EVALUATION OF THE MONETARY, FOREIGN EXCHANGE RATE AND CREDIT POLICY TO NOVEMBER 2008

I. EVALUATIONAL SYNTHESIS OF THE MONETARY POLICY

A. GENERAL FRAMEWORK

The Monetary Board in resolution JM-211-2007 dated December 27, 2007 determined the Monetary, Foreign Exchange Rate and Credit Policy for 2008, in which it established an inflation target of 5.5% with a tolerance margin of +/- 1.5 percentage points for December 2008 and of 5.5% with a tolerance margin of +/- 1 percentage point for December 2009. The execution of the monetary policy, since 2005, is sustained in the scheme of explicit inflation targets, which are based on the election of the inflation target as the nominal anchor of said policy. It is consolidated with the updating of a flexible exchange rate regimen, with the use of indirect monetary control instruments (monetary stabilization operations, giving priority to market decisions), as well as in the strengthening of the transparency in the operation of the Central Bank.

B. EXTERNAL ENVIRONMENT

During the first semester, world economy was characterized by the occurrence of a set of simultaneous shocks regarding the following aspects: a) increase in the international price of oil and other raw material and supplies that generate inflationary pressure in industrialized nations as well as emerging market countries; b) financial instability generated by the subprime crisis; and, c) economic deceleration expectations in industrialized nations, especially in the United States of America.

In the second semester of the year, there was intensification of the international financial crisis, causing a trust crisis that deteriorated; in part, by the world economic growth expectations and in part, by the behavior of the credit and exchange markets.

Among the most important elements of the foreign environment deterioration, the following are highlighted:
a) The strong expectations of deceleration in the world economic growth, as a result of the contraction in economic growth in the United States of America, associated, among other factors, to the fall in the real estate market, to the intensification of the unbalance in the financial system of said country, to the drastic drop of industrial production and to the reduction of investment and of private consumption.

b) The deepening of the financial crisis in the United States of America and in Europe and the extension of its effects to Asia and some Latin American countries, situation that has been evident in the high volatility in the main stock exchanges of the world values and in the international exchange markets, as well as the important deterioration in the trust in the financial markets.

c) Higher inflation rates to those of 2007, especially in the emerging economies and in developing countries, which reflects the inflationary pressures exercised during the first semester of 2008, the increase in the international price of oil and of foods and which reduction in the second semester of the year have still not been transferred to domestic prices.

C. INFLATION

The continuous increase in the international prices of oil, corn and wheat caused the acceleration of the inflationary rhythm in good measure, from 8.39% in January to 14.26% in July. In effect, in the indicated period the increase in the Price of domestic goods and services increased, associated to said raw material and supplies, the following stand out: bread, pastas, tortilla products, urban transportation, electricity, gasoline, propane gas, poultry and extra-urban transportation. Notwithstanding, as of August there was evidence of an important reduction in the international price of oil, wheat and corn, which drop, although it has not transferred to domestic prices of significantly, has influenced in a reduction in the total inflationary rhythm as of August. In effect, to November 2008, the total inflationary rhythm was at 10.85%.

As to the inflation projections for 2009, the average of the projections of the two econometric methods used, indicate a total inflationary rhythm for said year of
7.58% and a subjacent inflationary rhythm of 5.76%, both over the punctual value of the inflation target for said year (5.5%), although the subjacent inflation is at the tolerance margin of +/- 1 percentage point. On the other hand, the mechanical running of the Semi-structural Macroeconomic Model forecasts a total inflationary rhythm of 6.39%, over the punctual value of the inflation target of 2009, but within the tolerance margin. It is worth highlighting that the inflation projections have shown a reduction since August of this year, due, among other factors to the observed reduction in the international price of oil, corn and wheat.

Regarding the inflation expectations from the Panel of Private Analysts for 2009, the survey made in November points toward an inflationary rhythm of 9.08%, value that although it is over the inflation target for the referred year, it shows a moderation regarding the first quarter of the year, since in the survey made in June 2008 the referred panel projected a greater inflationary rhythm for 2009 (10.70%).

Regarding measurable imported inflation\(^1\), after reaching a maximum of 5.84 percentage points of total inflation in June 2008 started to drop, located at 1.32 percentage points of total inflationary rhythm in November, of which 1.81 percentage points correspond to direct imported inflation (which is calculated by taking into account the increase of oil prices and its derivatives) and -0.49 percentage points of indirect imported inflation (which is attributed to the variation of the international price of oil, wheat and corn, to the inflation of the main commercial partners and to the variation in the nominal exchange rate).

Although the relative weight of imported inflation in the total inflationary rhythm has reduced, especially due to the decrease in the international price of oil and its derivatives, the relative weight of internal inflation has increased, which makes evident that there are still inflationary pressures, situation that is confirmed by the behavior of the dynamic subjacent inflation.

As to the main monetary aggregates, it is pertinent to highlight that the monetary issue to January up to the third week of May, 2008 is over the

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1 Does not include the indirect effect that comes from the derivatives of wheat and corn: tortilla products, flour, bread and pasta, among others. The analysis of the imported inflation began since 2004, year in which the international prices of oil and its derivatives began to increase significantly.
programmed values; however, as of the fourth week of May has been located within the programmed runner. In effect, in inter-annual terms, to November 27, 2008 the monetary issue registered a reduction of 3.5%, as a result of the behavior to drop of the two components (numerary in circulation and bank till), situation that is fundamentally due to lower demand of cash by the public, as a result of greater trust in the banking system. On the other hand, the broad monetary base, in general, during the year is located over the programmed runner, mainly by the increase in the excess of legal banking reserve and in the investments of the banking system in 7-day term deposits in the Banco de Guatemala. As a result of the behavior of the monetary issue and of the broad monetary base, the primary liquidity to November 27, 2008 registered a deviation of around Q2,240.0 million over the upper limit, mainly reflecting the increase of the liquid available resources of the banks in the system (investments in the CDP of the Banco de Guatemala in 7-day terms and excess in legal banking reserve).

Regarding other aggregates, we can highlight the trend that has shown the banking credit to the private sector that to November 2008 was below the lower limit of the estimated runner, situation that will contribute to lessening the inflationary pressures. During the greater part of the first semester of the year, the inter-annual variation of credit to the private sector remained over the upper limit of the estimated runner. Notwithstanding, in the second half of the year, credit began to be below the estimated values. In that behavior, there was the influence from the increase in the preference of liquidity by banking institutions, due to the international financial situation, in which the trust of the financial and real markets deteriorated and the aversion to risk increased. In this situation, they began to evidence lower foreign flow due to the use of credit lines that were an important source of expansion of the banking credit during 2006 and 2007.

The expansion of the credit to the private sector in the two previous years, as is illustrated in the following figure, was not only possible by the foreign favorable conditions, but by the fact that the banking entities dropped the relative weight among the total assets, of term deposit certificates in the Central Bank, as well as the Treasury Bonds from the Republic of Guatemala. In the current situation, on
the other hand, the banking credit to the private sector continues decelerating, because of a more rigorous credit analysis on behalf of the banking entities and the deceleration of the economic activity.

The behavior of the banking credit to the private sector would also explain why the payment means presented a trend to toward deceleration, keeping its behavior below the lower limit of the estimated runner.

On the other hand, the execution of public finance to November 2008 registered a deficit of Q2,817.1 million, equivalent to 1.0% of the GDP (deficit of Q2,729.2 million to November 2007, equivalent to 1.1% of the GDP). In that regard, it is worth highlighting that in November 2008 the fiscal deficit registered an increase of Q2,538.0 million, with that changing the surplus trend to September and the moderate deficit to October. On this, it is worth mentioning that the surplus of public finance to September allowed moderating inflationary pressures.

D. MONETARY POLICY RESPONSE

- To moderate inflation
The Monetary Board in its decisions regarding the leading interest rate of the monetary policy makes an integral analysis based on the Inflation Risks Balance, internally as well externally, in the orientation of the indicative variables and the running of the Semi-structural Macroeconomic Model (MMS). In that sense, in the first semester of the year; besides the presence of the associated inflationary pressures to the external shocks, the inflation expectations were unanchored and the product gap made the presence of inflationary pressures evident from the aggregate demand. This is the reason why the Monetary Board decided to increase said interest rate in March from 6.50% to 6.75% and in July from 6.75% to 7.25%, with the purpose of moderating the inflation expectations of the economic agents and counteracting the second round effects of imported inflation.

It is estimated that although the referred rates in the leading interest rate influenced the increase registered by the weighted average asset interest rate in some way (90 basic points); it is considered that among the determining factors of said interest rate it was not the rise in the leading interest rate that prevailed, but the situation in which the funds of the banking system were used to increase the available liquid resources to protect them against any possible contingencies due to the international financial situation. Therefore, when the resources to grant credit drop, the price (interest rate) increases.

Added to this, the decision of the leading interest rate throughout the year are oriented toward moderating the inflation expectations of the economic agents. In that regard, the inflation expectations to the panel of private analysts to December 2008 dropped by 12.42% in the survey made in July to 11.08% in the survey to November.

On the other hand, the nominal exchange rate reflected a relative stability and it is estimated that the pass through effect of the nominal exchange rate to domestic prices was low in 2008.

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2 The pass through effect of the nominal exchange rate to prices, is the relation between variations of the nominal exchange rate and domestic inflation determined in a period. Depreciation (appreciation) of the nominal exchange rate increases (decreases) domestic inflation. The magnitude of said effect will depend, among other factors, on how perfect the markets are, of the goods characteristics, of the elasticity of the adjustment of the price of goods and of the degree of market opening.
On the other hand, the nominal exchange rate reflected a relative stability and it is estimated that the pass through effect of the nominal exchange rate to domestic prices was low in 2008.

Another factor that would help avoid greater pressure on the general level of prices was the surplus of public finance registered up to the third quarter of the year.

- **To grant liquidity to the market**

The Monetary Board, in the last quarter of the year, before the intensification of foreign problems that were seen in the restriction of credit conditions, especially regarding credit lines, and taking into account that restrictions would obligate banking entities to keep greater availability of liquid resources, limiting the availability to attend their credit operations, decided to temporarily implement the following measures:

- Provide liquidity in US dollars to the system banks, through repurchase agreements for up to US$275.0 million. The *Banco de Guatemala* determined the financial conditions of the operations. This measure will be current up to January 31, 2009. (Resolution JM-122-2008, dated November 5, 2008).

- Temporarily and moderately make the calculation of legal banking reserve flexible. On this, the banks of the system can include Term Certificate Deposits issued by the *Banco de Guatemala*, Treasury Bonds of the Republic of Guatemala and Mortgage Licenses guaranteed by FHA (Guatemalan Institute for Mortgage Assurance Promotion) in their legal banking reserve numbers. The maximum amount accepted to use these documents in the legal reserve numbers is of Q25.0 million for each banking institution. Additionally, it was established that the proportion of funds in cash that the entities can add among the numbers of legal reserve is increased from 25% to 100%. This measure will be current up to March 31, 2009. (Resolution JM-140-2008 dated November 26, 2008).
The Execution Committee, on their part, for competency has implemented the following measures:

- Keep open a window for liquidity giving in quetzales to banking entities for unlimited amounts (current since 2005).
- Temporarily close the window for placement of Certificates of Deposit to Term from the Banco de Guatemala (CDP) for terms of more than 7 days (current since November 10, 2008).
- Allow anticipated rendition of CDP under the authority of the system banks (current as of November 24, 2008)
- Purchase Treasury Bonds from the Republic of Guatemala under the authority of banking entities (current as of November 24, 2008).

The set of measures implemented can be adjusted according to the evolution of liquidity and the normalization of foreign conditions, so its spirit is compatible with the efforts of the monetary authorities to control inflation.

E. MONETARY MARKET

The participation of the Central Bank in the money market has been done considering the monetary stabilization operations (MSO) in market conditions. In that context, the amount of said operations to November 28, 2008, was higher by around Q3,384.0 million to the amount registered to December 31, 2007. It is worth mentioning that the amount in the MSO was mainly concentrated in the 7 day terms, which increased by Q4,102.0 million in the mentioned period. Said increase was observed since June, since before this month the level of MSO was similar to the registered at the end of 2007.

F. EXCHANGE MARKET

The nominal exchange rate, to November 30, 2008, in general, registered a congruent behavior with its seasonality; notwithstanding, it is worth highlighting that the Monetary Board anticipated a change in the participation regulation of the Banco de Guatemala in the exchange market at the end of 2007, in order to give it greater flexibility. After observing an appreciation period that caused multiple
participations of the Central Bank in the exchange markets at times in which they looked to restrict the monetary conditions; they decided that as of June 12, 2008 it would modify the exchange rule. It would give greater flexibility, but keeping the principle that it be limited to moderating the volatility of the nominal exchange rate, without affecting its trend. The new exchange regulation is simpler and more comprehensible than the previous one, since it eliminates thresholds and makes it symmetrical for the purchase and sale of foreign currency.

G. SYNTHESIS

In 2008, the execution of the Monetary, Foreign Exchange Rate and Credit Policy of the country has performed in a complex international scenario (characterized by high inflation, although with a trend toward reduction, due to world economic deceleration, particularly in the United States of America and Europe) and, also due to an unprecedented crisis in international financial markets, so the main risks continue to be associated to the external environment.

The opportune answer of the monetary policy during 2007 and 2008 would have helped moderate the inflation expectations of the economic agents. This added to the reduction of the effect on internal prices coming from the decrease of international oil, corn and wheat prices during the second semester of 2008, allowing the inflationary rhythm to decelerate from 14.26% in July to 10.85% in November. Additionally, the Central Bank, without losing sight of its fundamental objective and taking into account the international financial setting, in the second semester of 2008, implemented temporary mechanisms that have allowed giving liquidity to market.

II. MACROECONOMIC ENVIRONMENT

A. EXTERNAL (FOREIGN)

1. World economy in 2008

According to the International Monetary Fund (IMF)\(^3\), a global economic growth deceleration is expected, caused by the crisis in the financial markets of the

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\(^3\) IMF. World Economic Outlook (WEO), October 2008 y WEO Update, November 6, 2008.
main world economies, especially in the United States of America. Said organism forecasts that global economic activity growth of 3.7% (5.0% in 2007) for 2008, due to less dynamism from the economies of the United States of America, Japan, United Kingdom, Canada and the Euro Zone.

It is important to mention that, although there will be less world economic growth, for 2008, the IMF will forecast an increase of global inflation, which will be at 3.6% (2.2% in 2007). The increase in world inflation has been generated by the increase of prices in energy as well as foods, especially in the emerging economic markets and in developing countries. In that sense, the IMF forecasts that for 2008 the inflation in emerging economies and in developing countries will be at 9.2% (6.4% in 2007) and in advanced economies by 3.6% (2.2% in 2007). The increase in inflation mentioned has caused many central banks of emerging economies and developing countries to adopt a restrictive monetary policy.

Within the regional analysis of world economy for 2008, the IMF projects that the US economy will grow 1.4% (2.0% in 2007). The lower dynamics of the US economy are fundamentally due to the deepening of the financial crisis that began in 2007, which has negatively influenced in the internal credit conditions and has contributed to weakening the internal demand, especially consumption and investment. On the contrary, the American economy has been stimulated by the expansive fiscal and monetary policies, as well as by the increase of its exportations (generated by the depreciation of the US dollar regarding the currencies of commercial partners, in the majority of the year). The deficit in the current account of the payments balance continues to be the lack of main macroeconomic balance in this country, since a deficit of 4.6% of the gross domestic product (5.3% in 2007) is forecast for 2008. The inflation for 2008 is forecast at 4.2%, higher to the registered in 2007 (2.9%).

In the Euro zone, the IMF estimates a growth of 1.2% for 2008 (2.6% in 2007). The deceleration of economic growth forecast by the IMF for this zone is due to the adverse credit conditions generated by the global financial crisis and to the lesser growth expected from the US economy. On the other hand, the inflation for 2008 is estimated at 3.5%, higher rate to that of 2007 (2.1%).
The Japanese economy, according to the IMF, will experiment a growth of 0.5% in 2008 (2.1% in 2007). The deceleration in the economic activity in this country has been caused by the reduction in the fixed investment, in the private consumption and in exportations. Added to this, the more expensive importations and the fall of corporate gains have caused a climate of uncertainty that has negatively affected the trust of the economic agents. On the other hand, it is expected that in 2008 the Japanese economy registered an inflation of 1.6% (0.0% in 2007).

Regarding the emerging Asian economies, these will experiment 7.7% growth in 2008 (9.3% in 2007). The deceleration in the economic growth of these economies is due to the weakening of external demand, generated by lower world economic growth, as well as the deterioration of the credit conditions in the financial markets of the region. Among these economies, it is expected that the People’s Republic of China will register a growth of 9.7%, lower to the observed in 2007 (11.9%). The lower dynamics of the economy of this country are fundamentally due to the deceleration of its exportations; however, as to internal demand, the investment and consumption, has continued to have sustained growth of this economy. On the other hand, India, although there has been deceleration of the economic activity, there is a forecast for robust economic growth of 7.8% (9.3% in 2007), which is due to the dynamism of the exportations and internal consumption. In 2008, for this group of countries there was a forecast of 7.3% inflation (4.9% in 2007).

Regarding the Emerging Market Economies and the Economies of the Developing Countries, the IMF forecasts a growth rate of 6.6% (8.0% in 2007), sustained in the strength of internal demand, particularly of investment and in the moderate growth of exportations. Regarding inflation in 2008, it projects a rate of 9.2% (6.4% in 2007), which is explained by the increase of the price of foods (which have a high weighting in the price indexes to the consumers of this group of countries) and due to the increase of inflation expectations.
As to the countries of the Western Hemisphere\(^4\), the economic growth for 2008 is estimated at 4.5% (5.6% in 2007). It is projected that the Latin American economies experiment a growth of 4.6% on average (6.1% in 2007). It is important to mention that the strength of the internal aggregate demand is the main factor that has influenced in the greater economic dynamism of the region. Among the economies of this group of countries, Peru will experiment greater economic growth in 2008 (9.2%), while Argentina, the Bolivarian Republic of Venezuela and Colombia will grow 6.5%, 6.0% and 4.0%, respectively. For Central America, the IMF estimates an economic growth of 4.6% in 2008 (6.6% in 2007). As to inflation for the countries of the Western Hemisphere we forecast a rate of 7.9% (5.4% in 2007), which is the result of the implementation of the disciplined monetary policies that have adequately anchored the inflationary expectations of the economic agents. Added to this, the majority of these economies has been strengthened through a greater exchange flexibility and an increase in the level of international monetary reserves.

As to the Middle Eastern countries, the increases in the production and in the prices of oil sustained the strength of internal demand (especially of investment and consumption), which has caused an increase in the economic growth. For 2008, the IMF forecasts 6.1% economic growth for this region (5.9% in 2007). The inflation for these countries is projected at 15.8% (10.6% in 2007).

For the Community of Independent States\(^5\), the IMF projects an economic growth rate of 6.9% in 2008 (8.6% in 2007). This dynamism has been induced by the strengthening of internal demand, which at the same time is sustained in the improvements of the exchange terms and in the fiscal and monetary expansive policies; however, the lesser trust of economic agents, caused by the global financial crisis and the weakening of external demand, has contributed to moderating the economic growth of the region. Regarding the

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\(^4\) According to the International Monetary Fund (IMF), the concept of “Western Hemisphere” includes the following countries: Antigua and Barbuda, Argentina, The Bahamas, Barbados, Belize, Bolivia, Brazil, Chile, Colombia, Costa Rica, Dominica, Dominican Republic, Ecuador, El Salvador, Granada, Guatemala, Guyana, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Paraguay, Peru, St. Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Suriname, Trinidad and Tobago, Uruguay and Venezuela.

\(^5\) According to the International Monetary Fund (IMF), among the area of the Community of Independent States (CIS), included are Armenia, Azerbaijan, Belarus, Georgia, Kazakhstan, Kirgizia Republic, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine and Uzbekistan.
inflation rate, the same is expected to be at 15.6% (9.7% in 2007). The increase of inflation has been generated by the increase of international fuel and foods prices, in the greater part of the year.

As to African economies in the Sub-Sahara, the IMF projects an economic growth of 5.5% for 2008 (6.9% in 2007). This slight economic deceleration has been caused by the uncertainty generated by the world financial crisis, as well as by the increase in energy and foods prices. However, the improvements of the exchange terms of the region have been transferred into domestic income, which has strengthened the aggregate demand of these economies. For this group of countries, the inflation in 2008 is estimated at 11.9% (7.1% in 2007).

Regarding world commerce of goods and services, it is estimated that it will grow 4.6% in 2008 (7.2% in 2007), which is a direct result of the lesser world economic growth.
## ECONOMIC AND INFLATION GROWTH
### PER REGION AND SELECTED COUNTRIES
### YEARS: 2007-2008
### (Percent Variation)

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* Includes the Asian developing economies, the recently industrialized and that of Mongolia.

a/ Data observed.
b/ Estimations

Source: IMF. World Economic Outlook (WEO), October 2008 y WEO Update, November 6, 2008.
TABLE 1
RELEVANT ASPECTS OF THE FINANCIAL CRISIS 2007-2008

I. CRISIS PRECURSORS

Prior to the 2007-2008 financial crisis, the economy of the United States of America had had one of the longer expansive cycles of its economic history, which started in 1991 and was interrupted in 2001, mainly explained by the terrorist attacks of September 11th and the technology bubble outbreak. Before this situation, the economic growth expectations were encouraging, in an environment characterized by the global excess liquidity and low levels in the interest rates, which contributed to the accelerated expansion of credit and increase in the asset price. In this context, the emergence of new financial products and derivatives, with high yields and higher risk rate, were observed, as well as a reduction in the transparency of the financial institutions. Such innovation allowed the issuance and sale of bonds and liabilities to other investors through the securitization mechanism until becoming a practice of the financial entities, without an appropriate understanding of the intrinsic risk of the instruments in an environment with poor capital to support them. This situation allowed a fast growth of the subprime mortgage market, which caused a leverage surplus and family indebtedness causing the financial institutions to grant mortgage credits for more than three billions of dollars, from which 20% were granted to people with a low economic income.

