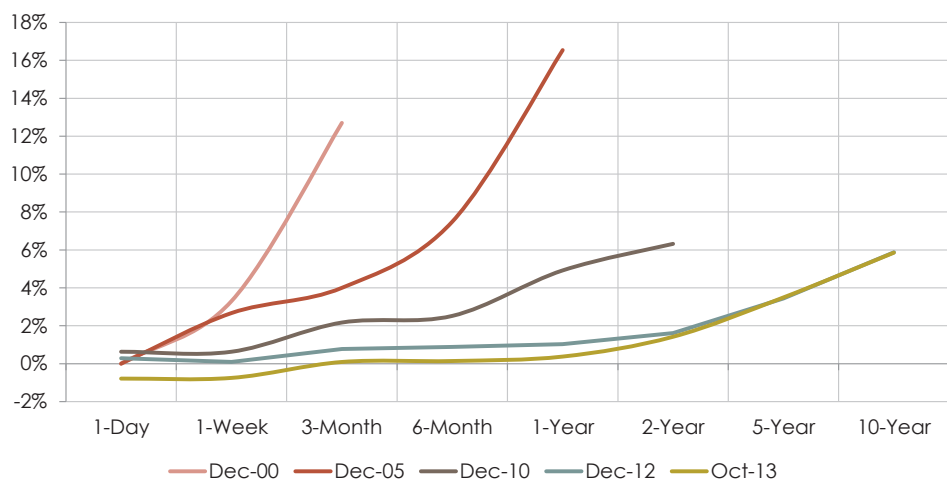
Chart 5.3 Interest Rates on Government Securities



Source: National Bank of Georgia

It should be noted that the spread between long-term assets and the monetary policy rate are decreasing. The slope of the yield curve thus displays a declining trend. The spread reduction is caused by the National Bank's monetary policy agenda that reduces liquidity and interest rate risks. Additionally, the improvement of the inter-bank market reduces the liquidity risk of securities. These tendencies should reduce the prices of long-term assets and thus promote internal investments and economic growth.

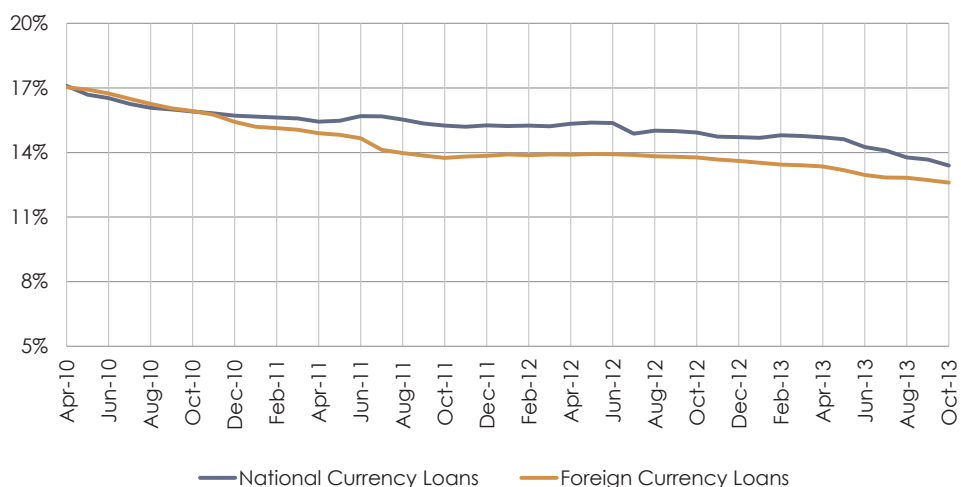
Chart 5.4 Spread between the Monetary Policy Rate and the Yield Curve



Source: National Bank of Georgia

There have been no significant changes in credit conditions during the third quarter of 2013. Increased competition among banks reduces interest rates on loans to both business and the retail sector. However, because of weakened economic growth, the risk appetite of banks has reduced, which restricts access to credit resources for new businesses.

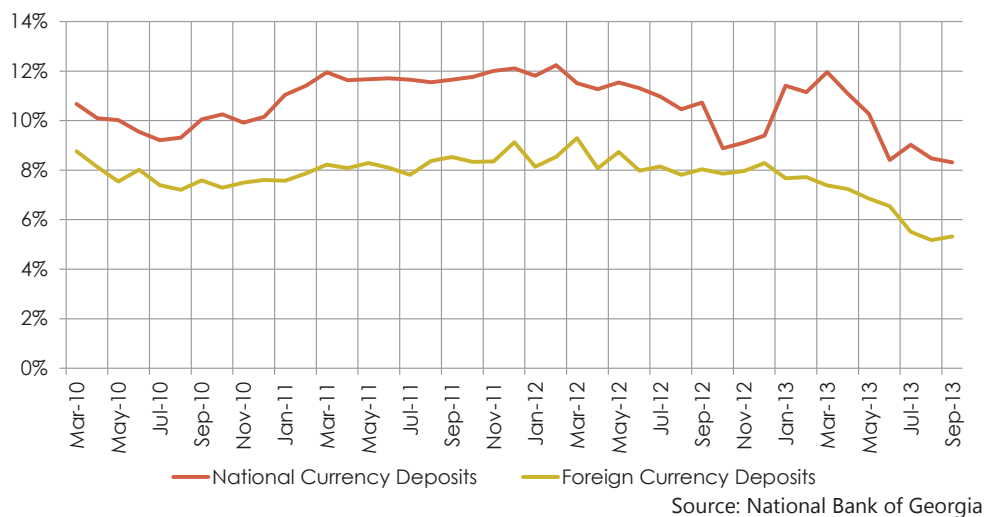
Chart 5.5 Average Interest Rates on Loans