According to Barrell and Davis, the financial innovation fomented an accelerated change in the structure of the banking balances and reduced the incentive to monitor the granting of loans. Before this situation, the banking entities kept low liquid asset levels in their balances, generating an aggressive liability management to keep the appropriate anchoring levels. In addition, the banks increased their operations out of balance and used the Special Investment Vehicles (SIV) in order to avoid contributing additional capital to their operations.

On that account, the banks that originally funded the mortgage loans and established the boom real estate base issued collateralized debt obligations (CDO) based on those assets in order to transfer the credit risk to other banks and investment funds around the world, which gave place to a financial bubble that affected the instrument holders in the European, Asian and Latin American markets. The false impression that the credit risk had been transferred out of the banking system stirred up this type of operations. However, as indicated by the European Central Bank, the disclosure of the exposures and losses of the financial entities have demonstrated that the explosive growth of credit derivative markets has not been very effective in transferring the credit risk out of the balance of the commercial banks.

II. TRIGGERS OF THE CRISIS

The real estate boom scenario changed in the second semester of 2004, when the Federal Reserve of the United States of America started raising the interest rates. Later, in 2005, the housing prices started to fall and the real estate bubble start deflating, increasing the default and breach of contract rate, initially in the subprime market and then in other markets. On the other hand, the mortgage executions started increasing in a significant way, while at the same time the housing demand was decreasing with the subsequent stock growth of the same. Parallel to these events, the housing prices continued decreasing and the projects started losing profitability; therefore, a large number of financial entities started having liquidity problems. In that context, in mid 2007, it was disclosed that important banking entities and big investment funds showed exposures in high-risk mortgages; therefore, the market started falling into distrust, despite such mortgages were within the CDO packages that, in theory, reduced the risk because they were diversified and supported by physical assets.

In this context, the uncertainty caused a sudden contraction of the credit and a volatility of the stock exchange market, generating a massive sale of securities, while at the same time the decrease in value of instruments supported by mortgages was more evident, generating a contagion effect that spread throughout all the worldwide financial markets. In response to that, the main worldwide central banks started assuming their role as lenders of last resource and injected liquidity to the markets for thousand of million of dollars, in order to send positive signs to the market to calm down the same and avoid a massive capital flight.

III. RELEVANT RISK MANAGEMENT EVENTS

According to Barrell and Davis, the fall in the market liquidity rapidly impacted the banks, having initial consequences on the security prices and, subsequently, on the solvency of the entities. Doubts in the money market regarding structured products caused the market liquidity to collapse, extending the impact at an
2. External shocks that have affected the total inflation

During the period from January to November 2008, the average price of oil barrel in the New York Stock Exchange was of US$104.88, higher than the average price registered during the similar period of 2007 (US$70.55). The international price of oil has registered a growing trend since the beginning of 2007, which remained unvariable until July 2008, as a result of combining the offer and demand factors, as well as a higher speculation in the future market of oil, mainly associated to the participation of investment funds in the referred market, mainly due to the weakness of the dollar of the United States of American before other currencies. The highest historic quotation observed in the indicated period was registered on July 3, when the price per oil barrel was of US$145.29. Since international level. In that context, the banks were incapable of securitizing mortgages and other loans, due the collapse in the liquidity, while at the same time they required credit lines to support their operations, with the aggravating situation that they could not issue asset-backed commercial paper (ABCP). On that account, the banks accumulated liquidity in order to provide enough funds to their operating business. This liquidity accumulation was aggravated by the fear of counterpart risk in the inter-banking market, mainly caused by the increase of the credit and liquidity risk, derived from the undisclosed losses. On that account, as the banks searched to reduced their credit operations and the lenders became more cautious, a fall without precedents arose in the mortgage market, jointly with a significant restriction in the credit standards.

This dynamic shows that the liquidity risk of anchoring sources was closely related to the market liquidity risk. In that sense, the banks were vulnerable to such risks, derived, among other factors, from the following: low liquid asset holdings, concentration in short-term anchoring sources, dependence on the securitization process and increase in the maturity mismatch.

The IMF\(^4\) has denominated the process caused by the crisis as deleverage, in which banks and other institutions search to reduce their exposure to highly risk sectors, selling assets or reducing the growth of the same, as well as reducing the dependence of more volatile funds and strengthening their capital adjustment.

Finally, the mentioned liquidity pressure and that was evident in the first phases of the crisis started becoming a concern regarding the solvency and capital position of the financial institutions, indicating the need that banks should carefully manage the liquidity risk of the anchoring sources in a volatile environment and of high uncertainty. On that regard, Crockett\(^5\) makes reference to the market liquidity risk stating that during stressing times, the dynamic of the individual responses of the market participants acquires a considerable importance, due that such participants generally acquire assets and liabilities taking into account the conditions under which they can sell those assets or to use them as security for their needs of resources. In other words, the banks should consider not only the long-term fundamental value of the instruments, but also the value in which the position can be quickly settled under certain circumstances.

\(^{1}\) International Monetary Fund (IMF). Finance & Development. June 2008
July 15, the international price of oil has been registering a behavior to the fall, status that remains up to date.

According to *Global Insight⁶*, entity dedicated to the analysis of the energetic market, the reduction observed in the international price of oil is due to two main factors: the first one makes reference to the effects of the international financial crisis; and the second, to the reduction in the oil demand, mainly from the industrialized countries that integrate the Organization for Economic Cooperation and Development (OECD). Regarding the international financial crisis, experts declare that the volatility registered in the daily quotations of the international price makes difficult to foresee the behavior of the same in the short term.

On the other hand, regarding the reduction in the worldwide demand of oil, *Global Insight* indicates that the same is associated with the effects derived from the international financial crisis. It is considered that the effects of this crisis in the real economy during 2008 would be minimal, but this situation would change in 2009, when in the course of such year the deceleration in the demand of oil turns higher. Also, it is indicated that in the short term the price of oil and its derivates could be affected by the worldwide credit restriction, due that when the refineries

face difficulties to obtain funding sources they reduce their inventory levels, which in the short term might favor the speculation in the market due to the narrow margin between offer and demand.

In effect, it is foreseen that during 2008, the worldwide demand of oil might increase in about 0.28 million of barrels per day, which would place the total demand in 86.34 million of barrels per day, while for the total demand a growth of 1.38 million of barrels per day is foreseen, being of 86.94 million of barrels per day, giving as a result a surplus of 0.60 million of barrels per day.

### OIL

**WORLDWIDE OFFER AND DEMAND**

<table>
<thead>
<tr>
<th>Millions of barrels per day</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>OFFER</strong></td>
</tr>
<tr>
<td>OPEP MEMBERS 1/</td>
</tr>
<tr>
<td>NOT OPEP MEMBERS</td>
</tr>
<tr>
<td>TOTAL OFFER</td>
</tr>
<tr>
<td><strong>DEMAND OECD 2/</strong></td>
</tr>
<tr>
<td>REST OF THE WORLD</td>
</tr>
<tr>
<td>TOTAL DEMAND</td>
</tr>
</tbody>
</table>

**GLOBAL BALANCE**

| 0.53 | -0.50 | 0.60 |

p/ Preliminary data
1/Organization of the Petroleum Exporting Countries (12 producing countries)
2/Organization for Economic Co-operation and Development (30 industrialized countries)

Before the economic deceleration in the industrialized countries, the Organization of the Petroleum Exporting Countries (OPEC), entity that produces about 40.0% of the worldwide petroleum production, agreed a shortage of 1.5 million of barrels per day in their offer, measures that was enforced on November 1, 2008, in order to counteract the reduction in the international price of oil.

The behavior observed in the international price of oil has also affected the trend of the prices of its derivates. In effect, regarding the price of premium gasoline, it shows a trend to the fall since the third week of June 2008, which

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7 The shortage of the production was agreed on October 24.
remains invariable up to date. In the metropolitan area of Guatemala, the average price of premium gasoline during the period from January to November 2008 was of Q32.05 per gallon, higher in 22.0% regarding the price registered in the same period of 2007 (Q26.28 per gallon). However, from July to November 2008, the monthly average price was reduced by Q10.13 per gallon (27.8%), from Q36.42 to Q26.29. On the other hand, the price of gasoline in the United States of America for the period from January to November 2008 was of US$3.63 per gallon, higher in 21.4% regarding the price registered in the same period of 2007 (US$2.99 per gallon). Similar to case of Guatemala, the highest monthly average price was registered in July 2008, being the gallon of gasoline of US$4.30, while during November 2008 the monthly average was of US$2.42 per gallon.

It is important to indicate that though the price of gasoline in the metropolitan area of Guatemala shows a trend to the fall, the differential between the maximum and minimum price quoted during the last week of November, has tended to increase to Q6.49 per gallon, showing higher levels than the registered in July 2008, when the highest average monthly price of 2008 was observed (Q36.42 per gallon). This behavior explains, in part, the perception that the price of gasoline has not registered the same reductions than the observed in the international price of oil.
On the other hand, the price of diesel in the metropolitan area of Guatemala was placed, during the period from January to November 2008, in Q30.93 per gallon, higher by 46.8% regarding the price registered in the similar period of 2007 (Q21.07 per gallon). Similar to the case of the price of gasoline, diesel also shows a trend to the fall, which started since July 2008, and which remains invariable up to date. In effect, during July the average monthly price per gallon of diesel was of Q36.40, while in November this was of Q25.22 per gallon, which represents a reduction of Q11.18 per gallon. On the other hand, the price of diesel in the United States of America for the period from January to November 2008 was of US$3.93 per gallon, higher by 38.4% compared with the registered in the same period of 2007 (US$2.84 per gallon).

The increasing trend experienced by the international price of diesel until July 2008, was mainly due to the increase in the worldwide demand, mainly of the People’s Republic of China, Europe and the United States of America, which caused a reduction in the worldwide inventories, due that in addition to being used as fuel for heavy transport, it is used as fuel for the generation of power supply and as a substitute of heater fuel. Since July 2008, the international price of diesel, as indicated, registered a trend to the fall, as a result of a reduction in the demand from industrialized countries. Also, it had influence in the fall of the price, growth of the inventories of the United States of America, generating a higher availability of this product for export purposes.

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8 Diesel is not part of the goods and services basket quoted for the estimation of the Consumer Price Index (CPI).
As a result of the historic increases observed in the international price of oil and its derivates since 2007, several countries have promoted the use of alternative energy, among which the bio-combustibles, mainly ethanol stand out. The main consumer of this product is the United States of America, country in which the same is produced from corn grain, causing a higher demand of such grain and, subsequently, a pressure toward the raise in its international price. In effect, the average price of corn in the Chicago Board of Trade for the period from January to November 2008 was of US$9.68 per quintal, higher by 46.2% regarding the price registered in the similar period of 2007 (US$6.62 per quintal), registering its higher price on June 27, 2008, being placed in US$13.48 per quintal.

However, since the end of June 2008, the international price of corn has registered a trend to the fall, as a result of the expectation of obtaining for the present harvest (2008-2009) a volume in the worldwide production of the grain similar to the record production obtained in the previous harvest, when at the beginning of 2008 a significant reduction was foreseen due to the reduction of the production areas destined to this grain, due to crop substitution, mainly in the United States of America. According to the information of the US Department of Agriculture (USDA), the worldwide production of corn for the current harvest would
be of 781.4 million of tons⁹, lower by 1.3% regarding the previous harvest (792.0 million of tons). The lower worldwide production of corn compared with the previous harvest, is because though the United States of America reduced the production area by 9.7%¹⁰, the improvement in the climatic conditions in other producing countries allowed compensating such reduction.

Regarding wheat, cereal of higher worldwide consumption, it registered in its price a trend to the raise until February 2008, which was due to the reductions in the worldwide offer, derived from the damages caused to the production due to climatic factors, mainly during the last two harvests. During the period from January to November 2008, the international price of wheat in the Chicago Board of Trade was of US$13.70 per quintal, higher by 34.2% regarding the price registered during the similar period of 2007 (US$10.20 per quintal). Derived from the expectation of an increase at a worldwide level of the production areas destined to wheat, the price of the grain registered a trend to the fall since February 2008, month in which the highest historic quotation was registered, while observing a price of US$21.33 per quintal.

![Wheat Price Chart](Source: Bloomberg)
According to USDA, the worldwide production of wheat for the 2008-2009 harvest is estimated in 682.4 million of tons, higher by 11.8% regarding the production obtained in the previous harvest (610.6 million of tons). The increase estimated in the worldwide production is the result of an improvement of the climatic conditions in the main producing regions, as well as the increase in the areas destined to the production of such crop. The above allows several of the main exporting countries of the cereal that registered damages in their production during previous harvests recovering their position as suppliers of such grain in the international market, such as Canada, European Union, Australia and Ukraine.

On the other hand, the United Nations Food and Agriculture Organization (FAO) stated that the fall observed in the international price of corn and wheat is influenced by the reductions in the international price of oil, as well as by the effects derived from the international financial crisis. Also, FAO added that another factor that influenced in the fall of prices are the appropriate perspectives of the worldwide production for the current harvest, derived from the increase of the production areas, as a result of the raise of prices observed at the end of 2007. However, FAO indicated that in the short term the pressure of the inventory levels of corn and wheat on the international prices continue, due that the utilization ratio of the same continues being very low, though it shows a recovery in wheat.

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**CORN AND WHEAT**

**WORLDWIDE PRODUCTION AND INVENTORY UTILIZATION RATIO**

**IN MILLION OF TONS AND PERCENTAGE**


<table>
<thead>
<tr>
<th>Year</th>
<th>Corn Production</th>
<th>Wheat Production</th>
<th>Corn Rate</th>
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<tr>
<td>2008</td>
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<tr>
<td>2009</td>
<td>1450</td>
<td>1450</td>
<td>63</td>
<td>63</td>
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</tbody>
</table>

Source: Own estimations with information of the US Department of Agriculture

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11 A worldwide increase of 2.7% was registered in wheat production areas.
13 The inventory utilization ratio is obtained from the relation between the inventory volumes and total demand volume, according to FAO methodology.
Also, FAO warned that if the trend to the fall of the international prices continues, the production of the 2009-2010 harvest might be affected, due that farmers would not have incentives to maintain or extend their production areas due to the high costs of the production, mainly due to fertilizers; therefore, for the end of 2009 and beginning of 2010, new increases in the international prices might be registered\(^\text{14}\).

In general, the prices of most of the raw materials register a trend to the fall since July 2008, influenced by the worldwide economic deceleration, as well as by the falls registered in the worldwide stock markets; the latest, mainly during September and October 2008.

On the other hand, the IMF foresees that the stabilization of the prices of raw materials, combined with the lack of economic dynamism at a worldwide level, will contribute in stopping the inflationary pressures\(^\text{15}\). As a result of the mentioned foreign shocks, the course of the inflationary rate in Guatemala has been modified, showing the relation that exists between the behavior of the inflationary rate and the evolution of the international prices of oil, corn and wheat.

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3. Inflation in food

Within the divisions of the Consumer Price Index (CPI), food has been the most affected, due that during the last two years, the incidence of the same in the total inflationary rate significantly increased, from 27% in October 2006 to 57% in November 2008.

According to the IMF, the increase in the worldwide inflation is mainly explained by the increase in the prices of food, which is affecting most of the
countries. As observed in the following figure, the economies that registered a strong increase in the prices of food, also show a significant increase in the total inflation, which is higher in the economies with emerging markets, as the Latin American economies, where the relative weight of the food category in the basket of the consumer price index is higher than in the developed countries.

According to the IMF, the increase in the international prices of food is associated to the demand and offer factors of the same. Among the demand factors, the sustainable increase in the consumption stands out, which is due to the increase in the income per capita and to the fast demographic growth in some of the main emerging economies, among which are the People’s Republic of China, India and some oil producing countries of the Mid East. On the other hand, the international offer of food has not registered a growth rate as accelerated as the demand, due to structural factors that limit their productive process. The inflexibility of the food demand has been stressed, because of the use of some food products in the production of bio-combustibles, because of the high international prices of oil.

**B. DOMESTIC**

1. **Balance of payments estimated for December 2008, Net International Monetary Reserves and Nominal Exchange Rate**
a) Balance of payments estimated for December 2008

   i) Current Account

   For 2008 it is estimated that the Current Account of the balance of payments would show a deficit balance of US$2,077.7 million, higher by US$308.7 million (17.5%) than the registered the previous year, equivalent to 5.3% of the GDP (5.2% in 2007). Such deficit will be funded with a surplus of the capital and financial account of US$2,383.7 million, which would generate an increase of US$306.0 million in the Reserve Assets of the Banco de Guatemala.

   The balance of the Current Account would be the result of the commercial balance of US$8,019.1 million, of the balance of services of US$300.5 million and rent of US$920.5 million; and, of the surplus of the net current transferences of US$5,090.6 million.

   The balance of the commercial balance, compared with December 2007, would be determined by an increase in the export FOB value of US$1,035.7 million (14.8%) and an increase in the import FOB value of US$1,496.4 million (12.0%).

   In effect, the export FOB value would be of US$8,019.1 million, higher by 14.8% than the registered in 2007. In this result, the increase in the export of the Main Products category of US$253.8 million would be determinative, which would increase by 15.7%, as well as the Other Products category, which would increase by 18.7% (US$695.3 million) compared with 2007.

   The dynamism of the Main Products category in 2008 would be mainly due to the behavior of the coffee export value, which to December 2008 would be of US$685.0 million, higher by US$107.7 million (18.6%) than the registered in December 2007, which would be explained not only by the increase in the export volume but also by the increase in the average export price, compared with 2007.

   In effect, the export volume in quintals would increase by 2.7%, from 5,013.2 thousand in 2007 to 5,150.0 thousand to December 2008. On the other hand, the average export price per quintal in 2008 would be of US$133.00, higher by

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16 Analysis carried out based on the methodology of the Fifth Balance of Payments Manual of the IMF.
17 The result of the balance of payments would generate an increase of the NIMR of US$300.0 million, lower by US$6.0 million than the increase of the Reserve Assets of the Banco de Guatemala. This is because according to the BPM5, the transactions of Reserve Assets of the Central Bank registered in the balance of payments do not include variations in the value of the foreign asset holding due to revalorization or devaluations of the market prices. In 2008, these variations were due to the devaluation estimated in the Gold tenure of US$4.8 million and DEG tenure of US$1.2 million.
US$17.84 than the registered the previous year. According to the Asociación Nacional del Café (ANACAFE) the referred behavior would be associated to the best Guatemalan coffee quotations in the international market, due to the better quality of the grain. According to the International Coffee Organization (ICO), another factor that would influence the increase of the international prices of the aromatic is the expectation in the reduction of the production levels of Brazil and other producing countries.

On the other hand, it is expected that sugar export value would be of US$323.5 million, lower by US$34.6 million (9.7%) than the registered in 2007, situation mainly explained by the reduction in the export volume that would not be compensated by the slight increase in the average export price. In effect, the export volume, in thousand of quintals, would be reduced by 2,938.9 (10.4%), from 28,154.1 in 2007 to 25,215.2 in December 2008. On the other hand, the average export price per quintal would increase from $12.72 in 2007 to US$12.83 in 2008. According to the Asociación de Azucareros de Guatemala (Asazgua), the reduction in the export volume of the sweetener would be associated to the reduction in the harvest, derived from adverse climatic factors.

The banana export value to December 2008 would be of US$321.1 million, higher by US$22.3 million (7.5%) than the registered the previous year, which would be explained by the increase of 4,531.1 thousand of quintals (15.7%) in the export volume. On the other hand, the average export price per quintal is expected to be reduced from US$10.33 in 2007 to US$9.60 in 2008.

The export value of cardamom to December 2008 would be of US$168.8 million, higher by US$31.5 million (22.9%) than the registered in 2007. This result would be explained by the increase in the average export price per quintal, from US$225.97 in 2007 to US$375.00 in 2008. On the other hand, the export volume would be reduced by 157.6 thousand of quintals (25.9%). According to “The Hindu” Indian national press, the increase in the international price of the aromatic would be explained by the reduction in the production volume from Guatemala (main producer), as well as from India (second producer), associated to heavy rains that affected both countries.
The oil export value to December 2008 would be of US$376.0 million, higher by US$126.9 million (50.9%) than the registered the previous year. This increase would be due to the increase in the average export price per barrel, from US$47.21 in 2007 to US$80.00 in 2008; while the export volume would be reduced by 576.6 thousand of barrels (10.9%), from 5,276.6 in 2007 to 4,700.0 in 2008.

It is important to indicate that the margin between the average price per exported oil barrel and the international price of oil in the international market (which was of US$109.63 to October 2008) is due to the fact that national oil is of lower quality compared with the one quoted in the international markets; therefore, its final use needs a higher refining process which results in higher costs.

The export value of Other Products would be of US$4,413.9 million, higher by US$695.3 million (18.7%) than the registered in 2007. This result would be due to the increase foreseen in the exports to Central America (21.7%) and exports to the rest of the world (15.5%). Such behavior would be due to the higher demand from Central American countries and to the enforcement of the free trade agreement with the United States of America.

On the other hand, the export of Goods for Transformation would register an increase of US$71.5 million (4.6%), while the increase in the export of goods acquired in port would be of US$15.1 million (20.0%).

The import FOB value to December 2008 would be of US$13,966.4 million, higher by US$1,496.4 million (12.0%) than the registered the previous year.

Regarding the growth of the general merchandise imports, the increase in the following categories would stand out: fuels and lubricants (28.7%); construction materials (21.0%); raw materials and intermediate products (17.1%); consumption goods (4.4%); and, machinery, equipment and tool (1.0%). On the other hand, the import of Goods for Transformation would be registering a growth of US$25.8 million (2.6%), while the import of goods acquired in port would increase by US$0.1 million (12.0%).