Source: National Bank of Georgia

The reduction of interest rates on deposits continues. Compared to the beginning of 2013 the weighted average level of interest rate flow has been reduced by 2.5 percentage points. Deposit rates are declining partly as a result of monetary policy easing. In addition, the contributions of both fundamental and other additional factors are significant. Fundamental factors include: risk premium reductions, macro-economic stability, the growth of savings and the improvement of banking sector efficiency. The reduction of deposit rates was also due to the weakened demand on loans and accumulated excess liquidity of banks. It should also be noted that some banks influenced the placement of deposits by increasing interest rates. As a result, the general diminishing tendency of deposit rates has been concealed. Banks predict a slight increase in deposit rates in the medium term due to the improvement of economic activity. However, these rates are not likely to return to the level of previous years.

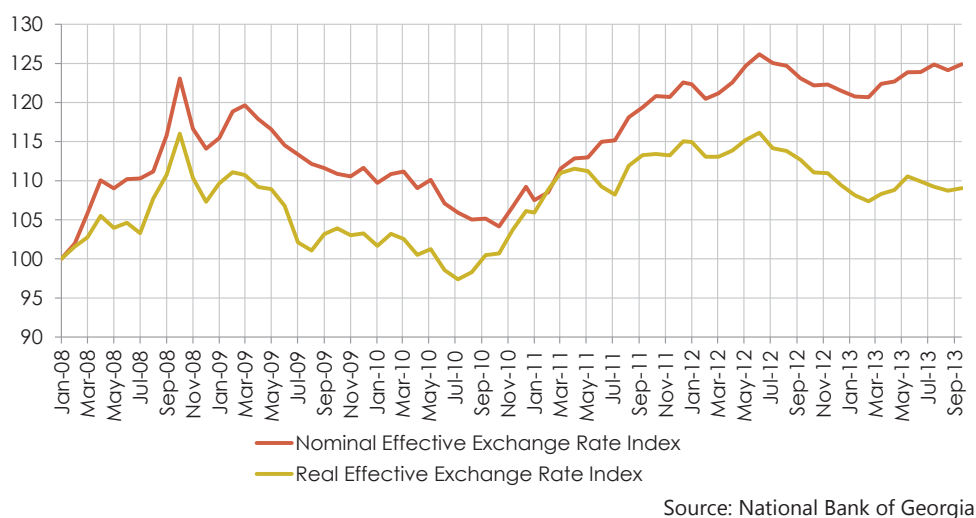
Chart 5.6 Average Interest Rates on Deposits



5.3. EXCHANGE RATE

In September 2013 the nominal effective exchange rate appreciated by 1.5% in annual terms. The GEL exchange rate to the U.S. dollar was stable, but the lari depreciated by 6.4% against the euro in annual terms and by 1.9% in quarter-on-quarter terms.

Chart 5.7 Effective Exchange Rates (Jan 2008 = 100)



In September the real effective exchange rate depreciated by 3.2% on year-on-year terms. This depreciation was largely caused by Georgia having a lower inflation rate than its trade partners. The real exchange rate depreciated against all trade partner currencies except the Turkish lira. The real GEL/TL exchange rate appreciated by 2.1% in the third quarter. The main contributors to the depreciation of the real effective exchange rate were the Eurozone and Azerbaijan.

Table 5.1 Effective Exchange Rate Annual Growth

	Change of Nominal Effective Exchange Rate, %	Change of Real Effective Exchange Rate, %	Share in Real Effective Exchange Rate
Effective Exchange Rate	1.5	-3.2	-3.2
Turkey	11.6	2.1	0.5
Eurozone	-4.1	-6.7	-1.1
Ukraine	-0.5	-1.3	-0.2
Armenia	-0.6	-9.3	-0.4
USA	-0.5	-2.8	-0.2
Russia	3.0	-4.1	-0.3
Azerbaijan	-0.6	-4.5	-0.7
Others	-2.4	-5.1	-0.8