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18 In the methodological framework of the Fifth Balance of Payments Manual, the import value is consigned as FOB. The FOB value of the import goods is the price paid up to the custom frontier of the export economy, in other words, does not include expenses carried out for insurance and transportation, due that the same are included in the Balance of Services.
The increase of imports would be associated to the growth of the national economic activity and to the increase of some raw materials, as well as of fuels and other oil derivate products, most of the year.

On the other hand, the Balance of Services in 2008 would register a deficit balance of US$300.5 million, higher by US$7.1 million (2.4%) than the registered the previous year. Such result would be due to the surplus of US$520.6 million in the travel category, of US$265.1 million in the communication services and of US$92.7 million in the government services; and, to the deficits of US$957.0 million in the transportation services, US$200.8 million in the insurance services and US$21.0 million in other services.

On the other hand, Rent would register a deficit balance of US$920.5 million, higher by US$77.6 million (9.2%). Such result would be mainly due to the deficit balance of the direct investment rent.

Regarding the Net Current Transferences, these would register a surplus balance of US$5,090.6 million, which would be mainly due to the net income of family remittances.

ii) Capital and Financial Account

The Capital and Financial Account of the balance of payments would register to December 2008 a surplus balance of US$2,383.7 million, higher by US$398.4 million (20.1%) than the registered the previous year.

The balance of the Capital and Financial Account would be the result of the surplus balance of the Financial Account. In effect, the financial account would register to December 2008 a surplus balance of US$1,886.9 million, higher by US$276.0 million (17.1%) than the registered the previous year, while the capital account did not register a balance, as in the previous year.

When disaggregating the Financial Account, the Direct Investment category would be of US$802.8 million, higher by US$83.6 million than the registered in 2007, as a result of the higher direct foreign investment carried out in the country, which would reach US$837.8 million, higher by US$94.1 million (12.7%) than the observed in 2007; which would be mainly associated to the
improvement of the business environment and to enforcement of the Free Trade Agreement with the United States of America.

The Portfolio Investment should register a surplus of US$51.8 million, in contrast with the deficit of US$184.8 million registered in 2007. The result to December 2008 is explained by the reduction in the amortization of the government’s bonds expressed in US dollars with non-residents.

Regarding the Other Investment category, it was of US$1,032.3 million, lower by US$44.2 million (4.1%) than the registered in 2007.

Derived from the operations in the Current Account and in the Capital and Financial Account of the balance of payments, as indicated, an increase in the reserve assets for an amount of US$306.0 million is estimated (equivalent to an increase of US$300.0 million in the international monetary reserves).
The transactions of the Reserve Assets of the Central Bank registered in the balance of payments do not include variations in the value of the foreign asset holdings, due to revalorizations or devaluations of the market prices. In 2008, these variations were due to the devaluation estimated in Gold tenures of US$4.8 million and DEG tenure of US$1.2 million. Therefore, the amount equivalent to the increase in the NIMR would be of US$300.0 million.

### GUATEMALA: BALANCE OF PAYMENTS

**YEARS: 2007 - 2008**

- In million of US Dollars-

<table>
<thead>
<tr>
<th>Concept</th>
<th>Absolute</th>
<th>Relative</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>CURRENT ACCOUNT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-COMMERCIAL BALANCE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>FOB Exports</td>
<td></td>
<td></td>
</tr>
<tr>
<td>General Merchandise</td>
<td>6,983.4</td>
<td>8,019.1</td>
</tr>
<tr>
<td>Main products</td>
<td>1,620.6</td>
<td>1,874.4</td>
</tr>
<tr>
<td>Other products</td>
<td>3,718.6</td>
<td>4,413.9</td>
</tr>
<tr>
<td>Goods for Transformation</td>
<td>1,568.6</td>
<td>1,640.1</td>
</tr>
<tr>
<td>Goods acquired in port</td>
<td>75.6</td>
<td>90.7</td>
</tr>
<tr>
<td>FOB Imports</td>
<td>12,470.0</td>
<td>13,966.4</td>
</tr>
<tr>
<td>General Merchandise</td>
<td>11,474.4</td>
<td>12,944.9</td>
</tr>
<tr>
<td>Goods for Transformation</td>
<td>994.5</td>
<td>1,020.3</td>
</tr>
<tr>
<td>Goods acquired in port</td>
<td>1.1</td>
<td>1.2</td>
</tr>
<tr>
<td><strong>B-SERVICIOS</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Credits</td>
<td>1,730.7</td>
<td>1,928.8</td>
</tr>
<tr>
<td>Debits</td>
<td>2,024.1</td>
<td>2,229.3</td>
</tr>
<tr>
<td><strong>C-RENT</strong></td>
<td></td>
<td></td>
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<tr>
<td>Credits</td>
<td>556.8</td>
<td>577.7</td>
</tr>
<tr>
<td>Debits</td>
<td>1,399.7</td>
<td>1,498.2</td>
</tr>
<tr>
<td>Family remittances (Net)</td>
<td>4,200.0</td>
<td>4,389.0</td>
</tr>
<tr>
<td><strong>D-CURRENT TRANSFERENCES</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CAPITAL AND FINANCIAL ACCOUNT</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>A-CAPITAL ACCOUNT (NET)</td>
<td>1,985.3</td>
<td>2,383.7</td>
</tr>
<tr>
<td>B-FINANCIAL ACCOUNT</td>
<td>1,610.9</td>
<td>1,886.9</td>
</tr>
<tr>
<td>1- Direct investment</td>
<td>719.2</td>
<td>802.8</td>
</tr>
<tr>
<td>Abroad</td>
<td>-24.5</td>
<td>-35.0</td>
</tr>
<tr>
<td>In Guatemala</td>
<td>743.7</td>
<td>837.8</td>
</tr>
<tr>
<td>2- Portfolio investment</td>
<td>-184.8</td>
<td>51.8</td>
</tr>
<tr>
<td>3- Other investment</td>
<td>1,076.5</td>
<td>1,032.3</td>
</tr>
<tr>
<td>Loans of the Public Sector</td>
<td>386.6</td>
<td>200.9</td>
</tr>
<tr>
<td>C-MISTAKES AND OMISSIONS</td>
<td>374.4</td>
<td>496.8</td>
</tr>
<tr>
<td><strong>BALANCE OF BALANCE OF PAYMENTS</strong></td>
<td>216.3</td>
<td>306.0</td>
</tr>
<tr>
<td><strong>RESERVE ASSETS (- increase)</strong></td>
<td>-216.3</td>
<td>-306.0</td>
</tr>
<tr>
<td><strong>CURRENT ACCOUNT /GDP</strong></td>
<td>-5.2</td>
<td>-5.3</td>
</tr>
</tbody>
</table>

1/ Preliminary data 2/ Estimated Data

"According to the Fifth Balance of Payments Balance, the transactions of the Reserve Assets of the Central Bank registered in the balance of payments do not include variations in the value of the foreign asset holdings, due to revalorizations or devaluations of the market prices. In 2008, these variations were due to the devaluation estimated in Gold tenures of US$4.8 million and DEG tenure of US$1.2 million. Therefore, the amount equivalent to the increase in the NIMR would be of US$300.0 million."
b) Net International Monetary Reserves

To November 30, 2008, the Net International Monetary Reserves (NIMR) were of US$4,709.0 million, which means an increase of US$388.7 million regarding the level observed to December 31, 2007. Such increase is the result of foreign currency income of US$579.6 million, foreign currency expenditures of US$682.7 million and other net income of US$491.8 million.

The income was mainly derived from the purchase of foreign currency by the Banco de Guatemala to the system's banks through the Electronic Foreign Currency Trading System (Sinedi) [Acronym in Spanish.] of US$237.4 million and disbursements of foreign public debt received by the non-financial Public Sector of US$342.2 million. Among such disbursements, the following stand out, Broad-Base Development Policy loan of US$99.7 million granted by the International Bank for Reconstruction and Development (IBRD) and the Public Financial Management Reform Program loan of US$100.0 million granted by the Inter-American Development Bank (IDB).

Regarding expenditure, operations for the sale of foreign currency were carried out by the Banco de Guatemala to the system’s banks through Sinedi of US$46.5 million, payments related to the non-subsidized foreign public debt of US$371.4 million and capital and interest payments that correspond to the Treasury Bonds expressed in US dollars of US$264.8 million.

Regarding other net income, the net yield of the international monetary reserves of US$238.8 million, income due to royalties from oil exploitation of US$167.2 million, increase in the balance of the legal banking reserve account in foreign currency of US$8.5 million and other concepts of US$77.3 million19.

The mentioned NIMR level will allow covering 3.4 months of import of goods. In addition, if the government short-term liabilities expressed in US dollars (sensibility test) is deducted, it would be possible to fund up to 2.8 months of import of goods. Such level would be equivalent to 9.2 times the amount of the country’s

19 includes variation of the international price of gold; transferences to individuals; DEG interests; others.
foreign public debt service to one year and could cover up to 1.7 times the referred obligations.

The behavior of the NIMR regarding the deficit in the current account plus the balance of the foreign public debt is shown below.

c) Nominal exchange rate

i) Recent behavior

The nominal average weighted exchange rate between the purchase and sale in the Institutional Currency Market registered a depreciation of Q0.042 (0.55%), from Q7.631 per US$1.00 on December 28, 2007 to Q7.673 per US$1.00 on November 30, 2008.

In 2008, the behavior of the nominal exchange rate has been congruent with its seasonality. Nevertheless, some volatility episodes in the nominal exchange rate were observed throughout the year, which propitiated the participation of the Banco de Guatemala in the exchange market through the rule established for such effect (purchases of US$237.4 million and sales of US$46.5 million). It is important to highlight the behavior registered by the nominal exchange rate between the second week of October and the third week of November, period

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*Preliminary Data

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in which the nominal exchange rate was depreciated in about 3.0%, situation mainly explained by the depreciation expectations of the economic agents due to the uncertainty regarding the reduction of flows derived from the foreign credit lines, from the participation of the *Banco de Guatemala* in the exchange market, as well as a lower foreign currency offer in the market due to the deceleration registered in the mentioned period in the foreign currency income due to family remittances, exports and tourism.

The behavior of the nominal exchange rate, as well as its seasonality, is shown in the following figure.

![Evolution of the nominal exchange rate and its seasonality](image)

**ii) Participation of the Banco de Guatemala in the exchange market**

In Guatemala the exchange scheme is flexible; therefore, the nominal exchange rate is determined by the interaction between the foreign currency offer and demand in the exchange market. Nevertheless, in that scheme, the Banco de Guatemala participates in the exchange market through a participation rule based on target and transparent criteria, which are well known by the market and the purpose of which is to moderate the volatility of the nominal

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20 Since 2005 the *Banco de Guatemala* uses a rule for its participation in the exchange market, which has been adjusted in order to turn the same more flexible.

It is important to highlight that the Monetary Board projected at the end of 2007 a change in the participation rule of the Banco de Guatemala in the exchange market in order to provide flexibility to the same. In effect, after observing an appreciation period that caused multiple participations of the Central Bank in the exchange market when it was intended to restrict the monetary conditions, decided that since June 12, 2008, the exchange rule should be amended, providing more flexibility to the same, but keeping the principle that it should be limited to moderate the volatility of the nominal exchange rate without affecting its trend. In this context, the new exchange rule is more simple and comprehensible than the previous one, due that it eradicates thresholds, turns the same symmetric for the purchase and sale of foreign currencies and allows absorbing the foreign shocks in a better way.

2. The economic activity for 2008

Since 2004, the national economic activity has shown sustainable growth until reaching 6.3% in 2007. However, due to the economic deceleration that has been observed in most of the countries because of the global financial crisis and that has influenced the detriment of the economic agents’ expectations, it is expected that the economic growth rate for Guatemala will be reduced in 2008, year in which the Gross Domestic Product (GDP) in real terms is estimated will grow by 4.0%. However, it is important to indicate that such rate continues to be higher than the average rate registered during the last decade (3.8%); and higher, for the fifth consecutive year, than the population growth rate (2.5%)\(^{21}\), as shown in the following figure.

\(^{21}\) Projection carried out by Instituto Nacional de Estadística (INE).
The economic deceleration is analyzed not only from the external but the internal point of view as well. In the external order, the behavior foreseen in the national economic activity is based, on one hand, on a less favorable environment, derived from the worldwide economic deceleration, mainly, on the economy of the United States of America and on the rest of the main commercial partners of Guatemala (Central America, Mexico and Euro Zone) and, on the other hand, before offer shocks, as a result of the international oil, corn and wheat prices. In that sense, according to the IMF, it is expected that the worldwide economy would register a lower dynamism, from 5.0% in 2007 to 3.7% in 2008 and the Latin American and Caribbean economies would decelerate from 5.6% in 2007 to 4.5% in 2008.

Regarding the internal order, it is expected that the reduction foreseen in the exports, as well as in foreign income due to a drop in family remittances and tourism, derived from the deceleration of the economy of the United States of America, would be counteracted by the maintenance of macroeconomic stability, as a result of the application of monetary and disciplined fiscal policies and of the stability of the country’s main macroeconomic principles.
Congruent with the deceleration of the economic activity foreseen for 2008, the results of the Business Opinion Survey\(^{22}\) carried out in March-April and August-September 2008, show that, as an average, 61.9% of the interviewed entrepreneurs expressed that the production volume of industrial products will increase or will remain equal to 2008, percentage lower than the evaluation carried out in 2007 (82.9%).

Regarding the Trust Index of the Economic Activity of the Panel of Private Analysts (EEI)\(^{23}\), the expectations on the performance of the economic activity suggested a pessimist scenario with deceleration perspectives, which was stressed during the first months of the year, mainly influenced by the uncertainty degree due to the expectation of the worldwide economic deceleration, which has impacted the business environment for productive activities.

\[\text{TRUST INDEX OF THE ECONOMIC ACTIVITY FROM THE PANEL OF PRIVATE ANALYSTS YEAR 2008}\]

\[\text{SOURCE: Survey of Inflation Expectations to the Panel of Private Analyst}\]

\(^{22}\) Biannual survey addressed to entrepreneurs of the manufacturing industry, the sample of which includes 335 establishments, from which 55.5% are big (more than 50 employees), 20.3% are medium (between 20 and 49 employees) and 24.2% are small (between 5 and 19 employees).

\(^{23}\) It measures the perception of the economic agents, not only regarding the current economic status and business environment, but also regarding the economic evolution of the country in the near future. It is important to indicate that the expectations of national and international experts are compiled through the EEI, which is carried out monthly by the Banco de Guatemala since 2003.
a) Monthly Index of Economic Activity

Regarding the Monthly Index of Economic Activity (MIEA), its trend-cycle with data to October 2008 (latest information available), after showing an increasing behavior that started in May 2005 and ended in July 2007, when its inter-annual variation reached its maximum point (6.81%), it started decelerating until reaching 3.04% in October 2008. This result is congruent with the deceleration foreseen in the economic activity for the present year.

![MONTHLY INDEX OF THE ECONOMIC ACTIVITY](image)

b) Gross Domestic Product measured by their production origin

For 2008, it is foreseen that the GDP will grow by 4.0% (6.3% in 2007), since most of the economic activities would be showing less dynamic growth rates than those registered the previous year.

For the Agriculture, livestock, hunting, forestry and fishing activity (with a participation of 13.3% in the GDP), a growth of 2.0% is estimated, lower than the registered before (5.9%). The lower dynamism would be mainly supported by a

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24 In November 2008, the Gross Domestic Product was again registered to the drop for 2008, which is supported on the following factors: a) the latest available information regarding the projected economic growth of the main commercial partners of the country; b) the updated information of the relevant variables of the real, fiscal and foreign sectors; c) the information provided by the producer associations, guilds and public and private entities; and, d) the definitive results of the Sixth Continuous Economic Survey (EECONT6) [Acronym in Spanish] to more than 1,250 productive companies, based on the new methodological framework of the National Accounts System NAS93.
deceleration in the production of traditional crops (of 7.4% in 2007 to 3.4% in 2008), of the non-traditional crops (of 5.9% in 2007 to 0.7% in 2008), as well as of livestock, forestry, hunting and fishing (of 4.9% in 2007 to 3.0% in 2008).

Regarding coffee, according to the Asociación Nacional del Café [National Coffee Association] (ANACAFE), a less dynamic behavior would be expected compared to the previous year, showing an increase of 2.0% in the production volume (3.4% the previous year), due to a reduction in the crop area yield mainly associated to climatic factors and biannual production processes\(^{25}\).

Regarding the production of cardamom, the Asociación de Cardamomeros de Guatemala (Cardegua) and Federación de Cooperativas de las Verapaces R.L. (Fedecovera) foresee that the production volume would be reduced by 10.0% (-6.0% in 2007). This behavior is explained by the neglect and reduction of the production areas of some plantations in the Verapaces region in previous years, motivated by the low international prices of the aromatic herb registered in the 2003-2005 period, which would have an effect on the low production volumes that are expected.

Regarding banana production, an increase in the production volume of 9.0% is expected, lower than the increase shown in 2007 (17.9%). According to estimations of the Compañía de Desarrollo Bananero de Guatemala (Bandegua) and Compañía Bananera Independiente de Guatemala (Cobigua), the lower dynamism would be due to the regularization of the production of the areas extended the previous year, as well as damage to the plantations caused by climatic conditions that prevailed during the rainy season of the present year.

In sugar cane production, a growth of 6.0% (11.6% in 2007) is estimated. According to the Asociación de Azucareros de Guatemala (Asazgua), the growth of the 2007/2008 harvest was less dynamic, mainly due to climate effects that affected the production of sugar cane, among which are the saturation of soils of the production areas in the South Coast of the country due to heavy rains that were registered, the deficiencies in the luminosity of the plantations, hurricane winds that

\(^{25}\) Cycle of coffee production that indicates that after a high harvest season a low one follows, as a result of the plant’s exhaustion.
affected the region at the beginning of the year and the presence of rodents that would have impacted some production areas in the south.

Regarding the production of tubercles, roots and vegetables, as well as fruits and nuts, a lower dynamism is forecasted, from an increase of 4.0% and 11.4% in 2007 to -0.2% and 2.3%, respectively, in 2008. Such deceleration, according to information provided by the Ministerio de Agricultura, Ganadería y Alimentación (MAGA), is mainly due to damage caused by rain in the present year.

Regarding the forest production, a less dynamic growth would be expected, from 8.3% in 2007 to 5.0% in 2008. Such behavior would be mainly explained by a reduction in the expected rubber extraction.

In the Exploitation of mines and quarries activity (with a participation of 0.7% in the GDP), a negative growth rate of 0.8% is expected (13.9% the previous year). This result would be mainly influenced by a higher fall in the extraction of oil and natural gas, which explains 34.1% of the behavior of the entire sector, from -5.0% in 2007 to -9.2% in 2008. In that regard, according to the Ministerio de Energía y Minas (MEM) [Equivalent to the US Department of Energy], such reduction would be supported by the reduction of oil production in the main oil wells, due to the exhaustion process of the same. On the other hand, a loss of dynamism in the extraction of stones, sand and clay is foreseen (14.6% in 2007 and 1.2% in 2008) and in the extraction of metallic minerals (52.7% in 2007 and 7.1% in 2008); both activities explain 61.5% of the sector. The mentioned behavior would be associated to the deceleration foreseen in the demand of stones, sand and clay from the construction sector, as well as a lower dynamism foreseen in the extraction of gold and silver, as a result of the regularization of the production of Montana Exploradora de Guatemala company.

Regarding the Manufacturing industry (with a participation of 18.2% in the GDP), a growth of 2.4% would be expected, percentage less dynamic than the registered in 2007 (3.0%). This result would be influenced by an expected lower foreign demand of textiles and clothing from the United States of America, main destination of these products. According to the Comisión de Vestuarios y Textiles (Vestex) of the Asociación Guatemalteca de Exportadores (Agexport), such
behavior would be influenced by the deceleration foreseen in the worldwide economy, mainly in the United States of America due to the increase in the production costs and to the increase of international competition.

Regarding the food, beverages and tobacco industry, a growth rate of 3.1% is foreseen, lower than the registered in 2007 (3.5%), mainly as a result of the expected reduction in the production of sugar, which, according to the Asociación de Azucareros de Guatemala (Asazgua), would have an inter-annual variation of -1.4% compared to the observed the previous year, in which a record production was reached (13.6%).

On the other hand, a reduction in the demand of industrial products destined to construction, mainly cement, block, iron and metals, is estimated, as a result of the reduction expected in the public and private investment levels in that sector.

For the Power supply and water collection activity (with a participation of 2.6% in the GDP), a growth of 2.2% is estimated (6.3% in 2007), which, according to the Administrador del Mercado Mayorista (AMM), is mainly associated to the reduction in the demand of power supply, derived from the lower growth expected in the Wholesale and Retail Commerce activities; and of the Manufacturing Industry and Private Services.

For the Construction activity (with a participation of 3.7% in the GDP), a variation rate of -3.6% would be expected (8.8% in 2007). It is important to mention that this behavior would be influenced by the lower dynamism in building construction\(^{26}\), which explains 64.6% of the behavior of such activity. In effect, for 2008, based on the Municipal Survey for Construction Licenses carried out by the Banco de Guatemala, a lower number of authorized licenses for the construction of housing and apartment buildings is expected. According to the Cámara Guatemalteca de la Construcción (CGC), such behavior would be mainly associated to the increase in the prices of construction materials.

It is estimated that the aggregate value of the Wholesale and Retail Commerce activity (with a participation of 12.0% in the GDP) will register a growth rate of 3.3% in 2008 (4.0% in 2007), mainly explained by the lower dynamism

\(^{26}\) Includes single-family housing, serial housing, multi-family housing, businesses, industries, extensions, walls and repairs.
foreseen in the manufacturing industries and Agriculture, Livestock, Hunting, Forestry and Fishing activities, as well as by the lower dynamism foreseen in the demand of import goods.

For the *Transportation, storage and communication* activity (with a relative weight of 10.6% in the GDP), a growth of 18.2% is foreseen (22.9% in 2007). Such behavior would be associated to the evolution expected in the transportation and telecommunications sub-activity, which explain 91.2% of the behavior of such activity. Regarding transportation, it might register a growth of 4.8% in 2008 (6.5% in 2007), associated to the increase observed in the prices of fuels and lubricants, which has caused, among other effects, the deferral of flights by some airlines.\(^{27}\) Regarding telecommunications, which represent 75.1% of this activity, a growth of 27.0% would be expected in 2008 (35.0% in 2007), which would be supported, according to the *Superintendencia de Telecomunicaciones de Guatemala (SIT)*, on the deceleration of the number of activated phone lines.

Regarding the *Financial intermediation, insurance and auxiliary activities* (with a relative weight of 4.3% in the GDP), a growth rate of 11.8% is foreseen for 2008 (9.9% in 2007), mainly associated to the behavior expected in the net result (less spent products) of the system’s banks. In effect, the net result of the system’s banks to October 2008, registered a variation rate of 27.7% (24.7% in the same period of 2007).

For the *Housing rent* activity (with a relative weight of 9.9% in the GDP), a growth rate of 3.7% is expected (3.9% in 2007), as a result of a lower offer of new housing destined for rent.

Regarding the *Private Services* economic activity (with a participation of 15.4% in the GDP), there is a forecast growth rate of 4.5% (6.5% in 2007), associated to the lower dynamism expected in the intermediate demand of the industrial, agricultural, commercial and telecommunications activities. Within this activity, the deceleration in the growth rate of real estate, business and rental sub-

\(^{27}\) According to the *Dirección de Aeronáutica Civil*, in June 2008, the Interjet company suspended operations in Guatemala. On the other hand, the United Airlines and US Airways companies suspended their flights between Guatemala and the United States of America since September 2, 2008.
activities stands out (which represent 35.4% of the activity), from 9.4% in 2007 to 5.5% in 2008.

Finally, regarding the Public Administration and Defense activity (with a relative weight of 6.4% in the GDP), a growth rate of 5.4% is estimated (4.6% in 2007). This result is explained by a higher dynamism foreseen in the remunerations of the Central Government, which to October 2008 showed a growth of 11.4%, regarding the same period the previous year (8.7%), due, among other causes, to the creation of new positions in the Ministerio de Educación [Equivalent to the US Department of Education], according to Governmental Agreement No. 147-2008, stipulating that teachers that render their services to the National Self-Management Program for Educational Development would be hired as employees of such ministry.

Finally, it is important to state that due to the status of the worldwide macroeconomic environment, characterized by the deceleration in the economic

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</thead>
<tbody>
<tr>
<td>1. Agriculture, livestock, hunting, forestry and fishing</td>
<td>25,244.1</td>
<td>25,754.9</td>
<td>5.9</td>
<td>2.0</td>
</tr>
<tr>
<td>2. Exploitation of mines and quarries</td>
<td>1,296.4</td>
<td>1,286.2</td>
<td>13.9</td>
<td>-0.8</td>
</tr>
<tr>
<td>3. Manufacturing industries</td>
<td>34,491.7</td>
<td>35,334.5</td>
<td>3.0</td>
<td>2.4</td>
</tr>
<tr>
<td>4. Power supply and water collection</td>
<td>4,874.0</td>
<td>4,983.5</td>
<td>6.3</td>
<td>2.2</td>
</tr>
<tr>
<td>5. Construction</td>
<td>7,548.3</td>
<td>7,275.7</td>
<td>8.8</td>
<td>-3.6</td>
</tr>
<tr>
<td>6. Wholesale and retail commerce</td>
<td>22,538.3</td>
<td>23,291.4</td>
<td>4.0</td>
<td>3.3</td>
</tr>
<tr>
<td>7. Transportation, storage and communications</td>
<td>17,381.0</td>
<td>20,550.3</td>
<td>22.9</td>
<td>18.2</td>
</tr>
<tr>
<td>8. Financial intermediation, insurances and auxiliary activities</td>
<td>7,432.2</td>
<td>8,311.0</td>
<td>9.9</td>
<td>11.8</td>
</tr>
<tr>
<td>9. Housing rent</td>
<td>18,571.1</td>
<td>19,265.3</td>
<td>3.9</td>
<td>3.7</td>
</tr>
<tr>
<td>10. Private services</td>
<td>28,623.2</td>
<td>29,924.9</td>
<td>6.5</td>
<td>4.5</td>
</tr>
<tr>
<td>11. Public administration and defense</td>
<td>11,813.7</td>
<td>12,446.9</td>
<td>4.6</td>
<td>5.4</td>
</tr>
<tr>
<td><strong>GROSS DOMESTIC PRODUCT</strong></td>
<td><strong>186,704.9</strong></td>
<td><strong>194,226.1</strong></td>
<td><strong>6.3</strong></td>
<td><strong>4.0</strong></td>
</tr>
</tbody>
</table>

a/ The difference between the total and sum of components is due to the difference due to non-additive of chain-indexes.
p/ Preliminary data
e/ Estimated data
activity, mainly of the United States of America and countries that integrate the Euro Zone, the technical department of the Banco de Guatemala has carried out different reviews of the economic growth rate for 2008. Below is a table that contains a detail of such revisions.

### REAL GROSS DOMESTIC PRODUCT (Base 2001 = 100)

#### YEAR: 2008

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<tr>
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<tbody>
<tr>
<td>GROSS DOMESTRIC PRODUCT</td>
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<td>5.3</td>
<td>4.8</td>
<td>4.3</td>
<td>4.0</td>
</tr>
<tr>
<td>1. Agriculture, livestock, hunting, forestry and fishing</td>
<td>13.3</td>
<td>2.6</td>
<td>2.6</td>
<td>2.3</td>
<td>2.0</td>
</tr>
<tr>
<td>2. Exploitation of mines and quarries</td>
<td>0.7</td>
<td>3.3</td>
<td>4.0</td>
<td>0.3</td>
<td>-0.8</td>
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<tr>
<td>3. Manufacturing industries</td>
<td>18.2</td>
<td>3.1</td>
<td>2.7</td>
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<td>2.4</td>
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<td>4. Power supply and water collection</td>
<td>2.6</td>
<td>4.0</td>
<td>4.9</td>
<td>3.0</td>
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<tr>
<td>5. Construction</td>
<td>3.7</td>
<td>5.0</td>
<td>3.3</td>
<td>-1.1</td>
<td>-3.6</td>
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**e/ Estimated data**

#### Table:

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### 3. Public Finance

#### a) Analysis of the financial status of the Central Government

According to preliminary data of the Ministerio de Finanzas Públicas [Equivalent to the US Department of the Treasury], the financial status of the Central Government to November 2008 registered a fiscal deficit of Q2,730.3 million, equivalent to 0.9% of the GDP (deficit of Q2,729.2 million to November 2007, equivalent to 1.0% of the GDP). It is important to indicate that to November of the present year a primary surplus was registered (0.4% of the PIB), similar to the registered on the same date of 2007, because when the interest payment for Q3,808.5 million of public debt for total expenditure is excluded, a surplus of Q1,078.2 million is generated (surplus of Q947.9 million to November 2007) and a current savings of Q8,019.8 million.

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28 The deficit or surplus is obtained by excluding the interest payment of public debt from the total expenditure of the fiscal deficit conventional measure.
The total income to November 2008 registered an amount of Q32,583.5 million, higher by Q2,068.4 million (6.8%) than the observed in the same period the previous year, which represents a revenue of 91.1% regarding the income budget for 2008. Regarding tax revenue, Q30,827.0 million were collected, higher by Q1,847.7 million (6.4%) than the registered to November 2007. Such increase was explained by the higher direct tax revenue (Q1,002.6 million) regarding November 2007, mainly by Income Tax (IT), which was of Q6,924.9 million, higher by Q716.5 million than the collected in the same period of 2007. On the other hand, the increase in the indirect tax revenue (Q845.1 million) was mainly due to the increase in the amount collected due to the Value Added Tax (VAT), which was of Q14,840.9 million, higher in Q911.6 million than the collected in the same period of 2007. In that regard, it is important to indicate that such result is mainly explained by the higher revenue derived from the import VAT, which was higher by Q702.5 million (7.9%) compared to the registered to November 2007.

Regarding total expenditure, to November 2008 this was of Q35,313.8 million, higher by Q2,069.5 million (6.2%) than the registered in the same period of 2007.

The operation expenditure, to November 2008, was of Q24,259.8 million, higher by Q1,857.2 million (8.3%) than that from the same period the previous year, as a result of higher operational expenditure (Q2,422.8 million) and interest payment of public debt (Q131.4 million), and of the reduction in the current transferences (Q697.0 million).

To November 2008, the capital expense was of Q11,054.0 million, higher by Q212.3 million (2.0%) than the registered in the same month of 2007, as a result of higher direct investment expenses of Q213.6 million.

Regarding the funding sources, net foreign funding was positive by Q813.7 million, as a result of disbursements for Q2,524.7 million\(^{29}\) and amortizations of Q1,711.0 million. On the other hand, net domestic funding was positive by Q1,025.7 million, due to negotiation of public securities of Q3,163.0 million, to

\(^{29}\) The disbursements that stand out are the received from the International Bank for Reconstruction and Development (IBRD), that correspond to the “Third Broad-Base Growth Development Policy Loan” of US$100.0 million (equivalent to Q742.5 million), from the Inter-American Development Bank (IDB) destined to the “Public Financial Management Reform Program, Phase II” of US$100.0 million (equivalent to Q753.4 million) and from the Central American Bank for Economic Integration (CABEI) destined to “Budget Support Funding to the Ministerio de Comunicaciones, Infraestructura y Vivienda [Equivalent to the US Dept of Public Works]” of US$66.6 million (equivalent to Q500.6 million).
expiration of Q1,744.0 million and issuance of Treasury Bonds of Q393.3 million to cover the net deficiency of the Banco de Guatemala that correspond to the 2006 fiscal year.

The behavior of the income, expenditure and funding generated, to November 2008, a reduction in the fiscal cash of Q890.9 million, as shown in the following table.

### CENTRAL GOVERNMENT
#### STATUS OF THE PUBLIC FINANCES TO NOVEMBER
##### YEARS: 2007 - 2008
##### -In million of quetzales-

| CONCEPT                      | 2007  | 2008\(^a\) | VARIATIONS
|------------------------------|-------|------------|-------------
|                              |       |            | ABSOLUTE    | RELATIVE    |
| I. Income and donations      |       |            |             |             |
| A. Income                    | 30,515.1 | 32,583.5 | 2,068.4     | 6.8         |
| 1. Current income            | 30,239.5 | 32,294.9 | 2,055.4     | 6.8         |
| a. Taxable                   | 28,979.3 | 30,827.0 | 1,847.7     | 6.4         |
| b. Non-taxable               | 1,247.9  | 1,452.6   | 204.7       | 16.4        |
| 2. Capital income            | 12.3   | 15.3       | 3.0         | 24.4        |
| B. Donations                 | 275.6  | 288.6      | 13.0        | 4.7         |
| II. Total of expenditure     | 33,244.3 | 35,313.8 | 2,069.5     | 6.2         |
| A. Operation                 | 22,402.6 | 24,259.8 | 1,857.2     | 8.3         |
| B. Capital                   | 10,841.7 | 11,054.0 | 212.3       | 2.0         |
| III. Fiscal deficit or surplus| -2,729.2 | -2,730.3 | -1.1        | 0.0         |
| IV. Saving in current account| 7,824.6  | 8,019.8   | 195.2       | 2.5         |
| V. Funding                   | 2,729.2  | 2,730.3   | 1.1         | 0.0         |
| A. Net Foreign Funding       | 2,030.2  | 813.7     | -1,216.5    | -59.9       |
| B. Net Domestic Funding      | 3,447.0  | 1,025.7   | -2,421.3    | -70.2       |
| C. Cash variation            | -2,748.0 | 890.9     | 3,638.9     | -132.4      |

(-Increase +reduction)

SOURCE: Ministerio de Finanzas Públicas [Equivalent to the US Department of Treasury].
\(^a\) Preliminary data.

b) Closing estimation for December 2008

According to estimations from the Ministerio de Finanzas Públicas [Equivalent to the US Department of Treasury], the fiscal closing for 2008 considers that the fiscal deficit would reach a rate of around 1.6% of the GDP, higher than the registered in 2007 (1.4%), while the tax burden would be of about 11.3%, lower than the registered in 2007 (12.1%).

4. Financial system

a) Local banking entities

i) Banking liquidity
**In national currency**

The banking liquidity, measured by the surplus or deficiency of legal banking reserves, is an indicator of the level of financial resources available in the banking system. In that sense, during the January to November 2008 period, the banking system showed positive liquidity levels, on average, between Q145.5 million and Q283.7 million, as shown in the following figure.

On the other hand, the daily liquidity of the system’s banks, registered from January to November 2008, shows a similar behavior than the observed in the same period of 2007. In that regard, between January and November of the present year, the daily liquidity registered its maximum point on January 6, at Q1,581.7 million and its lowest level on May 23, of -Q1,070.2 million. To November 30, the daily balance of the banking liquidity was of Q233.4 million.
The behavior of the banking liquidity in the January-November period can be analyzed in two phases. The first one, from January to May 2008, the banking system reduced its daily liquidity level significantly, which is due to the deceleration of fund-raising in national currency, as well as to the higher channeling of funds destined to credit in national currency; factors that were counteracted by the reduction in the value investments level and the increase of resources derived from foreign funds. In the second phase, from June to November, though uneven, the liquidity has observed more elevated levels, which are associated to the increase in the fund-raising in national currency, counteracted by the increase of the resources channeled to credit in national currency, as well as by the higher flow of resources destined to value investments, mainly of the Central Bank and Central Government.

To November 30, 2008, the system’s banks had available liquid resources (daily legal banking reserve position + investments in TD in the Banco de Guatemala to 7 days) of about Q5,860.0 million, which represents a potential liquidity source for the economy. The behavior of such resources can be observed in the following figure.
• In foreign currency

During the January to November 2008 period, the average banking liquidity in foreign currency, measured by the sum of the surplus and deficiency of the legal banking reserve, showing stable behavior and similar to that of the previous year up to July, to subsequently show higher rates than the previous year, as shown in the following figure.
On the other hand, during the January to November 2008 period, the daily liquidity of the banking system in foreign currency showed a behavior similar than the observed in the same period of the previous year, registering a rate of -US$20.5 million on October 29 and its maximum point of US$44.3 million on October 6. To November 30, the daily balance of the banking liquidity was of US$0.3 million.

Source: Superintendencia de Bancos
The occurrence of recent events in the international credit and financial markets has highlighted the important role that liquidity and stability play in the financial system\(^1\). Crockett\(^2\) has indicated that a pro-cyclic psychological phenomenon exists, which leads to a reaction-interaction without measures and fear among the participants of the financial market that reply to risk administration practices, leading to alternate cycles of abundance and scarcity in the financial sector. During economic growth phases, the value of assets increases, causing an increase of the collateral values and this generates additional funding from financial institutions. During that phase, the financial advantage tends to increase; the institutions take more risky positions and the system, in its entirety, becomes more vulnerable before cyclical changes; notwithstanding that, the balance shows a solvent status. In this growth phase, liquidity is cheap and easily available, volatility is moderate and institutions compete for the opportunities offered by the market. In contrast, a change in the economic cycle of domestic or foreign origin might generate a drop in financial assets, a reduction of capital and a search for sustainable financial liquidity levels, as has been evident in the recent turbulence of the international financial markets, which may put the stability of the financial system at risk.

The Bank of France in its financial stability report\(^3\), regarding liquidity during financial turbulent periods, points out two schematic versions of the world to be known: the "old" and "new" world. The first one shows a system in which intermediation was banking in its entirety, while, the second, is of securitized finances; financial intermediation takes place mainly in the markets, through the commercialization of values. The positions and securitization of such values are designed to be commercialized in the books of financial intermediaries. In that new world, the complexity of financial instruments and uncertainty derived from the volatility in the price of assets may lead to a collapse in the demand of short-term values issued by a financial intermediary, producing a financial liquidity crisis. Stable institutions suddenly can become insolvent if they have to settle assets at very low prices in order to satisfy their liquidity needs. In that environment, a significant part of the creation of the market’s liquidity is set out of the banking system, new contagious channels emerge, the banks stop acting only as suppliers and become users of liquidity; and, the system becomes more vulnerable before the uncertainty that impacts liquidity and market anchoring.

The changes in the prices of assets are quickly shown in the balance sheets and have an immediate impact on the net value of the components of the same. During turbulent periods, liquidity activities are immediately transferred to changes in the value of banks and financial intermediate assets. That situation, though there are no bank runs, can transform liquidity problems into solvency problems, if the current market value of an institution falls as a response to an adjustment in market liquidity. The uncertainty in the value of assets is transformed into uncertainty regarding the solvency of financial institutions, which expands liquidity problems and might generate a systemic problem in time.

Because liquidity affects all participation in the market, its volatility might act as a strong contagion channel when its fluctuations activate significant movements in the price of assets, followed by an abrupt expansion or contraction in the capital base of financial institutions. Adrian and Shin state that the contagion effect expands when financial institutions actively administer their balance sheets\(^4\). The advantage tends to be pro-cyclic, increasing the magnitude and extent of the problems of the financial system. In contrast, the domino effect model that takes place when the contagion occurs slowly through the depreciation of assets, the market immediately responds to price changes in the market and accelerates the transmission among the financial intermediaries.

The central banks in order to guarantee an adequate liquidity level and the stability of the financial system, actively participate in the money market to reach their objectives of monetary policy and, when unbalance is produced, they weigh the impact of their interventions among the contagion risks and moral risk. In recent financial turbulence, the central banks have facilitated the financial liquidity to guarantee the system’s stability and avoid contagion expanding to other markets through the money market and putting the system’s stability at risk.

On the other hand, the International Monetary Fund\(^5\) regarding the current financial turbulence, indicates that trust in institutions and worldwide financial markets has been seriously reduced and that the threats against systemic stability were shown in September 2008 due to the near collapse of several key institutions. The combination of loss accumulation, fall in prices of assets and deeper deceleration of the economy has

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**TABLE 2**

**FINANCIAL STABILITY AND LIQUIDITY**

The occurrence of recent events in the international credit and financial markets has highlighted the important role that liquidity and stability play in the financial system\(^1\). Crockett\(^2\) has indicated that a pro-cyclic psychological phenomenon exists, which leads to a reaction-interaction without measures and fear among the participants of the financial market that reply to risk administration practices, leading to alternate cycles of abundance and scarcity in the financial sector. During economic growth phases, the value of assets increases, causing an increase of the collateral values and this generates additional funding from financial institutions. During that phase, the financial advantage tends to increase; the institutions take more risky positions and the system, in its entirety, becomes more vulnerable before cyclical changes; notwithstanding that, the balance shows a solvent status. In this growth phase, liquidity is cheap and easily available, volatility is moderate and institutions compete for the opportunities offered by the market. In contrast, a change in the economic cycle of domestic or foreign origin might generate a drop in financial assets, a reduction of capital and a search for sustainable financial liquidity levels, as has been evident in the recent turbulence of the international financial markets, which may put the stability of the financial system at risk.

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generated severe doubts regarding the stability of global financial systems. The process of disadvantage in course has been accelerated, it has become more disorganized and it has been characterized by a fast fall in the price of assets of the financial institutions. In this context, as observed in the following map of global risks to October 2008, the ones related to financial conditions have increased regarding April 2008, mainly those related to credit, market and liquidity risks.

1 Relevant for the financial intermediation functions, the payment system, transformation of terms and administration of the interest rate risk. Also, to carry out market transactions in their deep dimensions, closing, speed and market resistance.

ii) **Total credit portfolio per economic activity**

The credit portfolio of the banking system, according to information of the general balance consolidated to October 31, 2008, was of Q77,057.4 million, higher by Q7,560.8 million (10.9%) than the registered in the same month of the previous year. To the referred date, the credit portfolio per economic activity was concentrated in the following branches: consumption, transferences and others, 27.7%; commerce, 20.9%; construction, 15.1%; financial institutions, real estate and services rendered to companies, 12.2%; and manufacturing industry, 11.3%.
The structure of the credit portfolio per economic activity to October 2007 and 2008 is shown in the following figure.

![Credit Portfolio Structure Diagram](image)

**Notes:**
- **a/ Partial information, due that in 2007 and 2008 two institutions did file portfolio disaggregate data.**
- **1/ Includes: Exploitation of mines and quarries; electricity, gas and water; transportation and storage; and, communal, social and personal services.**
- **2/ Includes: Livestock, forestry, hunting and fishing.**

**Source:** Superintendencia de Bancos
Due to the importance in the credit portfolio that consumption; transferences and others; commerce; construction; and, manufacturing industry sectors have, an analysis of the behavior of each sector and their main components are shown below.

- **Credit granted for consumption, transferences and others**

The credit portfolio destined to this activity, to October 31, 2008, represented 27.7% of the banking systems funding (28.1% to October 2007). It is important to indicate that from the total credit portfolio, consumption represented 24.1%, transferences 2.1% and others 1.5%.

Regarding the growth of credit consumption observed to October 2008, the funding for real estate acquisition with 8.0% stands out, as well as personal-vehicles with 4.3%; and, home furniture with 2.3%, similar structure to that observed in October 2007. On the other hand, in transferences, the reduction of the debt payment stands out, from 0.4% in October 2007 to 0.2% in October 2008.