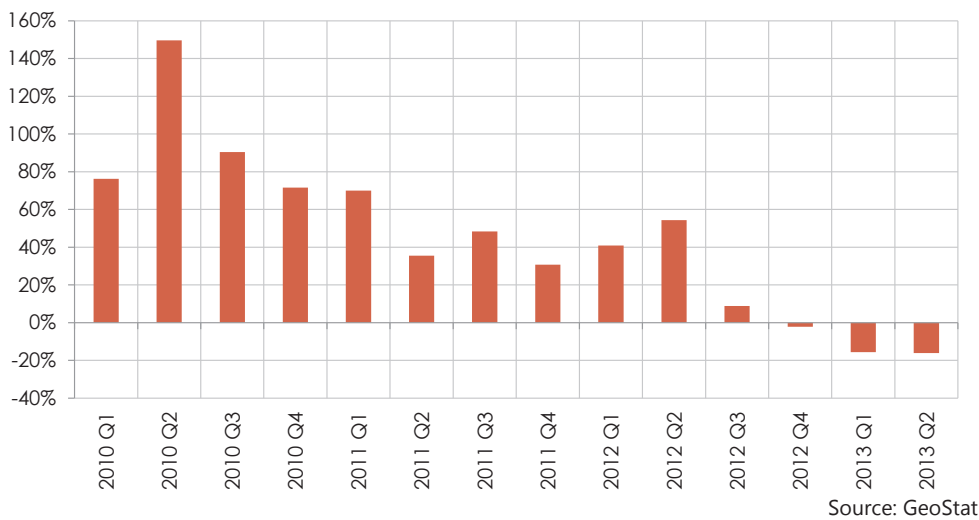
Source: National Bank of Georgia

6. DOMESTIC DEMAND

Real GDP growth amounted to 1.5% in the second quarter of 2013, with the decline in investments and consumption (government and private) being the main determinants of reduced growth. According to existing forecasts, the growth rate of the economy will remain low in the third and fourth quarters of 2013, while net exports are expected to be the main contributor to the GDP growth of 2013.

« Real GDP growth amounted to 1.5% in the second quarter of 2013.

Chart 6.1 Annual Growth Rate of Capital Formation



The growth rate of capital formation remained negative in the second quarter of 2013, standing at -16.1%, and as a result played an important role in slowing GDP growth. Capital formation is expected to decline slightly in the third quarter of 2013, leaving the forecast of the real growth rate low. The reduction of investments was caused by low levels of activity in the private sector and a decline of government expenditures on infrastructural projects. According to existing forecasts, investments will resume growth at a higher rate from the last quarter of 2013.

« The growth rate of capital formation remained negative in second quarter of 2013, standing at -16.1%.

The export of goods and services increased by an annual 15.3% in the second quarter of 2013, while imports declined by 3.9%. It should be noted that net exports are going to be the main determinant of GDP growth in 2013.

« Net exports are going to be the main determinant of GDP growth in 2013.

Seasonally adjusted real consumption⁶ decreased on a quarterly basis in the second quarter of 2013 (see Figure 6.2). Consumption has declined in both the government and private sectors.

⁶ The real growth of consumption is calculated using average annual inflation.

Chart 6.2 Real GDP and Real Consumption Growth

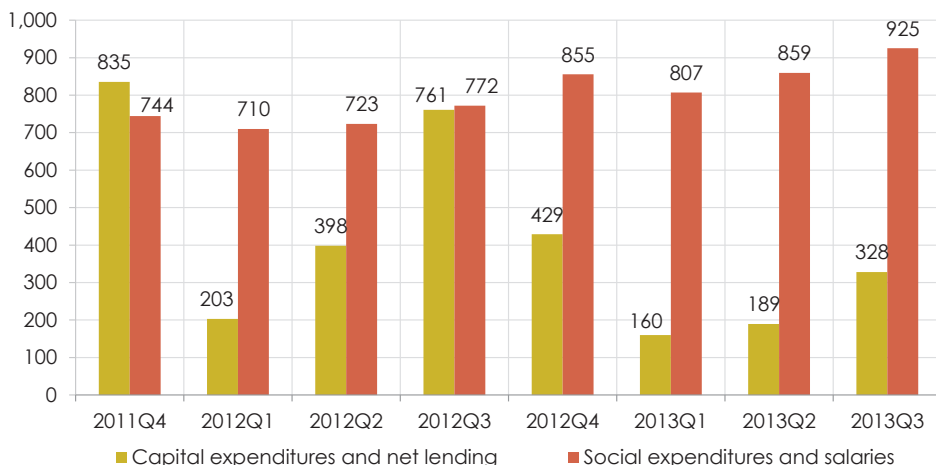


Source: GeoStat and National Bank of Georgia

According to preliminary data, consolidated budget expenditures declined by 24.4% during the third quarter of 2013 as compared to the previous year. Social and payroll expenditures increased, while capital expenditures and goods and services declined. The reduction of these types of expenditures is reflected in both government investments and consumption.

« According to preliminary data, consolidated budget expenditures declined by 24.4% during the third quarter of 2013 as compared to the previous year.

Chart 6.3 Capital and Social Expenditures of Consolidated Budget (mln GEL)



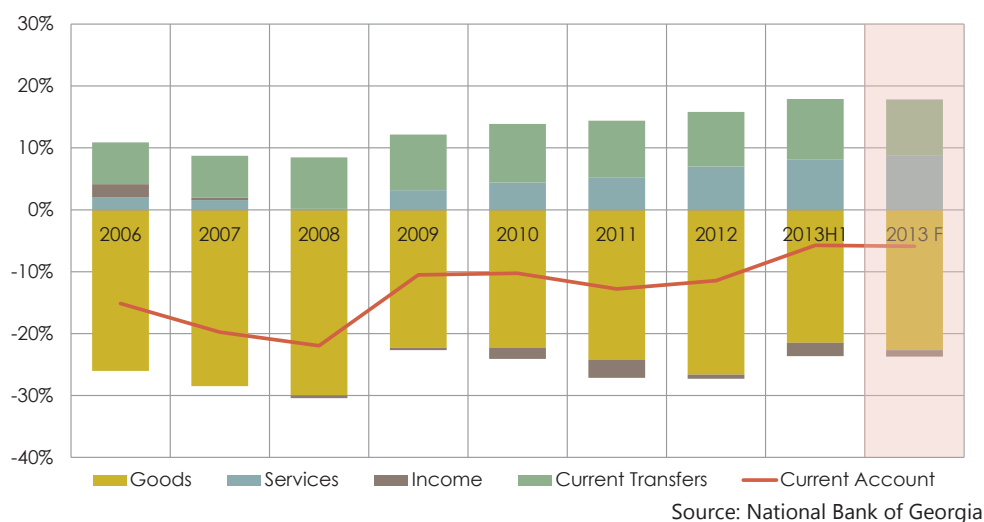
Source: Ministry of Finance of Georgia

7. EXTERNAL DEMAND AND BALANCE OF PAYMENTS

During the first half of 2013 the ratio of current account (CA) deficit to GDP improved by 7.7 percentage points and stood at 5.7% on an annual basis. In absolute terms, the CA deficit amounted to 425.1 mln USD during the first half of 2013, which is 554.9 mln USD less than the analogous indicator of the previous year. The improvement in the deficit mainly resulted from the improved trade balance alongside increased tourism receipts and money transfers from abroad. The ratio of CA deficit to GDP is expected to be contained at around 6% by the end of 2013, a 5.5 percentage point improvement compared to the previous year

« During the first half of 2013 the ratio of current account deficit to GDP improved by 7.7 percentage points and stood at 5.7% on an annual basis.

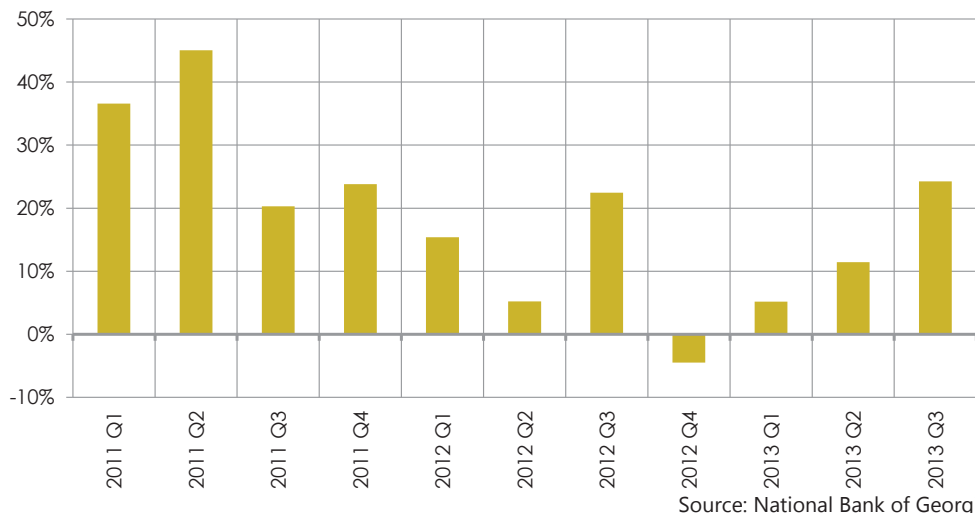
Chart 7.1 Ratio of Current Account to GDP



Increased exports of wines, mineral waters and nuts were the main drivers of total export growth; it is worth mentioning that the improved export of domestically produced goods will positively affect the development of local production capacities. Among other export goods, construction materials and stockinet have seen a significant increase during the first nine months of 2013 on a year-on-year basis. Overall, exports increased by 14.2% annually during the first nine months of 2013.

« Exports increased by 14.2% annually during the first nine months of 2013.

Chart 7.2 Annual Growth Rate of Export



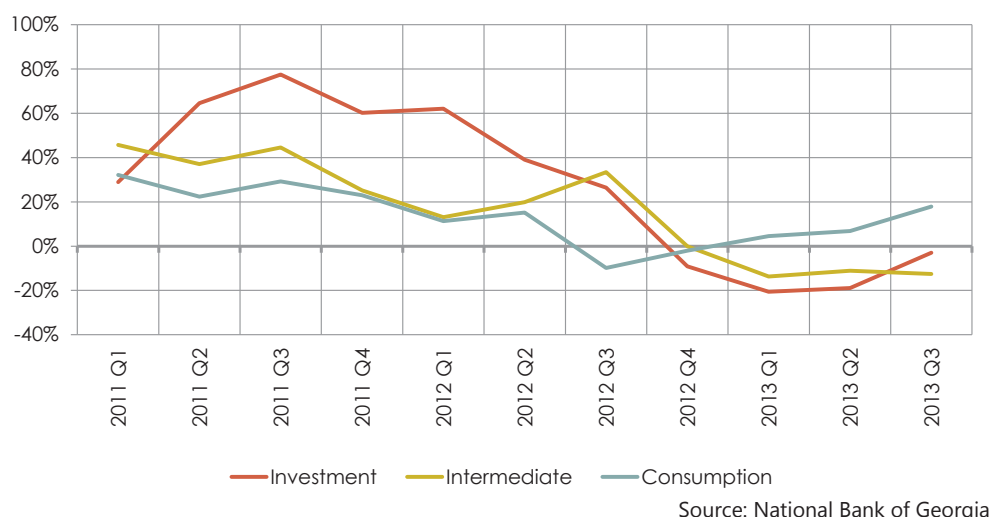
As for the geographic orientation of exports, export growth in the CIS countries demonstrates a fairly stable trend, with export opportunities offered by the reopened Russian market providing an additional edge to the growth of exports to the CIS countries. At the same time, after contracting by the end of 2012, exports towards EU countries significantly increased throughout the first three quarters of 2013. The first nine months of 2013 demonstrated a 23.3% and 43.2% annual growth of exports to the CIS and EU countries respectively.