- **Credit granted for commerce**

The credit portfolio destined to commerce, to October 31, 2008, represented 20.9% of the total portfolio granted by the banking system, percentage lower by 1.2 percentage points than the observed to October 2007 (22.1%).
To October 2008, in terms of relative weight regarding the total portfolio, the funding for unspecified commerce with 8.2% stands out (includes unspecified domestic commerce and others); according to their order, follow the funding to domestic commerce with 6.2% (including industrial, agricultural products and other destination commerce categories); the funding for import commerce is 5.5% (including industrial and other products categories); and, finally, export commerce is 1.0% (integrated by agricultural and other products commerce). It is important to indicate that all the consolidated categories are lower than the structure observed to October 2007.

- **Credit granted for construction**

To October 31, 2008, the credit portfolio granted for construction represented 15.1% of the total portfolio of the banking system (13.7% to October 2007).
To October 2008, the main character funding with 13.2% shows a (includes buildings, housing, offices and warehouses and others categories), percentage higher by 1.4 percentage points regarding the observed to October 2007 (11.8%). Regarding the structure of the categories, the same were more dynamic than in 2007. In effect, the credit destined for building construction decreased from 1.9% to 2.5%; the destined for housing from 8.3% to 8.5%; offices and warehouses from 0.4% to 0.5%; and, others categories, from 1.2% to 1.7%.

- **Credit granted for the manufacturing industry**

To October 31, 2008, the credit for the manufacturing industry represented 11.3% of the total credit portfolio of the banking system (11.2% to October 2007).
To October 2008, the funding granted to the food, beverage and tobacco products industry with 4.6% stand out; as well as the chemical substances industry and oil-carbon derivates with 1.9%, textile, clothing and leather industries with 1.4% and, other manufacturing industries with 1.6%. The referred structure is similar to the registered in October 2007.

### iii) Credit Portfolio Quality

Regarding the quality of the credit portfolio, it has shown important improvement, mainly if it is considered that in August 2002 such indicator was 9.2%, highest percentage observed during the January 2002 to October 2008 period.

According to data to October 31, 2008, the amount of the past due portfolio was of Q2,017.6 million (Q2,899.7 million to October 2007), equivalent to 2.7% of the total credit portfolio (4.6% to October 2007).

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30 Relation of the due portfolio with the total credit portfolio of the banking system.
On the other hand, the relation between the unproductive assets of the banking system (integrated by the due portfolio, extraordinary assets and fixed assets) regarding the total assets, shows an improvement, since it has continued to show a falling trend, being 4.5% in October 2008, percentage lower than the registered in October 2007 (5.5%), as shown in the following figure.
Economic literature\(^1\) indicates that the credit demand of the private sector to the banking system has several determinants that explain the same, among which the economic activity, nominal exchange rate and asset interest rate stand out. Based on the econometric method of Ordinary Least Squares (OLS) the logarithm functions of credit demand of the private sector to the total banking system in N/C and F/C were estimated, with statistical information available from the January 2000 to October 2008 period. The econometric results obtained confirmed that the degree of dependence of the private sector’s credit demand on the total banking system, in N/C and F/C in the country, regarding the economic activity and some macroeconomic prices (interest rate and nominal exchange rate) is significant if the values of the coefficients of determination (\(R^2\)) of 97.78%, 97.64% and 97.33%, respectively, are examined. It is also important to indicate that the explicative variables became significant at a trust rate of 95% and satisfactorily comply with the expected sign; in other words, an increase in the economic activity means an increase in the credit demand; an increase in the asset interest rate reduces the credit demand; and, an appreciation of the nominal exchange rate increases the credit demand, as shown in the following table.

The results suggest that when the inter-annual growth rhythm of the economic activity increases by 1.0%, the other variables remain constant, the credit demand of the private sector to the total banking system, in N/C and F/C, increases by 0.30%, 0.23% and 0.60%, respectively. On the other hand, a reduction of 1.0% in the asset interest rate, average weighted, of the banking system, the other variables remain constant, increases the total credit demand, in N/C and F/C, by 0.06%, 0.05% and 0.04%, respectively. Finally, an appreciation of 1.0% in the nominal exchange rate, \(ceteris paribus\), increases the credit demand of the private sector to the total banking system, in N/C and F/C, by 7.14%, 6.16% and 9.30%, respectively.

iv) Asset and liable interest rates, weighted average, of the banking system

- In national currency

From January to November 2008, the weighted average interest rates continued to have stable behavior, with a low rising trend. In effect, the weighted average asset interest rate to November 27 was of 13.79%, higher by 0.90 percentage points regarding the observed at the end of December 2007 (12.89%)\(^31\); while the weighted average liable interest rate was of 5.45%, higher by 0.54 percentage points than the registered to December 31, 2007 (4.91%)\(^32\).

As a result of the trend that the weighted average asset and liable interest rates have, the financial intermediation margin was of 8.34 percentage points, higher by 0.36 percentage points than the observed at the end of December 2007 (7.98 percentage points).

\(^{31}\) While evaluating the asset interest rate per bank group, it can be observed that regarding the group of big banks, to December 31, 2007, it registered a rate of 11.93%, while to November 27, 2008 it was of 12.36%. Regarding the group of medium-size banks, to December 31, 2007, the asset interest rate was of 12.39%, while to November 27, 2008, it was of 13.92%. Regarding small banks, to December 31, 2007, the asset interest rate was of 21.28%, while to November 27, it was of 24.44%.

\(^{32}\) While evaluating the liable interest rates per bank group, it is observed that regarding the group of big banks, to December 31, 2007, they registered a rate of 4.59%, while to November 27, 2008 it was of 5.11%. Regarding the group of medium-size banks, to December 31, 2007, it was of 5.16%, while, to November 27, 2008 it was of 5.89%. Regarding small banks, to December 31, 2007, the liable interest rate was of 6.51%, while to November 27, it was of 6.83%.
In foreign currency

The weighted average asset and liable interest rates, during the January-November 2008 period, showed stable behavior and a slight trend to drop. In effect, the asset interest rate, to November 27 was of 8.37%, higher by 0.75 percentage points than the observed to December 31, 2007 (7.63%)\(^{33}\). On the other hand, the liable interest rate also showed an increase, from 3.63% in December 2007 to 3.77% on November 27, 2008\(^ {34}\).

\(^{33}\) While evaluating the asset interest rate per group of banks, it can be observed that regarding the group of big banks, to December 31, 2007, it register a rate of 7.32%, while to November 27, 2008 it was of 7.85%. Regarding the group of medium banks, to December 31, 2007, the asset interest rate was of 8.23%, while to November 27, 2008, it was of 9.56%. Regarding the small banks, to December 31, 2007, the asset interest rate was of 8.83%, while to November 27, it was of 9.80%.

\(^ {34}\) While evaluating the liable interest rates per group of banks, it is observed that regarding the group of big banks, to December 31, 2007 registered a rate of 3.48%, while to November 27, 2008 it was of 3.50%. Regarding the group of medium banks, to December 31, 2007, it was of 3.70%, while, to November 27, 2008 it was of 3.90%. Regarding small banks, to December 31, 2007, the liable interest rate was of 4.68%, while to November 27, it was of 5.31%.
As a result of the behavior of the weighted average asset and liable interest rates, the financial intermediation margin increased by 0.60 percentage points, from 4.00 percentage points in December 2007 to 4.60 percentage points on November 27, 2008.
v) Leading interest rate of the Monetary Policy

The main objective of the Central Bank is to promote the stability in the general price rates, so the Monetary Authority addresses the actions of monetary policy in order to reach said objective.

According to the monetary theory, the behavior of the short-term interest rates is gradually transmitted from the financial sector to the real sector until it affects inflation. In that sense, the Central Bank seeks to influence the long-term interest rates through the direct management of a short-term interest rate (leading interest rate of the monetary policy)\(^{35}\).

It is important to indicate that, up to the current date of 2008, the Monetary Board decided to increase the leading interest rate of monetary policy twice, after knowing the Inflation Risk Balance, the orientation of the indicative variables and mechanical running of the Semi-structural Macroeconomic Model. The first was carried out in the March 26, 2008 session, when they decided to increase the rate of the referred interest rate by 25 basic points; placing it at 6.75%; and, the second, carried out on the session held July 23, 2008 when they decided to increase the leading interest rate of the monetary policy by 50 basic points, to place it at 7.25%.

As observed in the following figure, the leading interest rate of the monetary policy has been gradually increasing since January 2005 until November 2008; however, the increase registered in the same did not affected the behavior of the leading interest to longer terms. This was because, in part, the level of the leading interest rate in January 2005 was found at a low level (2.55%); therefore, according to its value, it gradually increased, and its impact on the banking interest rates started to become evident, though only slightly. Regarding the weighted average asset interest rate, to November 27, 2008 it was increased around 90 basic points regarding the registered in December 2007. However, it is estimated that the increases in the leading interest rate slightly affected the increase registered by the weighted average asset interest rate in 2008, since it is considered that within the determinants of such interest rate, the increase in the leading interest rate was not the restraining one. It is considered that the increase in the asset interest rate is

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35 The leading interest rate of the monetary policy in Guatemala corresponds to the monetary stabilization operations to 7-day terms.
mainly associated to the fact that the liquidity preference from the banking institutions increased, since the international financial status, in which lower foreign flows are foreseen is due to the use of credit lines that were an important source of banking credit during 2006 and 2007. Before such scenario, and taking into account that credit expansion to the private sector in the two previous years increased the asset concentration of the banking system in credit and, on the other hand, the current conditions toward more rigorous credit analysis from the banking entities, due to possible risk perception increase by these entities regarding debtors, has caused an increase in the weighted average asset interest rate.

![LEADING INTEREST RATE AND WEIGHTED AVERAGE ASSET INTEREST RATE](image)

On the other hand, while analyzing the behavior of the weighted average liable interest rate, as can be seen in the following figure, it has not been significantly correlated with that of the leading rate of the monetary policy. In effect, since July 2006, the leading interest rate was higher than the weighted average liable interest rate, situation that reflects the need to improve the transmission mechanism of the monetary policy so that it operates more effectively, since the restriction of the monetary conditions are materialized when the levels of the liable interest rates are very attractive to induce an increase in the banking fund-raising and a reduction in the liquidity surplus.
b) Off shore entities

The available data generally allows carrying out a disaggregate analysis of off shore entity operations, mainly regarding fund-raising and credit to the private sector.

i) Fund-raising

The total fund-raising of off shore entities registered to October 31, 2008, is a balance of about Q17,603.5 million, higher by Q44.6 million (0.3%) than the registered to October 31, 2007 and by Q1,041.6 million (6.3%) than the registered to December 31, 2007, which reflects an improvement in the trust of the economic agents of such entities.
ii) Credit to the private sector

The credit granted to the private sector by off shore entities to October 31, 2008, registered a balance for the equivalent of Q15,378.2 million, higher by Q1,261.4 million (8.9%) than the observed to October 31, 2007 and by Q1,237.1 million (8.7%) than the registered to December 31, 2007.
III. EVOLUTION OF THE MONETARY POLICY VARIABLES

A. INFLATION TARGET

1. Behavior of the inflationary rhythm to November 30, 2008

According to the CPI, prepared by the Instituto Nacional de Estadística (INE), to November 30, 2008, at a national level, an inflationary rhythm of 10.85% was registered, percentage above the target established for the end of the year by the Monetary, Foreign Exchange Rate and Credit Policy for 2008 of 5.5% +/- 1.5 percentage points.

The behavior observed in the inter-annual inflation to November 2008 mainly shows the increase that the Food, non-alcoholic beverages and take-out food expenditure (weighting of 38.75%) registered within the CPI, with an inter-annual variation of 13.54%. It is important to highlight that this expense division explains 56.77% of the total inflationary rhythm, highlighting the increase observed in the index of the following expenditure groups: Oils and grease (35.56%); Vegetables, legumes and tubercles (26.02%); Milk, dairy products and eggs (16.37%); Bread and cereals (13.53%); Take-out foods and snacks (10.73%); and, Meats (10.36%).

Regarding products, the ones that registered the higher impact in the inflationary rhythm were: beans (53.71%); fresh, refrigerated or frozen poultry...
(21.60%); and, bread (16.46%), which jointly represented 21.90% of the total inflation registered to November 2008.

The Transportation and communication expense division (weighting of 10.92%), registered an inter-annual growth of 18.71% to November 2008, which represented 16.81% of the inflationary rhythm. Within such behavior, the increase in the average price of urban transportation (74.55%); extra-urban transportation (55.23%); and, air transportation (51.44%) are highlighted.

The housing, water, electricity, gas and other fuels expense division (weighting of 10.00%) registered an inter-annual variation of 6.02% to November 2008 and explained 4.99% of the inflationary rhythm. Such behavior is mainly influenced by the increase in the average price of the power supply (10.89%) and real housing rentals (4.22%).

The behavior of the three mentioned expense divisions jointly explained 78.57% of the inflationary rhythm observed to November 2008.

### CONSUMER PRICE INDEX

**INFLATIONARY RHYTHM**

**NATIONAL LEVEL**

(Base: December 2000 = 100.0)

To November 2008

<table>
<thead>
<tr>
<th>EXPENSE DIVISION</th>
<th>PERCENTAGE STRUCTURE</th>
<th>NOVEMBER 2007</th>
<th>NOVEMBER 2008</th>
<th>INFLATIONARY RHYTHM 1/</th>
<th>PARTICIPATION IN THE INFLATIONARY RHYTHM AS A PERCENTAGE 2/</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Food, non-alcoholic beverages and take-out foods</td>
<td>10.73%</td>
<td>194.48</td>
<td>220.82</td>
<td>13.54%</td>
<td>56.77%</td>
</tr>
<tr>
<td>2. Clothing and shoes</td>
<td>9.54%</td>
<td>132.00</td>
<td>135.99</td>
<td>3.02%</td>
<td>1.83%</td>
</tr>
<tr>
<td>3. Housing, water, electricity, gas and other fuels</td>
<td>10.00%</td>
<td>149.96</td>
<td>137.82</td>
<td>4.01%</td>
<td>4.99%</td>
</tr>
<tr>
<td>4. Furniture, housing equipment and routine house maintenance</td>
<td>7.95%</td>
<td>146.51</td>
<td>163.45</td>
<td>11.67%</td>
<td>7.97%</td>
</tr>
<tr>
<td>5. Health</td>
<td>5.48%</td>
<td>149.54</td>
<td>127.20</td>
<td>9.23%</td>
<td>2.40%</td>
</tr>
<tr>
<td>6. Transportation and communications</td>
<td>10.52%</td>
<td>135.04</td>
<td>163.44</td>
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<td>3.05%</td>
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<tr>
<td>7. Recreation and culture</td>
<td>6.80%</td>
<td>157.40</td>
<td>165.48</td>
<td>5.40%</td>
<td>2.59%</td>
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<tr>
<td>8. Education</td>
<td>5.50%</td>
<td>146.51</td>
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**GENERAL INDEX**

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<th>NOVEMBER 2008</th>
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Source: Instituto Nacional de Estadística (INE)

1/ Variation rate of the month under evaluation regarding the previous month
2/ Participation in the variation: (Incidence / Total variation) x 100
At a regional level, Region VIII registered the highest inflationary rate, 13.07%; Region V showed an inter-annual variation of 12.43%; and Region IV registered a variation of 11.43%. On the other hand, Region I, which has a weighting of 64.32% in the total CPI, registered an inflationary rate of 10.65%, lower by 0.20 percentage points than the weighted average at a national level (10.85%).

In Region VIII, with a weighting of 1.59% within the regional structure, the behavior observed is mainly explained by the increase in the average price of potato (60.19%); beans (47.55%); tortilla products (33.54%); ball of soap (32.59%); other vegetables and legumes (31.64%); bread (27.31%); corn (26.97%); and fresh, refrigerated or frozen poultry (15.64%). It is important to indicate that the mentioned increases jointly explain 54.96% of the inter-annual variation of such region.

The increase observed in Region V, with a weighting of 9.46%, is mainly due to the increase registered in the average price of the following categories: potato (95.84%); ball of soap (43.91%); beans (43.59%); extra-urban transportation (37.50%); fresh, refrigerated or frozen poultry (26.08%); corn (18.64%); and, bread.

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36 Region I, Metropolitan (territorial division of Guatemala); Region II, North (Alta Verapaz and Baja Verapaz); Region III, North East (El Progreso, Zacapa, Izabal and Chiquinquirá); Region IV, South East (Santa Rosa, Jalapa and Jutiapa); Region V, Central (Chimaltenango, Sacatepéquez and Escuintla); Region VI, South West (San Marcos, Quetzaltenango, Totonicapán, Retalhuleu, Suchitepéquez and Sololá); Region VII, North West (Huehuetenango and Quiché); and, Region VIII, Petén.
(16.19%), which jointly explained 41.84% of the inter-annual variation of such region.

The increase observed in Region IV, with a weighting of 3.60%, is mainly due to the increase registered in the average price of beans (44.55%); other fresh fruits (43.76%); other vegetables and legumes (35.36%); balls of soap (31.40%); fresh, refrigerated or frozen poultry (17.21%); tortilla products (14.54%); electricity service (12.57%); and, bread (9.93%); categories that, jointly, represented 51.23% of the inter-annual variation of this region.

The inter-annual variation registered in Region I, with a weighting of 64.32%, is mainly explained by the increase observed in the average price of extra-urban transportation (96.55%); urban transportation (79.58%); beans (54.88%); air transportation (51.44%); fresh, refrigerated or frozen poultry (22.58%); bread (17.87%); and, lunches (9.56%). The increases in the prices of the mentioned goods and services jointly represented 46.20% of the total inter-annual variation registered.

2. Hidden Dynamic inflation

This measure consists of estimating the hidden inflation index through the exclusion of the prices of goods and services that show a higher monthly volatility, measured as variations, not only positive but also negative, that are at more than two standard deviations from the median.

The hidden dynamic inflation registered an inter-annual variation of 8.25%\(^{37}\) to November 2008, lower by 2.60 percentage points regarding the inflationary rhythm of the total CPI (10.85%).

\(^{37}\) For the estimation of the hidden dynamic inflation to November 2008, the prices of eight goods and services are excluded, which jointly represented 4.66% of the total CPI weighting.
3. Imported inflation

Since 2004, the behavior of the total inflationary rhythm has been significantly influenced by imported inflation, which mainly responds to the behavior in the international price of oil and its derivatives, as well as to the increases registered in the international price of some grains, mainly corn and wheat.

To November 2008, imported inflation explains 1.32 percentage points of the total inflationary rhythm (10.85%), from which 1.81 percentage points correspond to direct imported inflation and -0.49 percentage points to indirect imported inflation, as shown in the following figure.
In Guatemala, as in other Central American countries, the inflationary rhythm is above the punctual target foreseen for 2008, situation associated, in part, to the effect derived from imported inflation.

The foreign shocks discussed, have also affected other Latin American countries that operate under the scheme of inflation targeting, among which are Chile, Colombia, Mexico, Brazil and Peru. In effect, such shocks have increased the general rate of prices above the inflation targets established by the corresponding central banks. In general, the mentioned shocks are due to increases that occurred during the first semester of the year in the international prices of oil and its derivates, as well as food.

Of those countries, Chile registered an inflationary rhythm of 8.89% to November 2008, higher by 5.89 percentage points than the punctual value of the target established for the present year. On the other hand, Peru and Colombia registered inflationary rhythms of 6.75% and 7.73%, respectively, which were also placed above the inflation targets that these countries established for 2008 (deviations of 4.75 percentage points and 3.73 percentage points, respectively).

<table>
<thead>
<tr>
<th>Country</th>
<th>Inflation Target (%)</th>
<th>Inflation Surplus (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Guatemala</td>
<td>10.85</td>
<td>3.35</td>
</tr>
<tr>
<td>El Salvador</td>
<td>5.29</td>
<td>4.5% - 5.0%</td>
</tr>
<tr>
<td>Honduras</td>
<td>10.00</td>
<td>9.0% - 10.5%</td>
</tr>
<tr>
<td>Nicaragua</td>
<td>15.43</td>
<td>9.0% - 12.0%</td>
</tr>
<tr>
<td>Costa Rica</td>
<td>16.30</td>
<td>8.0% - 10.0%</td>
</tr>
</tbody>
</table>

1/ Secretaría Ejecutiva del Consejo Monetario Centroamericano
pp = percentage points

![Graph showing inflation targets and inflationary rhythms for Central America countries](image-url)
4. Monetary policy response

As indicated, from the second semester of 2007, a trend upward in the international prices of oil and its derivates, corn and wheat was started, which impacted the inflation behavior, which at the end of 2007 was above the established target for such year (5.0% +/- 1 percentage point), situation that prevailed in the first semester of 2008, even though in the second semester the trend has been reverted.

In response to such trend, and, in order to moderate the inflationary expectations and reduce the second round effects, the Monetary Board in 2007 increased the leading interest rate of the monetary policy on six occasions (25 basic points each), until, at the end of that year it was at 6.50% and in 2008 it increased the same on two occasions, by 25 basic points the first time and 50 basic points the second, until leaving the level of the leading rate of the monetary policy at 7.25%.

In this context, the Monetary Board, in March 2008, increased the leading interest rate by 25 basic points from 6.50% to 6.75%. This time, it took into consideration that the inflationary rhythm registered to February had reverted the deceleration observed in the two previous months and that it was important to
moderate the inflation expectations of the economic agents and counteract the second round effects derived from foreign shocks that continue affecting the behavior of the price index, mainly due to the high international prices of oil, corn and wheat, as well as the products derived from the same.