« The first nine months of 2013 demonstrated a 23.3% and 43.2% annual growth of exports to the CIS and EU countries respectively

On the other hand, the import of goods contracted by 4.4% during the first nine months of 2013 compared to the same period of 2012. Although the third quarter of 2013 was marked by a slight improvement of the import growth rate, during this period imports declined marginally, by only 0.5%. During the third quarter of 2013 the import of consumption goods increased by 17.9%, however, the import growth of intermediate and investment goods remains negative due to reduced investment activities in the economy.

« During the third quarter of 2013 the import of consumption goods increased by 17.9%, however, the import growth of intermediate and investment goods remains negative.

Chart 7.3 Annual Growth Rate of Imports Across the Product Groups

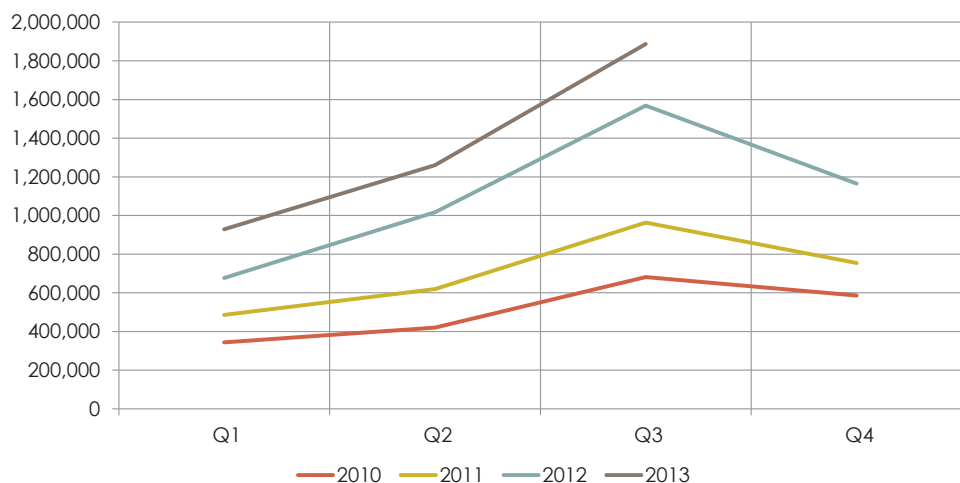


Services export receipts are firmly growing and have continued to have a significant positive impact on the improvement of the current account deficit.

« The number of incoming visitors outstripped 4 million during the first three quarters of 2013. The growth rate of visitors from the CIS countries was exceptionally high.

During the first half of 2013 tourism receipts reached 729 mln USD, 28.7% higher compared to the same indicator from 2012. According to the Georgian National Tourism Administration, the number of incoming visitors outstripped 4 million during the first three quarters of 2013. The growth rate of visitors from the CIS countries was exceptionally high. Overall, throughout the first nine months of 2013, the number of visitors increased by 25% on an annual basis.

Chart 7.4 Number of Incoming Visitors

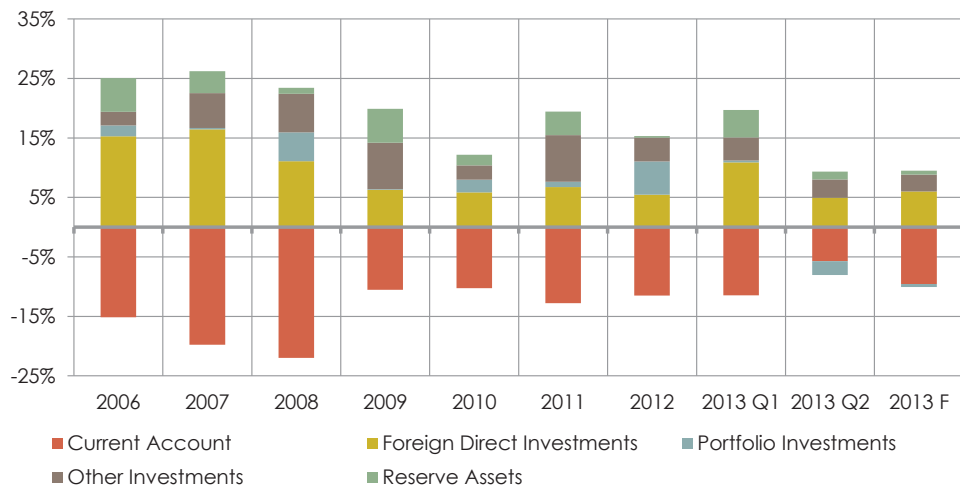


Source: National Bank of Georgia

During the first nine months of 2013 money transfers to Georgia increased by 9.5% annually and reached 1.1 bln USD in absolute terms. At the same time, money transfers from the CIS countries increased by 7.3%, the same indicator from EU countries was 13.2%. Growth in money transfers was chiefly driven by increased transfers from Greece and the Russian Federation.

During the second quarter of 2013 the volume of FDI increased by 6.9% year-on-year, however, due to a sharp 13.2% decrease in the first quarter of 2013, FDI contracted by 4% annually during the first half of 2013. FDI still represents the main source of financing the current account deficit.

Chart 7.5 Sources of Current Account Deficit Financing



Source: National Bank of Georgia

8. OUTPUT AND LABOUR MARKET

8.1 OUTPUT

In the first two quarters of 2013, GDP rose by 2.4% and 1.5% respectively. In terms of volume, the trade, agriculture and industry sectors were the largest contributors to the growth.

Table 8.1 Real GDP growth of Georgia. Contributions by Sectors.

	2013 Q1	2013 Q2
GDP growth	2.4%	1.5%
Trade	0.9%	0.4%
Industry*	0.5%	0.8%
Construction	-0.4%	-0.7%
Transport and communications	0.2%	-0.2%
Agriculture**	0.6%	0.5%
Financial intermediation	0.2%	0.2%
Public administration	0.1%	0.2%
Other community, social and personal service activities	0.2%	-0.3%
Real estate activities	0.2%	0.3%
Restaurant and Hotel services	0.0%	0.0%
Education	0.1%	0.2%
Health care and social services	0.0%	0.0%
Other sectors	-0.2%	-0.2%

* Industry also covers the manufacturing, mining and quarrying, electricity, gas and water supply sectors.

** Agriculture also covers the production activities of households.

Source: National Bank of Georgia

The growth of agriculture was mainly a result of the extensive activities of the Georgian Rural Development Fund. According to the National Statistics Office of Georgia, the land area covered by the planting of one-year crops was widened by 19%, leading to a sufficient increase in crop production. On the contrary, livestock production fell by 2% during the first half of the year.

The growth of manufacturing is mainly related to the rise of the alcoholic beverage, mineral water and chemical industry output. This happened because of the increased export of those products.

In the first quarter of 2013 the trade sector grew due to an increase in automobile trading. In the second quarter, the reduction of growth in the trade sector can be explained by the wholesale contraction of some businesses (car fuel, construction materials, and computers)

The main reason for the GDP growth reduction in the first half of 2013 was the shrinking of the construction sector and the low activity of construction related businesses.

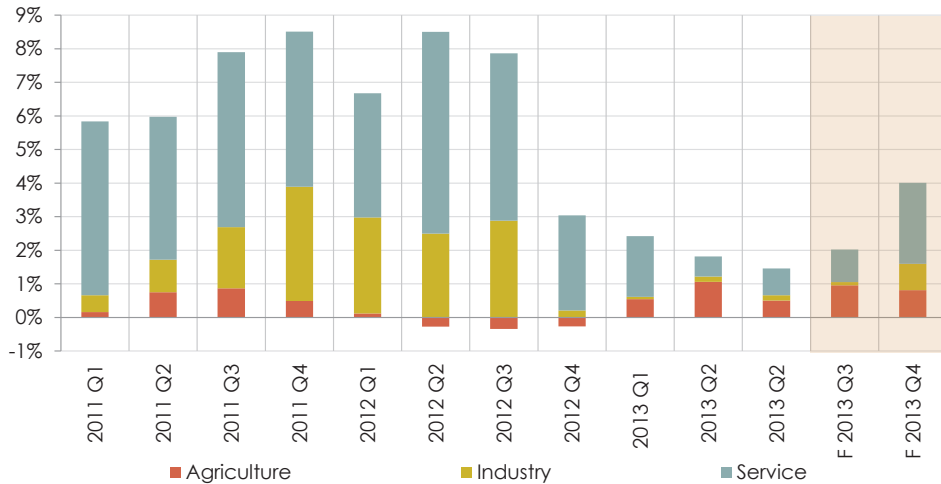
The continued high growth of the number of visitors to the country can be emphasized as an especially positive trend. In January-September 2013 Georgia hosted 4 million visitors, 25% more than during the same period of the previous year. The reduction of the transport sector (-6.6% in the first half of 2013) is particularly noticeable among the other sectors. This can be explained by the contraction of imports and

« In the post-crisis period the biggest contributions to economic growth were made by trade, tourism, manufacturing and construction sectors.

the consequent reduction in the transportation of goods. The growth of the financial intermediation sector slackened but remains high, where the largest contributor is the banking sector.

According to preliminary assessments, in the third and fourth quarters of 2013 real GDP will grow by 1.3 % and 4.7% respectively.

Chart 8.1 Contribution of Different Branches of Economy to the Real GDP Growth



Source: GeoStat, National Bank of Georgia

Box 2 TOTAL FACTOR PRODUCTIVITY ESTIMATION FOR THE GEORGIAN ECONOMY

Total factor productivity (TFP) accounts for the unexplained part of economic growth that is not related to labor and capital growth.¹ This variable is often referred to the Solow residual and reflects factors related to technology, efficiency and improved labor skills. As TFP cannot be measured directly, there are a number of methods to determine it on the macro and micro level. One of the methods is to use the Cobb-Douglas production function, which analyzes the supply side performance of the economy and estimates total factor productivity.² The Cobb-Douglas production function on a logarithmic scale has the form:

$$\log Y_t = \log A_t + \alpha * \log L_t + \beta * \log K_t \quad (1)$$

Where Y is real GDP, L is the employment level, K is the capital stock and A is total factor productivity.³ α is the elasticity of output with respect to labor and β is the elasticity of output with respect to capital.⁴ The value of α is more than the value of β because of the dominance of labor intensive sectors in the output growth.⁵

The model is based on the following assumptions:⁶

1 Shackleton, R., "Total Factor Productivity Growth in Historical Perspective", Congressional Budget Office, working paper 2013-01, March 2013

2 $Y_t = A_t * L_t^\alpha * K_t^\beta$

3 As a proxy of employment, the time series of job places estimated by Geostat is used.

4 The value of α is taken based on Solow's theoretical model.

5 In the last decades the largest part of the output comes from the service sector.

6 Shackleton, R., "Total Factor Productivity Growth in Historical Perspective", Congressional Budget Office, working paper 2013-01, March 2013

1. Production factors have a positive but decreasing returns to scale that restricts the elasticity of output in [0, 1] interval.
2. The function is characterized by constant returns to scale: $\beta = (1 - \alpha)$.
3. The output elasticities with respect to capital and labor are constant over time.