In July 2008, the Monetary Board increased the leading interest rate by 50 basic points, based on the following factors: a) that the inflationary panorama at a worldwide level had been damaged, accelerating inflation expectations; b) that the inflationary rhythm was two digits and that there was a trend to increase it in the last five months, situation that reflected that the inflation expectations had been damaged domestically; c) that the inflation prognosis were above the target for 2008 and 2009; d) that the offer shocks continued representing inflationary risks (increase in the international prices of oil, corn and wheat), which might spread the effects of imported inflation to other prices of goods and services; and, e) though the main monetary aggregates were registering inter-annual growth rates lower than the foreseen runners, it was compulsory to take monetary policy measures in order to moderate the inflation expectations so that when the intensity of the foreign shocks were reduced, the inflation would return to one digit levels and would concur with the targets foreseen for the mid term.

It is important to highlight that the decisions of the Monetary Board regarding the adjustments to the leading interest rate are based on an integral analysis of the domestic and foreign conditions that affect inflation, so that, as indicated, it takes into account the Inflation Risks Balance, the behavior of the indicative variables of the monetary policy and runners of the Semi-structural Macroeconomic Model (MMS), and the purpose of which is to moderate the inflation expectations of the economic agents and reduce the second round effects derived from foreign shocks.

B. BEHAVIOR OF THE MONETARY AGGREGATES

Due to the incidence of the behavior of the monetary aggregates on the mid-term inflation, these constitute indicative variables that can reflect the presence of inflationary pressures regarding demand. To November 27, 2008, the relevant
variables as the payment means and the banking credit to the private sector were below the inferior limit of its corresponding estimated runner. This behavior contrasts with the observed in the same period of 2007, in which deviations regarding the superior limits of the estimated runners were shown, mainly in the banking credit to the private sector, situation that showed an exacerbation of the expectations of the economic agents regarding the performance of the banking system, associated to the suspension of operations of two banking entities. In that sense, the behavior in 2008, as analyzed hereinafter, means an improvement in the trust of the economic agents regarding the performance of the country’s banking system.

The behavior of the monetary aggregates to November 27, 2008 is shown below.

1. Primary liquidity

The Monetary Board in resolution JM-64-2006 decided, among other aspects, to complement the tracking of primary liquidity, carried out only with the monetary issue, with an indicator that includes the behavior of the legal banking reserve and OEMs that have incidence on banking liquidity, called broad monetary base. In that sense, the orientation provided by the primary liquidity as an indicative variable of the monetary policy, is obtained through the weighting of the deviation not only of the monetary issuance but also of the broad monetary base, considering for such effect 50% of the deviation of each of these variables.

The behavior of each component of the primary liquidity to November 27, 2008 is shown below.

a) Monetary issue

According to the Monetary and Fiscal Program, it is estimated that the demand of monetary issue will grow to the closing of 2008 by 10.9%, compatible with the growth rate of economic activity of 4.3% (estimated in September 2008) and with the inflation target (5.5% +/- 1.5 percentage points).

One of the characteristics of the demand of monetary issue is that its seasonality and its trend allow predicting the same reasonably, which facilitates
forecasting its behavior within a programmed runner that incorporates possible liquidity transitory fluctuations.

During January and until the third week of May 2008, the course of the monetary issue remained above the upper limit of the programmed runner, registering an average deviation of Q738.8 million to May 22; regarding offer, such surplus is associated to the fact that in the mentioned period, the balance of the OEM with the private sector was lower by about Q982.0 million regarding the foreseen in the monetary program for the second quarter of 2008.

The convergence of the monetary issue to its programmed values is reflected in the behavior of its components (numenary in circulation and bank cash), which is explained by a lower liquidity preference from the public. To November 27, 2007, not only the numerary in circulation (cash controlled by the public) but also the bank cash (cash controlled by the banking system), showed significant increases that were not congruent with the expected behavior. In contrast, in the same period of 2008, a significant reduction was observed in both components of the monetary issue, behavior congruent with the seasonality of such variable and with the estimated values. The reduction of the numerary in circulation and moderate increase in the banking fund-raisings, confirm the
improvement in the expectations of the economic agents regarding the performance of the banking system.

**b) Broad Monetary Base**

According to the monetary theory, the monetary base is the amount of money in power of the public (circulating numerary) plus the banking reserve (legal banking reserve). Its importance is because it represents the basic monetary aggregate that can be controlled directly by the Central Bank and that possesses a multiplying effect in the payment means (money offer).

In order to broaden the concept of high power money, the broad monetary base is calculated by the sum of circulating numerary, legal banking reserve and by the balance of the short term monetary stabilization operations with the banking sector (with a maturity date of up to 91 days).

Just as in the case of monetary issue, given that the inflation target has a tolerance margin, the follow up of the broad monetary base is made through the runner that exists within said range and that incorporates possible transitory fluctuations of liquidity.

For the end of 2008, it is estimated that the broad monetary base will grow 3.9% regarding the level observed to December 31, 2007, which would represent an increase of Q1,134.8 million.

Up to November 27, 2008, the broad monetary base is over the programmed runner; registering an average deviation of around Q1,522.0 million, mainly associated to the increase registered in the balance of the monetary stabilization operations up to 91 days for Q5,224.0 million, when going from Q834.7 million to January 3 to Q6,058.7 million to November 27. The behavior of the previous deviation is associated to the increase in the liquidity of the banking system and to the increase of the CD investments in the Banco de Guatemala (mainly to 7-day terms). To November 27, 2008, it registered a balance of Q5,273.1 million, amount higher by Q4,443.6 million to the balance registered at the beginning of the year (Q829.5 million). This situation reflects a trend toward the rise in the available liquid resources of the banking entities.
The primary liquidity to November 27, showed an average deviation of Q919.0 million, suggesting a restrictive monetary policy in the entire period, with the exception to June 26 in which said variable advises an invariable monetary policy.
2. Payment means

In the Monetary, Foreign Exchange Rate and Credit Policy for 2008, it is estimated that the payment means (M2) will grow between 8.0% and 11.0% in inter-annual terms, taking into account the growth of the economic activity, the inflation target and estimated money circulation speed. To November 27, 2008, the inter-annual variation of the payment means was of 7.4%, which was below the tolerance margin estimated for that date (8.8% -11.8%).

In addition to considering the estimated runner, in the interpretation of this variable, an econometric estimation of the inter-annual growth rate is taken into account for December 2008, which calculation incorporates the seasonal behavior of the payment means for the 1998-2007-period as well as the information that is observed periodically.

To November 27, 2008, the econometric estimation of the payment means for the end of the year was of 7.3%, which is located below the estimated range for December 2008 (8.0% -11.0%).
The orientation that the total payment means offers, such as the indicative variable of the monetary policy, is obtained from averaging the deviation of the estimated runner as well as the econometric estimation. To November 27, 2008, the average orientation presented a negative value of 1.05 percentage points, which suggested a relaxed monetary policy.

The payment means have been below the lower limit of the estimated runner since the second half of June 2008, situation that is due to the reduction in the dynamism of one of its components with greater effects on inflation (circulating numerary) in a context where moderate increases have been registered in banking fund-raising (especially savings deposits and term deposits).

3. Banking Credit to the private sector

a) Inter-annual growth rate

In the Monetary, Foreign Exchange Rate and Credit Policy for 2008, it is estimated that the banking credit to the private sector will reach an inter-annual growth rate of between 14.0% and 17.0%, consistent with the growth forecast for the payment means, with the inflation target and with the expected economic growth.

To November 27, 2008, the inter-annual variation of the total banking credit to the private sector was at 12.0%, located below the estimated runner for that date (14.6% - 17.6%).

Just as in the payment means case, the interpretation of this variable considers an econometric estimation of the inter-annual growth rate of the total banking credit to the private sector for December 2008, which calculation includes the seasonal behavior of this variable in the 1998-2007-period, as well as the periodically observed information.

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38 For the follow up of the payment means, a weighting that includes 50% deviation based on the estimated runner is taken into account; in other words, the difference between the relative inter-annual variation observed on the analysis date, regarding the estimated value for the referred runner on the same date. In the same manner, an econometric deviation of 50% is considered, which is calculated as the difference between the inter-annual variation of the payment means for 2008, estimated econometrically and the range forecast in the monetary policy for December 2008 (8.0%-11.0%).

39 A deviation over the upper limit of each one of the estimations, suggest a restrictive monetary policy; on the other hand, a deviation below the lower limit advises a relaxed monetary policy, while a value within the tolerance margin indicates an invariable monetary policy.
To November 27, 2008, the econometric estimation of the total banking credit to the private sector for the end of the year was of 11.4%, which is below the estimated range for December 2008 (14.0% - 17.0%).

Analogously to the payment means, the orientation of the total banking credit to the private sector, as an indicative variable to the monetary policy, is obtained through the average of the deviation between the estimated runner and the econometric estimation, considering for such effect 50% of the deviation of each one of those estimations. In that sense, to November 27, 2008, the average orientation presented a negative value of 2.60 percentage points, due to the fact that the observed value of the variable as well as its econometric estimation were below the lower limit of the estimated runners for that date, which suggests a relaxed monetary policy.

Regarding the behavior of the banking credit in 2008, during the greater part of the first semester of the year, the inter-annual variation of the credit to the private sector remained over the upper limit of the estimated runner. Notwithstanding, in the second half of the year, the credit began to be below the estimated values. In that behavior, there would have been the influence from the

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40 A deviation over the upper limit of each one of the estimations suggests a restrictive monetary policy; however, a deviation below the lower limit advises a relaxed monetary policy, while, a value within the tolerance margin indicates an invariable monetary policy.
fact that the liquidity preference on behalf of the banking institutions increased due to the international financial situation in which the trust of real and financial markets deteriorated and risk aversion increased; situation in which there was evidence of lesser foreign flow due to the use of credit lines that were an important source of banking credit expansion during 2006 and 2007.

The credit expansion to the private sector in the two previous years, as is illustrated in the following figure, was not only possible due to external favorable conditions, but was also due to the fact that the banking entities decreased the relative weight within their total assets: term deposits with the Central Bank, as well as Treasury Bonds from the Republic of Guatemala. On the other hand, in the current situation the banking credit to the private sector continues to decelerate, because of the most rigorous credit analysis by the banking entities and to the deceleration of the economic activity.

The behavior of the banking credit to the private sector would also explain why the payment means held a decelerating trend, giving it behavior below the lower limit of the estimated runner.
C. ANALYSIS OF BANKING LIQUIDITY AND ASSETS FOR FACING POSSIBLE ADVERSE EFFECTS FROM THE INTERNATIONAL FINANCIAL CRISIS

1. Banking Liquidity Analysis

    a) Current conditions

    The available liquid resources that the banking system had to November 30 (balance of deposit investments in the Banco de Guatemala for 7-day terms plus the daily position of banking legal reserve) rose to Q5,395.4 million. Said resources have shown a marked trend to rise since April 2008. The interest rate of repurchase agreements has also registered stable behavior for a year, situation that reflects that the banking system counts on liquid resources in quetzales, as is shown in the following figures.

    ![Banking System Available Liquid Resources December 2007- November 2008](chart1.png)

    ![Interest rate of weighted average repurchase agreements Year 2008](chart2.png)

    Notwithstanding, it is worth adding that the inter-annual variation of the payment means and the banking credit to the private sector has decelerated in the course of the year. This shows that the banking institutions have declared greater preference for liquid resources, in order to face the contingencies that could come from the current international context, particularly before a scenario of more difficult access to credit lines hired by the banks in the system from banks abroad.
It is worth mentioning that even when to November 2008 there had not been a reduction in the balance of the use of hired credit lines by the banks of the system with banks abroad, regarding the balance to December 31, 2007, there was evidence of less growth rhythm regarding the 2005-2007 period, as is shown in the following figure.
TABLE 4
TRANSFER OF THE GLOBAL CRISIS TO THE FINANCIAL SYSTEMS IN THE REGION

Due to the international situation, characterized by a lack of trust, greater aversion to risk and a cut back of credit lines, a scenario of less liquidity has been designed, that shows the behavior on behalf of the real sector and of the financial sector. Following is a diagram that illustrates said transfer.

<table>
<thead>
<tr>
<th>Cut back of credit lines</th>
<th>Less growth of remittances</th>
<th>Less exportations</th>
<th>Less IED</th>
<th>Greater aversion to risk</th>
<th>Lack of trust</th>
</tr>
</thead>
<tbody>
<tr>
<td>Less deposit growth</td>
<td></td>
<td>Less economic growth</td>
<td></td>
<td>Increase past due portfolio</td>
<td>Drop in bond prices</td>
</tr>
<tr>
<td>Liquidity problems</td>
<td>Less credit growth</td>
<td></td>
<td></td>
<td>Solvency problems</td>
<td></td>
</tr>
</tbody>
</table>

SOURCE: International Monetary Fund

b) Conditions forecast for short and medium terms

Added to this the available liquid resources referenced, the banks of the system count on financial instruments for easy negotiation (mainly Term Certificates of Deposit from the Banco de Guatemala at terms greater than 7-days and Treasury Bonds from the Republic of Guatemala). The total amount of said resources, to November 30, 2008, as is shown in the following figure, rose to Q20,857.6 million. According to the Information from the Ministerio de Finanzas Públicas [Roughly equivalent to the US Department of the Treasury.], public expense would accelerate in December, which would influence in an additional increase to banking liquidity.
Although the liquid resources available registered an important growth to November 2008, the deceleration of the banking credit to the private sector remained, which allows inferring that the banking institutions have increased their preference for liquid resources as was indicated, to face the effect of contingencies that can be derived from the international financial context.

When analyzing the liquid aggregate conditions prospective for 2009, as is seen in the following figure, the financing of the fiscal deficit would come from the external resources and the use of till, funds that would be generating an important expansion of banking liquidity.
When adding the sources (external resources and the use of till), the programmed due dates for 2009 of the CDP of the Banco de Guatemala and of the Treasury Bonds of the Republic of Guatemala, would give an expansion in primary liquidity of approximately Q14,700.0 million, which shows that there would be other available resources for the financing of the economic activity, as is illustrated in the following chart.

2. Actions to face the possible adverse effects of the international financial crisis

a) Measures for providing liquidity to the banks of the system

Given the situation in international financial markets, mainly characterized by high volatility which generates negative effects in the financial sectors of the majority of countries, since obtaining resources becomes uncertain, in terms of amount and cost, has made it clear that there is a need to keep internal liquidity conditions and to establish temporary mechanisms to provide liquidity to the entities of the banking system.

Following is a description of the implemented mechanisms.

i) In national currency

The Execution Committee agreed that the Banco de Guatemala, as of November 24, would temporarily make it easier for banking entities to provide
liquidity in national currency, up to December 31, 2008 through the adoption of two mechanisms: a) anticipated redemption of Certificates of Deposit constituted in the 
*Banco de Guatemala*; and, b) holding purchase operations of Treasury Bonds from the Republic of Guatemala expressed in *quetzales*.

- **Anticipated redemption of term deposits constituted in the *Banco de Guatemala***

The anticipated redemption of voluntary term deposits on behalf of the banks of the system are used for the CDs originally constituted for terms of between 3 and 8 years, issued in the name of banks in the system at face value. To November 30, the Central Bank had made anticipated redemptions for Q75.0 million.

- **Purchase Operations of Treasury Bonds from the Republic of Guatemala**

The purchase of Treasury Bonds from the Republic of Guatemala expressed in *quetzales*, are held voluntarily by banks in the system, at face value.

To November 30, the *Banco de Guatemala* had held purchases of such titles by the banks of the system for Q75.0 million.

ii) **In foreign currency**

The Monetary Board, through resolution JM-122-2008, dated November 5, 2008 authorized the *Banco de Guatemala* to hold repurchase agreement operations for up to US$275.0 million up to January 31, 2009, in order to provide liquidity in US dollars to the banks in the system. In that regard, they defined that the banks of the system could access this mechanism according to the information provided by the Bank Supervisor, to October 28, 2008, and will present maturity and hold payment of the credit lines from abroad in the month in question and these were not renewed. Added to this, it was established that the *Banco de Guatemala* would determine the financial conditions of the operations.

The *Banco de Guatemala* decided that such operations will be held for 60 and 90 days, at LIBOR interest rates to 2 months + 350 basic points and LIBOR to 3 months + 350 basic points, respectively. For such operations, the Treasury Bonds of the Republic of Guatemala expressed in US dollars will be used as a guarantee, placed on the national market and on the international financial market.
(Eurobonds); as well as Treasury Bonds of the Republic of Guatemala and term Certificates of Deposit constituted in the Banco de Guatemala, expressed in quetzales.

To November 30, the Banco de Guatemala had held repurchase agreement operations with the banks in the system for an amount of US$60.1 million.

b) Temporary and Moderate Flexibilization of the Operations of Legal Banking Reserve

The Monetary Board, through resolution JM-140-2008 resolved to make the operations of the legal banking reserve temporarily and moderately flexible, which currency is between December 1, 2008 and March 31, 2009. In that sense, the banks of the system can include the operations of the legal banking reserve: Term Certificates of Deposit issued by the Banco de Guatemala, Treasury Bonds of the Republic of Guatemala and FHA Mortgages Licenses. The maximum amount that is accepted to use these documents in the operational legal banking reserve is of Q25.0 million for each banking institution. Additionally, a portion of funds in cash that can be added by the entities was established within the operational legal banking reserve to be increased from 25% to 100%. To December 11, 2008, the described measures allowed the banking institutions to count on additional liquid resources for Q740.0 million.

D. ECONOMETRIC INFLATION PROJECTION FOR DECEMBER 2008 AND FOR DECEMBER 2009

According to the econometric projections made by the technical bodies of the Central Bank and based on information observed to November 2008 and keeping the monetary conditions invariable, as well as the behavior of supply factors associated to external shocks, for December of this year, the inflationary rhythm will be 10.21%, over the inflation target fixed by the monetary authority for 2008 (5.5% +/- 1.5 percentage points). For the end of 2009, there is a 7.58% projected inflationary rhythm, over the fixed monetary policy target for that year (5.5% +/- 1 percentage point).
E. MEDIUM TERM FORECASTS BASED ON THE SEMI-STRUCTURAL MACROECONOMIC MODEL (MMS)

In this clause, there is a set of fan figure illustrations that show the medium term forecasts generated by the Semi-structural Macroeconomic Model (MMS), in its fourth running in 2008\(^{41}\) and the balance risks of said forecasts.

1. Fan Diagram

The inflation forecasts can be illustrated with a fan diagram, which represents the function of probabilities (or of density) of the futures values of a variable, conditioned to the information recently observed. The following fan diagram illustrates the inflation forecast for the 2008-2009-period, generated by the fourth running of the MMS in 2008. It is important to highlight that the dispersion of the function of inflation forecast density increases according to the broadening of the forecast horizon. The modal inflation forecast for the fourth quarter of 2008 is of 11.70%; while for the fourth quarter of 2009 is of 7.01%.

\(^{41}\) In the Annex we detail the results of the referred runner.
In the present forecast year, the probability assigned to the event that the futures value of each exogenous variable for 2008 and 2009 is greater than the punctual forecast is of 50%. This implies that the probability distribution of the inflation forecast is symmetric, as is indicated in the illustrated fan diagram.

2. Inflation Risks derived from the MMS forecast

The inflation risks derived from the MMS forecasts show the probability that the futures inflation is outside the corresponding target or within the tolerance margin of the same.

As we can see in the following chart, according to the forecast generated in the fourth running of the MMS in 2008, there is a 100% probability that the inter-annual inflation rate is over the upper limit of the target of the monetary policy for December 2008 (5.5% +/- 1.5 percentage points).

<table>
<thead>
<tr>
<th>Fourth Quarter 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>Target</td>
</tr>
<tr>
<td>Tolerance Margin</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Forecast in 2008Q3</th>
<th>2008Q4</th>
<th>Difference (C) = (B) - (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modal Forecast</td>
<td>11.90%</td>
<td>11.70%</td>
</tr>
<tr>
<td>P(π &gt; Modal Forecast)</td>
<td>50.00%</td>
<td>50.00%</td>
</tr>
</tbody>
</table>

Probability that the futures inflation is found within a range of values:

<table>
<thead>
<tr>
<th>Forecast in 2008Q3</th>
<th>2008Q4</th>
<th>Difference (C) = (B) - (A)</th>
</tr>
</thead>
<tbody>
<tr>
<td>P(π ∈ [4%, 7%])</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
<tr>
<td>P(π ≥ 7%)</td>
<td>100.00%</td>
<td>100.00%</td>
</tr>
<tr>
<td>P(π &lt; 4%)</td>
<td>0.00%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

The following chart shows the forecast of the inflation rhythm for the fourth quarter of 2009, generated in the fourth running of the MMS in 2008. According to the mentioned forecast, there is a 23.54% probability that the inter-annual inflation rate is within the monetary policy target for December 2009 (5.5% +/- 1 percentage point), a 56.97% probability that the rate is over the upper limit of
the target and 19.49% probability that the inflation rate is below the lower limit of the referred monetary policy target.

### Fourth Quarter of 2009

<table>
<thead>
<tr>
<th>Target</th>
<th>5.5%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tolerance Margin</td>
<td>± 1 percentage points</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Forecast in</th>
<th>2008Q3</th>
<th>2008Q4</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Modal Forecast</td>
<td>7.59%</td>
<td>7.01%</td>
<td>-0.58%</td>
</tr>
<tr>
<td>P(π &gt; Modal Forecast)</td>
<td>50.00%</td>
<td>50.00%</td>
<td>0.00%</td>
</tr>
</tbody>
</table>

Probability that the future inflation is found within a range of values:

<table>
<thead>
<tr>
<th>Forecast in</th>
<th>2008Q3</th>
<th>2008Q4</th>
<th>Difference</th>
</tr>
</thead>
<tbody>
<tr>
<td>P(π ∈ [4.5%, 6.5%))</td>
<td>20.46%</td>
<td>23.54%</td>
<td>3.08%</td>
</tr>
<tr>
<td>P(π ≥ 6.5%)</td>
<td>64.35%</td>
<td>56.97%</td>
<td>-7.38%</td>
</tr>
<tr>
<td>P(π &lt; 4.5%)</td>
<td>15.19%</td>
<td>19.49%</td>
<td>4.30%</td>
</tr>
</tbody>
</table>

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**F. INFLATION EXPECTATIONS**

1. **Inflation expectations survey to the panel of private analysts**

   The inflation expectations are defined as a perception by economic agents on the future behavior of prices in the economy. The inflation expectations that for a certain period make up the economic agents, can substantially influence in the determination of the inflation rate that is finally registered in a period, which eventually occurs, even independently to the economic foundations.