Total factor productivity is estimated as the difference between the potential output and the weighted sum of the production factors (equation 2).⁷

$$\log A_t = \log Y_t - \alpha * \log L_t - (1 - \alpha) * \log K_t \quad (2)$$

The value of TFP depends on the filter methodology. The Kalman filter was used to estimate the potential level of TFP.

Capital stock was estimated following the equation:

$$K_t = (1 - \delta) K_{t-1} + I_t \quad (3)^8$$

Where δ is the rate of depreciation in the t period and I is the capital flow in the t period.⁹

The time series of the capital stock for 1996-2012 was estimated using the amount of capital stock in 2010, an 8%

7 TFP contains two parts: A* - which is the long-term trend of productivity and short-term fluctuations, which follow the business cycle. Equation (2) reflects the TFP, A_t is considered as a potential level of TFP (A).

8 For the base period the fourth quarter of 2010 was taken. Geostat has estimated the level of capital stock for this period.

9 The value of δ is 8%. The range of the depreciation rate for developing countries is 8-14% (Schündeln 2013). Calibrating by 8% was most reliable for our data.

depreciation rate and the quarterly capital flow corrected by inflation. The employment series was decomposed by the Kalman filter and the filtered results were involved in the model as a potential level of employment.¹⁰

The potential level of output was estimated by using the capital stock (K), potential employment (Lt) and total factor productivity (At) and was decomposed by production factors.

According to the model's results (Table 8.2) TFP had the greatest contribution in output growth. Capital stock had a positive contribution except for in 2009 when the global financial crisis and the war caused investment flows to decrease significantly. As for labor, this contributed negatively or insignificantly before 2010 and afterwards it has had a positive impact on output growth.

Table 8.2 Potential GDP decomposition. Cobb-Douglas Model Estimation

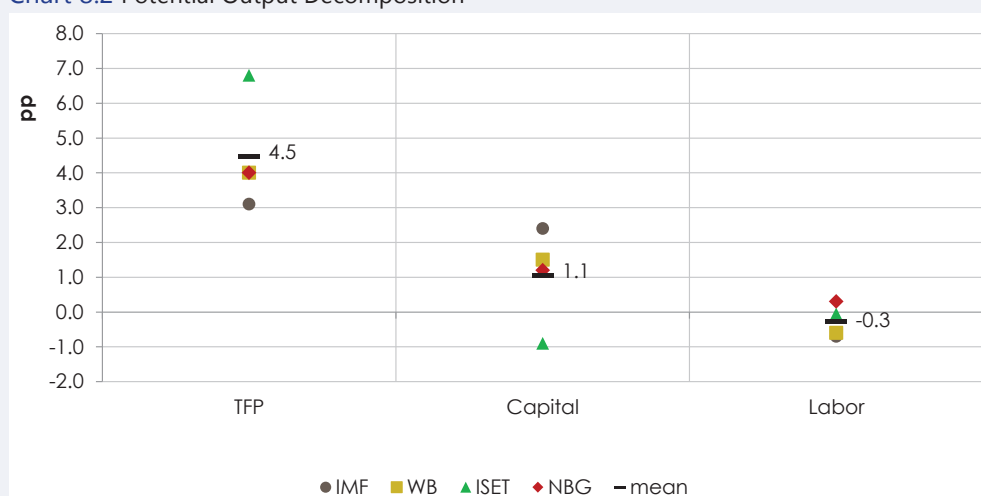
	Potential Output	Contribution to Growth		
		TFP (pp)	Capital	Labor
1998	3.2	3.6	0.3	-0.7
1999	3.4	3.4	0.6	-0.7
2000	3.6	3.4	0.5	-0.4
2001	4.7	3.8	0.7	0.1
2002	5.9	4.2	0.7	0.9
2003	7.5	4.5	1.2	1.6
2004	8.6	5.6	1.8	1.0
2005	9.0	7.2	2.1	-0.4
2006	8.5	7.8	2.2	-1.4
2007	7.4	6.7	2.3	-1.5
2008	5.3	4.3	1.8	-0.7
2009	2.7	2.4	-0.2	0.4

Source: National Bank of Georgia

The model's results are consistent with the analyses of the World Bank, the IMF and ISET. Figure 8.2 shows the outcomes of the indicated studies.¹¹ All analyses claim that the main contributor to GDP growth was total factor productivity.

After the collapse of the Soviet Union, coordination failure, outdated technologies and incompatible human resources hindered economic growth. As was the case in other post-Soviet countries, the inefficiency of central planning created a perfect base for increasing productivity. In 1998-2012 TFP had the leading role in GDP formation. Its contribution increased significantly in 2003-2007 when structural reforms and a reduction of bureaucracy caused the output improvement.

Chart 8.2 Potential Output Decomposition



Source: National Bank of Georgia, ISET, World Bank, IMF

¹⁰ $L=L_t + L_g$, where L_t is the potential level and the L_g is the short-term fluctuation which affects inflation.