   According to the Inflation Expectations Survey to the Panel of Private Analysts (EEI, for its acronym in Spanish) held in November 2008; the surveys foresee that for December of this year the inflationary rhythm is at 11.08%, percentage higher by 3.46 percentage points to the projected in December 2007 (7.62%); and, higher than the upper limit of the inflation target determined for 2008 (5.5% +/- 1.5 percentage points).
Regarding the inflation expectations from the Panel of Private Analysts for 2009, the survey held in November points toward an inflationary rhythm of 9.08%. Although the value is over the inflation target for the referred year, it shows a moderation regarding the first semester of the year, since the survey made in June 2008 shows that the referred panel projected a greater inflationary rhythm for the end of 2009 (10.70%).
2. Implied Inflation Expectations

This indicator is an indirect way of obtaining the inflation expectations of economic agents, through the calculation of the average gap between long-term interest rates\(^{42}\) and short-term interest rates\(^{43}\). The idea that underlies in said calculation is sustained in the fact that the long-term interest rates, in general, in developing countries are higher than short-term interest rates, since, those include premiums that compensate expected inflation as well as country risk. Because of this, to obtain the referred perception, the short as well as long-term interest rates are deducted a premium per country risk\(^{44}\), giving as a result the gap corresponding to the premium for inflation.

According to the numbers seen to November 2008, the implied inflation expectations indicated a gap of 6.35 percentage points, which are over the punctual value of the inflation target of 5.5%, but within the margin of +/- 1.5 percentage points, which suggested a moderately restrictive monetary policy.

The trend to drop seen in the referred indicator as of March 2007, that showed a moderation in the inflation expectations of the economic agents, began reverting as of April of this year, as is seen in the following figure.

\(^{42}\) Total asset interest rate and interest rates for new loans in the banking system.

\(^{43}\) Interest rate for repurchase agreements for 1 and 7-day terms and weighted average interest rates for up to 182 days.

\(^{44}\) Difference between the weighted average return rate of Treasury Bonds from the Republic of Guatemala placed in the international financial market (in 2001 and 2003) and the return rate of Treasury Bonds from the United States of America at 10-year terms.
G. INTEREST RATES

1. Of Monetary Stabilization Operations (MSO)
   a) In national currency
      i) Per term

   The Monetary Board, after seeing the inflation risks balance, the orientation of the indicative variables and the running of the Semi-structural Macroeconomic Model (MMS), as well as doing a detailed analysis of the environmental risks in which the monetary policy is executed; decided to increase the leading interest rate of the monetary policy\(^{45}\) on March 27 from 6.50% to 6.75%; and, on July 24 from 6.75% to 7.25%; during the period from January to November 2008 for the Monetary Stabilization Operations (MSO) held for 7-days in the Electronic Monetary Banking Table (MEBD, for its acronym in Spanish) as well as in the stock exchanges.

The Execution Committee, taking into account the analyzed, in coordination with the fiscal policy for the participation in the money market, decided that in January the Banco de Guatemala will continue to call bidding in Term Deposits (DP) for 3, 8 and 10 year terms, every Friday, without established quotas. In the

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\(^{45}\) From January 2005 the leading interest rate of the monetary policy is applicable to the Monetary Stabilization Operations for 7-day terms.
same way, said Committee determined that the interest payment will be made every six months, in order to keep the same conditions in which the Ministerio de Finanzas Públicas [Roughly equivalent to the US Department of the Treasury].

For the participation of the Ministerio de Finanzas Públicas [Roughly equivalent to the US Department of the Treasury] in the long-term values markets, the Execution Committee decided that the Banco de Guatemala would suspend the DP biddings for terms greater than 3 years as of February 8. Said measure was placed in order to avoid competition with the placements of the Ministerio de Finanzas Públicas [Roughly equivalent to the US Department of the Treasury] for 6, 10 and 12 years. As of May 12, the Execution Committee decided to suspend the DP biddings for 3-year terms and begin participating per due-date in terms higher than one year, for which they agreed to hold said biddings without pre-established quotas and that the interest rate was determined by the market conditions.

The interest rate of the MSO in the bidding mechanism per term that was available since May 11, as was indicated, is shown as follows.

### WEIGHTED AVERAGE INTEREST RATE OF THE MONETARY STABILIZATION OPERATIONS IN BIDDING FROM JANUARY TO MAY 2008 - In Percentages -

<table>
<thead>
<tr>
<th>TERM</th>
<th>JANUARY</th>
<th>FEBRUARY</th>
<th>MARCH</th>
<th>APRIL</th>
<th>MAY</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 YEARS</td>
<td>7.35</td>
<td>7.50</td>
<td>7.50</td>
<td>7.50</td>
<td>-</td>
</tr>
<tr>
<td>8 YEARS</td>
<td>-</td>
<td>8.10</td>
<td>-</td>
<td>-</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: For the 10-year term no bids were

### ii) Per due date

In order to reduce the market fragmentation of public finance instruments, help development, and strengthen the secondary market, and promote a yield curve for term deposits, the Execution Committee agreed to continue with the DP biddings per due date through the stock exchanges every Monday, awarding the bids per price and with nominal standardized values of Q100.0 thousands, Q1.0 million and Q10.0 million.
As to due dates, for bidding on January 2 to February 25, 2008, the following were established: March 10, 2008, June 9, 2008, September 8, 2008 and December 8, 2008. The bids held as of March 3, the due date for March 10 was substituted for March 9, 2009, so for the June 2 biddings, the due date of June 9, 2008 was substituted for June 8, 2009 and finally for the bids held as of September 1, the due date of September 8, 2008 was substituted for September 7, 2009. Said dates determined the function of monetary spaces that are indicated by the current Monetary and Fiscal Program.

The Execution Committee of the Banco de Guatemala continued applying the maximum limits (quotas) for each one of the due dates. These were fixed taking into account the DP due dates originally placed through biddings, the excess liquidity forecast in the Monetary and Fiscal Program and the established regulation for the effect, in an adequate environment that gradually promotes the reduction of the balance of the MSO in the short-term (7 days).

On the other hand, regarding direct DP biddings through public entities, the Execution Committee established that they will call weekly biddings, by due date and by price, without pre-established quotas and without nominal standardized values. The awarding prices were determined according to the market conditions, reflected in the bids received.

The biddings received through the stock exchange and directly with public entities make a competitive mechanism for placement, so the awarding prices are determined according to market conditions that can be seen in the received bids. In that sense, it is important to mention that in the prices demanded in each bid, the participants take into account their expectations as to the evolution of different variables, as well as the remaining terms regarding each due date.

As of May 12, the participation per due date for residual terms greater than a year were begun, without pre-established quotas and interest rates determined by the market conditions, for which June 7, 2010 was established as a due date.

The Execution Committee of the Banco de Guatemala, as of November 19, 2008 decided to suspend the DP biddings for terms greater than 7 days temporarily. Among other factors, said measure was adopted considering that the
high volatility that prevails in the international financial markets caused a greater preference for liquidity by banking entities from the system, giving privilege to greater proportions of liquid assets.

The weighted average financial cost of the balance of the MSO during the December 31, 2007 to November 30, 2008 period showed a rising trend, when going from 7.50% to 7.61% as a result of the MSO placement for 1092-day terms (3 years) and of 2912-day terms (8 years) for the placement of the December 8, 2008 and March 9, June 9 and September 7, 2009 due dates. This was also due to the increase in the amount and in the interest rate of operations to 7-days.

![Weighted Average Financial Cost of the Monetary Stabilization Operations](image)

In the following figure, we see a comparison of the MSO balances between December 31, 2007 and November 30, 2008, as well as the different term placements and due dates.
When analyzing the balance of MSO per fund-raising term, these can be divided in 7-day operations (at the leading interest rate of the monetary policy) and in operations in greater terms.

As we can see in the following figures, during the object analysis period, the 7-day operations registered a maximum balance of Q5,725.0 million (37.8% of the total) on November 26, 2008 and a minimum of Q491.4 million (4.6% of the total) on March 12, 2008.

The MSO per due date showed a maximum balance of Q2,074.1 million (14.5% of the total) on October 28, 2008 and a minimum balance of Q282.0 million (2.2% of the total) on January 11, 2008.

As to operations at other terms, the same registered a maximum balance of Q7,382.8 million (49.1% of the total) to November 30, 2008 and a minimum balance of Q9,953.5 million (83.0% of the total) on February 6, 2008.
The total balance of MSO registered to November 30, 2008 rose to Q15,044.0 million, of which Q5,626.6 million (37.4%) corresponded to the 7-day term, Q2,034.6 million (13.5%) to operations made per due dates and Q7,382.8 million (49.1%) for other terms.

In the Monetary, Foreign Exchange Rate and Credit Policy for 2008, it was established that the **Banco de Guatemala** should oversee that the short-term interest rates not fluctuate abruptly, so MEBD or stock exchanges can participate, giving or withdrawing liquidity when there is volatility in the money market.

In that context, the Execution Committee agreed to keep the liquidity supply bids for 7-day terms, at an interest rate that keeps the 1.50 percentage point margins on the leading interest rate of the monetary policy. The liquidity giving operations are guaranteed with Term Certificates of Deposit from the **Banco de Guatemala** or with public titles, expressed in quetzales or in US dollars.

Because of the most recent increase to the leading interest rate of the monetary policy decided by the Monetary Board, current as of July 24, 2008, the interest rate for liquidity giving operations for 7-day terms is at 8.75%. To November 30, the balance of said operations rose to Q94.1 million.

b) **In foreign currency**

As to the call for DP in US dollars bidding, the Execution Committee agreed that in case there would be volatility in the nominal exchange rate, there would be a call to DP bidding in US dollars for 91, 182 and 364 day terms, without pre-
established quotas. For the awarding of the bids, the reference used was taken from the yield rate of the US Treasury Letters in similar terms.

During the January to November 2008 period, it was not necessary to call DP bidding in the mentioned currency.

The Execution Committee also agreed that they should continue accepting the constitution of the DP in US dollars to public entities directly at the window, in the terms it deem convenient. It is worth mentioning that to November 30, 2008, the balance of the MSO in US dollars was of US$2.3 million.

2. Parameter Interest Rate

The parameter interest rate is an indicator based on the “Taylor Rule” that incorporates adjustments on the base interest rate (or neutral) based on inflation differentials, of aggregate demand as well as the nominal exchange rate; its result indicates the levels of the market interest rate that should prevail to be compatible with the inflation target. The Monetary, Foreign Exchange Rate and Credit Policy for 2008 establishes that it should compare to the leading interest rate with the tolerance margin of the parameter interest rate.

To November 27, 2008, the parameter interest rate was at 9.91% and its upper and lower limits (calculated through standard deviation) at 11.88% and 7.93%, respectively. The leading interest rate of the monetary policy was 7.25%, located below the tolerance margin of the parameter interest rate, suggesting a restrictive monetary policy.
3. Parity Liable Interest Rate

The external competitiveness of the domestic liable interest rate in national currency can be evaluated if it is compared to the parity liable interest rate. The latter is defined as the sum of three elements: i) a comparable international interest rate; ii) an exchange risk premium; and, iii) a country risk premium.

For measuring effects, the analysis of the six-month term deposits interest rate in the United States of America is used, as a foreign liable comparable interest rate with the domestic liable interest rate in national currency (weighted average interest rate of the national banking system for term deposits). Added to this, to estimate the exchange risk premium, an approximation of the variation expectations of the nominal exchange rate is used on behalf of economic agents, which results come from the estimation of the gap between inflation from Guatemala and the inflation of the main commercial partners. At the same time, to estimate the premium per country risk, we calculate the difference between the return rate of Treasury Bonds from the Republic of Guatemala placed in the international financial market and the return rate of the US Treasury Bonds for 10-year terms.

During the January 1 to October 2, 2008 period, it was seen that the weighted average interest rate for term deposits (internal liable interest rate) was higher to the parity liable interest rate. However, as of October 9 of this year, the behavior of said rates reverted. In effect, to November 27, 2008 the weighted average interest rate for the term deposits (7.77%) was lower by 2.24 percentage points to the parity liable interest rate, which is at 10.01%. The above is mainly explained by the increase registered in the country risk premium, given the volatility in the international financial markets.

As to the orientation of the monetary policy that offers the mentioned variable, it was seen that when comparing the interest rate for the term deposits with the tolerance margin of the parity liable interest rate, the referred variable

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46 Weighted average yield rate of the 2001 and 2003 emissions.
47 The Monetary Board in resolution JM-168-2006 dated December 28, 2006, decided that the parity liable interest rate should be included in the tolerance margin +/- half a standard deviation.
was below the lower limit of said margin, which suggested restricting the monetary conditions.

H. SYNTHETIC INDEX OF THE INDICATIVE VARIABLES

For 2008, the Monetary Board agreed to continue with the follow up of the indicative variables through an index that allows evaluating the orientation of referred variables, taking into account the relative importance that each one has in the decision making process of the monetary policy.

In that sense, the synthetic index incorporates the different weightings assigned to each variable for each one of the five orientation categories\(^{48}\), which allows making comparisons between results from one week to another, since the referred index provides a percentage for each orientation category, which is easily comparable with the percentage of other dates.

In the following chart is the orientation of said variables suggested with December 31, 2007 and November 30, 2008 dates.

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\(^{48}\) In this methodology, there were five indicators calculated, one for each orientation category (relaxed, moderately relaxed, invariable, moderately restrictive and restrictive), which sum is 100. The moderately relaxed orientation is referred to the location below the punctual value of the inflation target, but within the respective tolerance margin of +/- 1.5 percentage points for 2008 and of +/- 1 percentage point for 2009. Analogously, the moderately restrictive orientation is referred to the location over the punctual value of the inflation target, but within the tolerance margin of +/- 1.5 percentage points for 2008 and of +/- 1 percentage point for 2009.
IV. ANALYSIS OF THE BALANCE ACCOUNTS OF THE BANCO DE GUATEMALA

The monetary program contained the quarterly behavior estimated from the main balance accounts of the Central Bank. Said program estimated that the monetary issue demand would grow 11.9% regarding the level programmed for the end of 2007; however, associated to the behavior of the economic activity in the course of 2008, it was necessary to revise the estimation of economic growth three times.

The first review of the referred program was made known to the Monetary Board when the Monetary Policy to March 2008 report was presented. It contained the following adjustments: the first, due to the review of the economic growth rate estimated for the current year, which went from 5.3% to 4.8%; and, the second, due to public expense to March 2008 registering an inter-annual reduction of 4.6%, while the forecast was an increase of 15.0%. This modified the estimation of the net position of the Banco de Guatemala with the public sector. In that first review the growth rate of the monetary issue was estimated at 11.4%, lower by 0.50 percentage points regarding the original estimation.

<table>
<thead>
<tr>
<th>ORIENTATION</th>
<th>12/31/2007 (%)</th>
<th>11/30/2008 (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Relaxed</td>
<td>8.79</td>
<td>17.86</td>
</tr>
<tr>
<td>Moderately relaxed</td>
<td>0.00</td>
<td>0.00</td>
</tr>
<tr>
<td>Invariable</td>
<td>9.07</td>
<td>0.00</td>
</tr>
<tr>
<td>Moderately restrictive</td>
<td>0.00</td>
<td>20.75</td>
</tr>
<tr>
<td>Restrictive</td>
<td>82.14</td>
<td>61.39</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>100.00</strong></td>
<td><strong>100.00</strong></td>
</tr>
</tbody>
</table>
The second review of the monetary program was made known to the Monetary Board in August 2008, when they presented the Monetary Policy Report to June 2008. This was due to two reasons, to a new revision of the economic growth rate estimated for 2008, which adjusted from 4.8% to 4.3%; and, on the other hand, to the increase regarding the programmed in the international monetary reserves due to greater disbursements of external public debt. In the second review, the growth rate of the monetary issue was estimated at 10.9%, lower by 0.50 percentage points regarding the previous estimation.

In that context, following is a presentation of the monetary program with information of the observed up to the third quarter of 2008.

### MOneyary Program

**FLOW FROM DECEMBER 31, 2007 TO SEPTEMBER 30, 2008**

- Millions of quetzales -

<table>
<thead>
<tr>
<th>CONCEPT</th>
<th>PROGRAMMED</th>
<th>OBSERVED</th>
<th>DEVIATION</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. NET INTERNATIONAL MONETARY RESERVES US$</td>
<td>2,865</td>
<td>3,398</td>
<td>534</td>
</tr>
<tr>
<td>II. NET INTERNAL ASSETS</td>
<td>-2,967</td>
<td>-3,501</td>
<td>-534</td>
</tr>
<tr>
<td>1. Position of the consolidated public sector</td>
<td>-948</td>
<td>-1,291</td>
<td>-343</td>
</tr>
<tr>
<td>1.1. Central Government</td>
<td>-707</td>
<td>-1,163</td>
<td>-456</td>
</tr>
<tr>
<td>1.2. Rest of the public sector</td>
<td>-241</td>
<td>-128</td>
<td>112</td>
</tr>
<tr>
<td>2. Position with banks and financing companies</td>
<td>-411</td>
<td>-1,237</td>
<td>-826</td>
</tr>
<tr>
<td>2.1. Credit to banks and financing companies</td>
<td>-2</td>
<td>-2</td>
<td>0</td>
</tr>
<tr>
<td>2.2. Remunerated and non-remunerated Legal Reserves</td>
<td>-409</td>
<td>-1,235</td>
<td>-826</td>
</tr>
<tr>
<td>3. Other net assets</td>
<td>-757</td>
<td>-1,033</td>
<td>-276</td>
</tr>
<tr>
<td>3.1. Expense and products</td>
<td>-391</td>
<td>-501</td>
<td>-111</td>
</tr>
<tr>
<td>3.2. Unclassified net assets</td>
<td>-367</td>
<td>-532</td>
<td>-165</td>
</tr>
<tr>
<td>4. Monetary stabilization operations</td>
<td>-1,687</td>
<td>-2,540</td>
<td>-853</td>
</tr>
<tr>
<td>5. EXCESS (-) OR LACKING (+) LIQUIDITY</td>
<td>836</td>
<td>2,600</td>
<td>1,764</td>
</tr>
<tr>
<td>III. DEMAND OF MONETARY ISSUE</td>
<td>-103</td>
<td>-103</td>
<td>0</td>
</tr>
<tr>
<td>MSO TOTALS</td>
<td>-3,250</td>
<td>-2,527</td>
<td>723</td>
</tr>
</tbody>
</table>

The behavior of each one of the factors that influence in the supply of monetary issue is commented in the following.

### A. EXTERNAL MONETIZATION

In the monetary program, it was forecast that to September 30, 2008, the level of NIMR would increase to the equivalent of Q2,865.0 million (US$358.0
million). However, at the end of said month, the reserves showed an increase of Q3,398.0 million (US$425.0 million) regarding the observed level at the end of 2007, amount higher by Q534.0 million (US$67.0 million) to the programmed. Said result is mainly associated to the fact that they received more royalties for oil exploitation regarding the programmed by around US$31.0 million, due to the record prices reached by crude oil in that period. Added to this, the price of gold increased in international markets, registering evaluations for US$22.0 million to September 30.

B. NET INTERNAL ASSETS (NIA)

1. Position with the public sector

From January to September of the current year, the Central Government increased its deposits in the Banco de Guatemala by Q1,163.0 million, amount higher by Q456.0 million regarding the forecast in the monetary program for said period. This is mainly explained by the lesser use of Central Government deposits, associated to less execution of public expense regarding the programmed and to higher tax income.

The position of the rest of the public sector registered a demonetization for Q128.0 million, lower by Q112.0 million regarding the programmed. This result is mainly explained by the lower investments in DP in the Banco de Guatemala regarding the programmed by Q111.0 million.

2. Position with banks and financial stock companies

According to the monetary program to September 30, the banks of the system registered a demonetization flow for Q411.0 million, due to the increase of the balance of legal reserve accounts in the Banco de Guatemala, contested with the forecast behavior of the bank fund-raising. However, the balance registered in the legal banking reserve accounts to the third quarter was higher by Q826.0 million regarding the programmed, so that the demonetizing effect to September
was of Q1,237.0 million, situation that, among other factors, is explained by a lower dynamism in the granting of credit to the private sector by banking entities.

3. **Result of expenses and products**

The net result of expenses and products from the *Banco de Guatemala* to end the third quarter was demonetizing by Q501.0 million, which means a deviation of Q111.0 million regarding the programmed. Said result is mainly because the income is from investment yield from the international monetary reserves.

4. **Monetary Stabilization Operations**

The monetary program had a forecast that to September 30, 2008 it would have to hold MSO for Q3,250.0 million to neutralize the excess of primary liquidity in the economy. At the end of said month, the total balance of the MSO registered an increase of Q2,527.0 million regarding the level observed to December 31, 2007, which generated a deviation of said variable by Q723.0 million. Said deviation is mainly due to less MSO in national currency with the private sector and with banks in the system for Q527.0 million.

5. **Estimation of the monetary program closing 2008**

The revised monetary program in June contemplated that the demand of the monetary issue would grow by 10.9% regarding the programmed level at the end of 2007, compatible with the growth rate of the economic activity of 4.3% and an inflation target of 5.5% +/-1.5 percentage points. Notwithstanding, given that the growth rate of the real GDP in the revision from December dropped to 4.0%, the new growth rate of the monetary issue would be 10.6%.