¹¹ NBG data interval was 1998-2012; the IMF data interval was 1998-2012; the WB data interval was 1998-2010; and ISET's data interval was 1996-2009.

TFP growth was higher in post-Soviet countries than in other fast-growing economies.¹² At the beginning of the transition period, chaos and instability resulting from the elimination of central control caused TFP to drop sig-

12 Garbis Iradian, "Rapid Growth in Transition Economies: Growth Accounting Approach", IMF working paper WP/07/164

nificantly. As soon as the transition countries achieved macroeconomic stability, structural reforms and resource reallocation caused rapid economic growth with low investments, which in turn caused total factor productivity to increase significantly.

8.2 LABOR MARKET

The growth rate of labor productivity increased in the second quarter of 2013. According to Geostat, the productivity of the labor force increased by 4.1% in year-on-year terms during the second quarter, which is 1.4 percentage points higher than it had been in the previous quarter. This increase of productivity can be largely attributed to the agriculture sector, where the annual rate of growth has significantly improved, exceeding 10%. After declining in the previous quarter, labor productivity in the industrial sectors started to increase. The growth rate of productivity in the service sector increased similarly to previous periods, but did so at a slower pace. The real value added per employee in services increased by 2.4% compared to the second quarter of 2012 (see Table 8.3).

« Labor productivity increased by 4.1% during the second quarter of 2013. This increase of productivity can be largely attributed to the agriculture sector.

Table 8.3 Index of Valued Added Produced per Worker in 4th Quarter of 2012 Relative to the Corresponding Period of the Previous Year

	Real value added per employee (growth index)
Agriculture and processing of agricultural products by households	110.6
Industrial sectors	104.9
Service sectors	102.4
Overall in the economy	104.1

Source: GeoStat and National Bank of Georgia

As the sectoral breakdown of the economy shows, after a significant drop in the previous quarter, labor productivity in the industrial sectors exhibited positive growth in the second quarter of 2013. The real value added also increased in the construction sector but at a lower rate.

The annual growth rate of the nominal salaries of employees increased during the second quarter of 2013, with the average monthly nominal salary standing at 797 GEL, according to the latest data from Geostat. The growth of the average salary amounted to 10% during that period, which is 2.1 percentage points more than in the previous quarter.

In terms of sector analysis, an increase in the annual growth rate of salaries is evident in the mining and quarrying, construction, and transport sectors (see Table 8.4)

Table 8.4 Index of Average Monthly Nominal Wage of Employers in 4th quarter of 2011 Relative to the Corresponding Period of the Previous Year

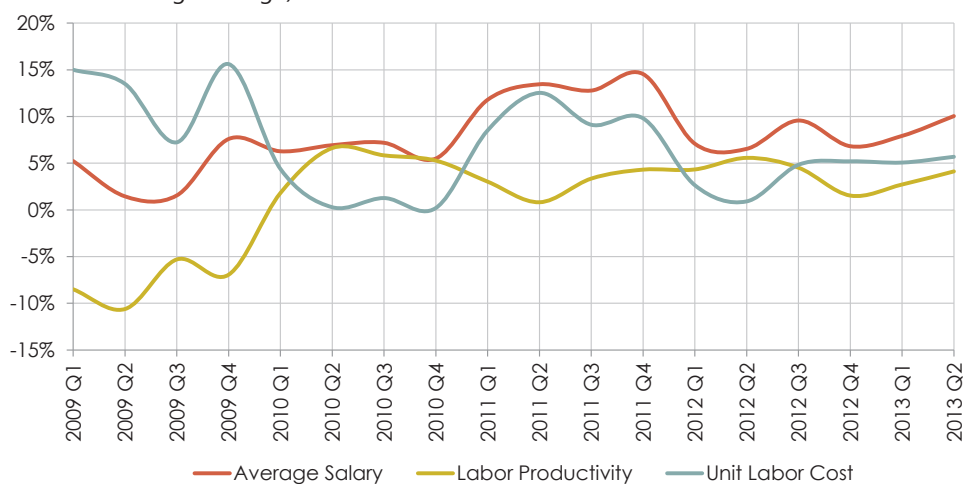
	Average nominal wage (growth index)
Agriculture, hunting and forestry	73.0
Fishing	221.5
Mining and quarrying	102.6
Manufacturing	106.3
Production and distribution of electricity, gas and water	105.5
Construction	104.8

	Average nominal wage (growth index)
Wholesale and retail trade; repair of motor vehicles and personal and household goods	108.1
Hotels and restaurants	108.4
Transport and communication	112.6
Financial intermediation	122.9
Real estate, renting and business activities	110.8
Public administration	113.5
Education	118.2
Health and social work	107.8
Other community, social and personal service activities	104.5
Overall in the Economy	110.0

Source: GeoStat

According to the latest data from Geostat, the annual growth rate of employees' average salaries increased by 10% during the second quarter of 2013. At the same time, the growth rate of employee labor productivity also increased, but at a slower pace. As a result, the annual growth rate of unit labor cost⁷ (personnel expense per production unit) slightly increased and stood at 5.7% by the end of the first half of 2012 (see Figure 8.3).

Chart 8.3 Labor Productivity, Average Monthly Salary and Unit Labor Cost, 2009-2013 Q II (Annual Percentage Change)



Source: GeoStat and National Bank of Georgia

7 The same as salary expenditures as a share of aggregate real value added (GDP).

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