It is worth indicating that the monetary issue forecast growth, is also congruent with the behavior of the monetary variables to November, as well as the closing estimations of the real, external and fiscal sectors.
Following we present an estimation of the monetary program for the last quarter of 2008 and for the year closing, considering that the first three quarters correspond to the observed numbers.

### MONETARY PROGRAM 2008
FLOW IN MILLIONS OF QUETZALES

<table>
<thead>
<tr>
<th>CONCEPT</th>
<th>QUARTERS 2008</th>
<th>Total 2008</th>
</tr>
</thead>
<tbody>
<tr>
<td>I. NET INTERNATIONAL MONETARY RESERVES</td>
<td></td>
<td></td>
</tr>
<tr>
<td>US$</td>
<td>145</td>
<td>3463</td>
</tr>
<tr>
<td></td>
<td>18</td>
<td>433</td>
</tr>
<tr>
<td>II. NET INTERNAL ASSETS</td>
<td>-578</td>
<td>-3230</td>
</tr>
<tr>
<td>1. Positions with Consolidated Public Sector</td>
<td>-400</td>
<td>-3650</td>
</tr>
<tr>
<td>1.1. Central Government</td>
<td>-76</td>
<td>-3164</td>
</tr>
<tr>
<td>1.2. Rest of the public sector</td>
<td>-325</td>
<td>114</td>
</tr>
<tr>
<td>2. Position with banks and financial stock companies</td>
<td>43</td>
<td>-490</td>
</tr>
<tr>
<td>2.1. Credit to banks and financial stock companies</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>2.2. Remunerated and non-remunerated Legal Reserve</td>
<td>43</td>
<td>-490</td>
</tr>
<tr>
<td>3. Other net assets</td>
<td>-657</td>
<td>-434</td>
</tr>
<tr>
<td>3.2. Unclassified net assets</td>
<td>-280</td>
<td>-332</td>
</tr>
<tr>
<td>5. Excess (-) or lacking (+) liquidity</td>
<td>961</td>
<td>1147</td>
</tr>
<tr>
<td>III. MONETARY ISSUE DEMAND</td>
<td>-433</td>
<td>233</td>
</tr>
</tbody>
</table>

As we can see in the previous chart, it would be expected that in the fourth quarter the net international monetary reserves showed a drop of US$125.0 million, mainly due to the amortizations to capital and interest payment due to external public debt. When considering the available information to November, it is estimated that when the year ends they will register an increase in the NIMR for around US$300.0 million, amount that will allow continuing consolidating the position of the country’s foreign sector.

Consistent with the behavior of the NIMR and of the demand of the monetary issue, the NIA of the Banco de Guatemala will monetize Q3,040.0 million in the fourth quarter, while the closing to 2008 would be expected to demonetize by Q460.0 million.

Considering the balance of the Central Government deposits in the Banco de Guatemala to November 2008, as well as the closing of public finance, it would be estimated that in the fourth quarter the Central Government would decrease its deposits in the Banco de Guatemala by Q3,081.0 million. On that account, at the end of 2008, the monetization generated by the Central Government would be of
Q1,918.0 million. On the other hand, it would be expected that they would make CDP investments in the Central Bank for Q230.0 million, so that at the end of the year it would be estimated that said entities would monetize by around Q102.0 million, so that the monetization generated by the consolidated non-financial public sector position would be of Q2,020.0 million.

As to the position with banks and financial entities, it would be expected that at the end of the fourth quarter said entities would increase their deposits in the Central Bank by Q876.0 million, mainly due to the combined effect of the expected growth from public deposits in the referred entities and of the flexibilization of the legal banking reserve. In that sense, it is estimated that at the end of 2008 said position will generate a demonetization for Q2,113.0 million.

Considering the expense estimations due to interest payments on the monetary stabilization operations, as well as the financial products derived from the investment of the IMR, during the fourth quarter there was a net registration of products for Q132.0 million, so at the end of the year it would be expected that said net products would be around Q633.0 million.

In the fourth quarter of 2008, consistent with the monetary issue demand for Q2,042.0 million and with the demonetization of foreign origin for the equivalent to Q998.0 million, the heading that makes up the NIA of the Banco de Guatemala would be monetizing by Q3.040.0 million.

V. PROGRESS IN THE STATISTICAL IMPROVEMENT
A. PROGRESS IN THE IMPLEMENTATION OF THE MONETARY AND FINANCIAL STATISTICS MANUAL

In 2008, progress was made in the implementation of the Monetary and Financial Statistics Manual (MEMF, for its acronym in Spanish), 2000 edition, with the International Monetary Fund (IMF). This was so that the monetary and financial statics of the country would include a methodological framework that incorporates the best international practices in matters of collection and disclosure of said statistics, on behalf of several central banks.
In that sense, it is worth indicating that the efforts made during 2008 allowed improving statistical information, in the coverage of the financial institutions as well as the quality of the sectoring of the financial instruments. According to the referred manual, as to the coverage of financial and monetary statistics, the same are divided in two large groups. The first group is made up of deposit companies (financial institutions that are able to make money), like the Central Bank, the banks of the system, the financial stock companies, off shore companies and the savings and credit cooperatives. The second group is made up of other financial stock companies, like bonds and savings companies, general deposit warehouses, stock exchanges and the credit card issuing companies.

In the above context, it is convenient to indicate that the compounded statistical information is available to the MEMF for all of the institutions that make up the sector of deposit stock companies and for the majority of the other financial stock companies, because during 2008 it was possible to incorporate the information of the general deposit warehouses and the exchanges houses, added to the information of the insurance and bonds companies. It is worth indicating that the rest of the financial stock companies represent a very low percentage regarding the total financial system, reason for which it is not considered urgent to incorporate them in the financial statistics.

During 2008, they continued advancing in the process of harmonization of the monetary and financial statistics in Central America, the Dominican Republic and Panama. Due to the joint effort between the International Monetary Fund, the Executive Secretariat from the Central American Monetary Council and the respective central banks of the countries in the region; they were able to integrate a set of harmonized statistical charts that respond to the classification criteria of financial instruments and sectoring according to the international statistical standards, which would be available to the public on the web sites of the central banks in the region at the end of December 2008. For Guatemala, said charts are available on the website since the last working day of November 2008.
B. PROGRESS ON THE IMPLEMENTATION OF THE FIFTH PAYMENTS BALANCE MANUAL

The Banco de Guatemala, regarding the statistical treatment of the foreign sector, is in the implementation phase of the Fifth Payments Balance Manual. In that sense, during 2008 they continued taking concrete steps; first, between June 9 and September 5, the Banco de Guatemala continued with the business and institution surveys program (Fourth Foreign Sector Survey -ENCSE4-), with the objective of gathering economic and financial Information corresponding to 2007 from the following entities: a) direct foreign investment businesses; b) foreign and national international transportation businesses; c) private institutions that receive foreign donations; d) international organizations that reside in Guatemala; and, e) businesses that hold transactions from other services abroad.

Finally, it is worth indicating that as of November 2008, the Central Bank gathers and disclosing the Payments Balance of the Country according to the Fifth Manual guidelines.

C. PROGRESS IN THE IMPLEMENTATION OF QUARTERLY NATIONAL ACCOUNTS

In 2008 they moved on to making the National Quarterly Accounts, within the conceptual framework of the National Accounts System of 1993 (SCN93) and according to the best international practices on the matter.

In September 2008, they obtained the preliminary results of the quarterly series of the GDP corresponding to the period between the first quarter of 2007 and the second quarter of 2008, in the production as well as expense aspects. Currently the quarterly estimations of the GDP are being included, corresponding to the third quarter of 2008.

They also continued to fill the quarterly surveys for the manufacturing industry, commerce and services activities, which were permanently used in the estimation of the quarterly accounts for said economic activities.
VI. PROGRESS IN THE ANALYTICAL AND OPERATIVE FRAMEWORK OF THE MONETARY POLICY

A. MONETARY POLICY TRANSMISSION MECHANISMS

The Monetary Policy transmission mechanism moves forward toward inflation targeting in a very changing and complex economy. Mishkin\(^{49}\) identifies four channels by which said mechanism materializes: the interest rate channel, the exchange rate channel, the other asset prices channel and the credit channel. Typically, also an expectations channel operation is recognized. As Loayza and Schmidt-Hebbel\(^{50}\) indicate, the relative importance of such channels varies from one country to another and throughout time. Particularly, the existence of different monetary and exchange regimens great differences in the transmission channels of the monetary policy among countries and between historic periods\(^{51}\). Loayza and Schmidt-Hebbel also point out the existence of certain observational equivalence between the effects of different transmission channels. Therefore, it is difficult quantitatively to distinguish the relative importance at a given time. Even so, the knowledge of specific characteristics of a determined economy can be useful in orienting the quantitative investigation as to the transmission channels of the monetary policy.

The following clause deals with the analysis of the relative importance of the main transmission channels of the monetary policy in Guatemala.

1. Interest Rate Channel

This channel operates through the impact that the monetary policy interest rate has on the other relevant interest rates, which, at the same time, affect the expense, savings and investment decisions of the economic agents. Such


decisions affect the conditions of aggregate demand of the economy and, through this, the trajectory of the inflation rate.

The transmission of exchanges in the leading interest rate to the repurchase market exchange rate is significant, as can be seen in the following figure. However, the transmission toward other market interest rates is weak.

The interest rates of the certificates of deposit of the Banco de Guatemala in terms of more than 7 days do not always reflect the changes produced in the leading interest rate, as is seen in the following figure.
It is worth stating, however, that if the behavior of the leading interest rate and the weighted average yield of term deposits for the due date are analyzed, the transmission of the changes from that is more evident.

As to the transfer of changes in the leading rate toward changes in the average banking asset interest rate, said transfer is based on the historic date, although it has strengthened in the course of 2008. However, the transfer toward the interest rate of term deposits in the banking system is greater, as we can see in the charts and in the following figure.
Evaluation of the Monetary, Foreign Exchange Rate and Credit Policy to November 2008

**ASSET INTEREST RATE AND LEADING INTEREST RATE OF THE MONETARY POLICY**

![Graph showing asset interest rate and leading interest rate of the monetary policy from 2005M01 to 2008M09.]

**TERM DEPOSIT INTEREST RATE AND LEADING INTEREST RATE OF THE MONETARY POLICY**

![Graph showing term deposit interest rate and leading interest rate of the monetary policy from 2005M01 to 2008M09.]

**Correlation Coefficients of the Term Deposit Interest rates and the asset banking interest Rate with delays from the Leading Interest Rate of the Monetary Policy**

<table>
<thead>
<tr>
<th>Delays</th>
<th>Interest Rate of Term deposits</th>
<th>Asset interest rate</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.9264</td>
<td>0.8519</td>
</tr>
<tr>
<td>1</td>
<td>0.5966</td>
<td>0.6903</td>
</tr>
<tr>
<td>2</td>
<td>0.1624</td>
<td>0.4197</td>
</tr>
</tbody>
</table>
In relation to the effect of the transfer changes in the interest rate of the real asset interest rate on changes in the real economic activity, the results appear to be congruent with the economic theory, as is illustrated in the following chart.

![Chart showing the real asset interest rate and the inter-annual growth rate of the real quarterly GDP.]

However, when estimating dynamic correlations as of 2007, with several samples, they found negative correlations for some delays, that is the theoretical expected result, although the values of the coefficients are low, as is illustrated below.

**Correlation Coefficient between the Inter-annual Growth Rate of the real quarterly GDP and Delays of The Real Asset Interest Rate**

<table>
<thead>
<tr>
<th>Sample</th>
<th>Coefficient</th>
</tr>
</thead>
<tbody>
<tr>
<td>2007Q1-2008Q3 (Delay 4)</td>
<td>-0.1562</td>
</tr>
<tr>
<td>2007Q2-2008Q3 (Delay 4)</td>
<td>-0.2943</td>
</tr>
<tr>
<td>2007Q3-2008Q3 (Delay 3)</td>
<td>-0.1675</td>
</tr>
<tr>
<td>2007Q4-2008Q3 (Delay 2)</td>
<td>-0.3847</td>
</tr>
</tbody>
</table>
2. Exchange Rate Channel

The changes in the interest rate of the monetary policy affect the differential between domestic and foreign interest rates, which influences the determination of the nominal exchange rate. This is important for the determination of imported inflation (affecting the price of supplies and final imported goods). Added to this, it affects the real exchange rate and, at the same time, the net exportations; in this way, influencing the aggregate demand and, therefore, the trajectory of the inflation rate.

In Guatemala, however, the nominal exchange rate is very stable, when it is compared with the exchange rates of other countries with flexible exchange rate regimens. For this reason, changes in the leading interest rate do not seem to have appreciable effects on the exchange rate or on the variation rate of it, as is seen in the following figure. In fact, the correlation coefficient between the leading interest rate and the variation rate of the nominal exchange rate is 0.13.

![LEADING INTEREST RATE OF THE MONETARY POLICY AND THE VARIATION RATE OF THE NOMINAL EXCHANGE RATE](chart)

According to estimations by Carpio and Mendoza, the effect of the exchange rate on inflation in Guatemala is asymmetric and not lineal. In the case of nominal exchange depreciation, the effect of the transfer range is between 11%...
and 19%, depending on the magnitude of the shock; in the case of a nominal appreciation, the transfer effect varies between 1% and 8%.

3. **Expectations Channel**

The expectations channel refers to the effect that changes have on the interest rate of the monetary policy on the inflationary expectations of economic agents and, at the same time, the effect of such expectations on the trajectory of the inflation rate.

In Guatemala’s case, the inflationary expectations (measured by the Inflation Expectations Survey from the Panel of Private Analysts) are better explained by the behavior of observed inflation due to the leading interest rate or due to the trajectory of the inflation target. The above seems to give evidence that the inflationary expectations in Guatemala are weakly anchored regarding the corresponding inflation targets.

![INFLATION EXPECTATIONS FROM THE PRIVATE SECTOR DECEMBER 2008, INTER-ANNUAL INFLATION AND LEADING INTEREST RATE OF THE MONETARY POLICY](image)

4. **Summary**

The available evidence shows that the operation of the transmission channels of the monetary policy in Guatemala is weak; however, you have to
consider that the statistical evidence available is not robust, due to the short period during which the regimen of explicit inflation targets in the country has been applied.

It is worth pointing out that it is expected that such operation be more efficient in the measure that: (a) the regimen of explicit inflation targets be bonded in the country, (b) the inflationary expectations are anchored in great measure regarding the official inflation targets, (c) moving toward a greater degree of exchange flexibilization, (d) fine tune the operational procedures of the monetary policy; and, (e) develop the secondary values market.

B. SEMI-STRUCTURAL MACROECONOMIC MODEL

During 2008, there were several modifications in the implementation of the Semi-structural Macroeconomic Model (MMS), in order to improve the quality of the results of the runnings. Among such modifications, the following stand out:

a) Incorporation of the analysis of the banking credit to the private sector and of the fiscal variables in the determination of the product gap;

b) Making quarterly evaluations of the annual series of the GDP, adjusted by the IMAE behavior, for the determination of the product gap53;

c) Revision of the parameters of softening the Hodrick-Prescott filter used to separate the cycle components and the trend of several variables;

d) Revision of the measure of external inflation, using the weighted average of inflation of countries included in the Real Effective Exchange Rate Index, instead of only using the US inflation.

Additionally, progress has been made in modifying the specification and calibration of the MMS so that it explicitly incorporates the transfer effect of the

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53 Previously, the product gap was calculated only using data that came from the IMAE, because the GDP data were only generated annually. On the other hand, it is forecast that only the quarterly GDP will be used for the determination of the referred gap, until the series of the quarterly GDP is available.
exchange rate, imported inflation and the effect of the fiscal impulses. These last modifications will be incorporated in the course of 2009.

C. STRUCTURAL MACRECONOMIC MODEL

1. History

The interest of implementing a structural model in the Banco de Guatemala is justified by the advantages that a structural model has on the econometric models or reduced models. In fact, the main advantage of structural models consists in that they allow modeling characteristics of preference, technology and the institutions, from the real and financial sectors of an economy of their own, that are invariable before the changes in public politics. Therefore, provide predictions that take into account the fact that the economic agents can react differently before a same impulse when the rules that regulate public policy vary.

On the other hand, with the structural model, the details of the optimization process that each representative agent does in the artificial economy are to be known, and in this way facilitate the understanding of the results of the model. There is also interest in that the design of the model includes the transmission mechanisms of the monetary policy that operate in the Guatemalan economy. According to monetary authorities and technicians from the Banco de Guatemala, it is expected that their design be flexible and in blocks, to experiment with different specifications and calibrations that allow evaluating the operation of transmission channels (or of different conceptions on such channels).

To achieve the development of the structural macroeconomic model there is a research agenda that involves the implementation of five general dynamic balance models. Following we present a summary of the content of the mentioned research agenda: Model 1: real economy, small and open, with two productive sectors (tradable and non-tradable). Model 2: Real economy, small and open, with three goods (exported, imported and non-tradable). Model 3: real economy, small and open, with three goods (exported, imported and non-tradable) and with fiscal authority. Model 4: monetary economy, closed, with monopolistic competency and

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54 Restricted maximization of the utility of the consumers and of the gains of the firms.
nominal rigidity. Model 5: Structural Macroeconomic Model (MME) (first draft): monetary economy, small and open, with three goods (exported, imported and non-tradable), with nominal rigidity and fiscal authority. This model sequence is illustrated in the following diagram.

This research agenda derives from simple models, with which we hope to generate the expert knowledge on presentation, solution and of the calibration/estimation of this type of models. We can also expect to improve understanding of economic phenomenon, especially of the transmission channels through which the monetary policy operates in Guatemala. The models that have been resolved to now correspond to real, small and open; the effects of public finance and of nominal rigidity have not yet been introduced. The intention of gradually building, on the base of these models of real economy, a monetary model that is useful to evaluate the effects of alternative monetary policies and, at some time, that they are able to generate inflation forecasts.
2. Some thoughts

Although only the first steps have been given for the research agenda, the strategy to move forward on the simple model base, which has grown in complexity and coverage, has rendered their first fruits. The need for designing models has been learned, as to the information limitations in Guatemala, instead of designing elegant models, but unable for estimation or calibration for the Guatemalan economy.

The research agenda on general balance models must be a long-term research agenda. The implementation of this type of models requires time and human resource and specialized computer skills, but each step in progress must learn about some stylized facts and on the operation of the economy, in the dimensions that are included in the model.

Regarding the main challenges that we can see within this research line, for the short term we have the characterization of the public sector and the effects of the fiscal policy in Guatemala. We expect to move forward in the third model of the presented agenda. For this new model, we must decide the best way to include the fiscal sector, in a way that correctly characterizes the conduction of Guatemalan fiscal policy and, at the same time, avoids typical problems of including taxes and a fiscal authority is a model of general balance. In a longer time, it is necessary to identify and correctly measure the transmission mechanisms for the monetary policy for Guatemalan economy. This with the end of implementing said mechanisms in the best way within the first draft of the structural model.

D. SECONDARY MARKET

1. Strategy for the development and broadening of the secondary values market

In the Monetary, Foreign Exchange Rate and Credit Policy for 2008, the Monetary Board instructed the Banco de Guatemala to continue with the efforts for the design of a strategy in the medium term that allows developing, deepening and
strengthening the secondary values market, with the support of the international financial organizations.

With the purpose of heeding the mandate of the Monetary Board, technical assistance was requested from the IMF, in order to identify the main obstacles when developing said market and designing a strategy oriented toward overcoming them.

In that context, an IMF mission visited Guatemala and with this visit, made a document called “A strategy for developing the public debt markets”, which defines a framework for continuous development of the primary market and the bases for the establishment of a secondary deep and liquid market. The document indicates that the actions taken for developing said secondary market must jointly be directed by the Banco de Guatemala and the Ministerio de Finanzas Públicas [Equivalent to the US Department of Treasury], in coordination with other market actors.

Among the main recommendations formulated, for the case of the Banco de Guatemala, by the IMF, we have:

a. Only issue dematerialized titles;
b. Gradually reduce the number of auctions/bids; and,
c. Allow the participation of all investors in each auction/bid.

In the described context, the Banco de Guatemala did the following:

a. As to the dematerialization of financial instruments, during 2008, the total fund-raising of term deposits for 7-days was held in a dematerialized manner. On the other hand, the fund-raising in terms greater than 7 days, according to the Deposit Reception Regulation for National Currency, is to be constituted in the Banco de Guatemala, at the request of the depositors, these can be registered in custody or physically issued.

b. Regarding the gradual reduction of the number of auctions/bids, as of May, it was reduced from twice a week to once a week for the number of auctions/bids that are held by public sector entities, with financial sector institutions and individual and juristic persons.
c. As to allowing the participation of all investors, they held only one event for auction and bidding, which allowed broadening the participation of all bidders at the event held every Monday each week.

The Monetary Board, in the Monetary, Foreign Exchange Rate and Credit Policy for 2008 determined; considering that an important element in the development and broadening of the secondary values market is constituted by information and transparency with which the operations in said market are held, instructed the banks of the system and the financial stock companies so they would inform the Banco de Guatemala of the financial characteristics of the operations held with term deposits and with Treasury Bonds of the Republic of Guatemala or with representative certificates of such bonds, in the stock market and the over-the-counter markets, in the manner and with the periodicity established by the Central Bank.

Therefore, in order to operate the instructions given by the Monetary Board, they asked the banks of the system and the financial stock companies to report all their operations with Term Deposits and with Treasury Bonds from the Republic of Guatemala or with representative certificates of such bonds, over the counter and in the stock market, in national as well as foreign currency, in order to proceed with the consolidation and publication as of February 1, 2008. Therefore, the Banco de Guatemala, as of that date, published the consolidated information of repurchase agreements and of purchase-sale of the referred financial instruments in the indicated markets on their internet site.

In order to improve the transmission channel through the leading interest rate of the monetary policy and of strengthening the values titles, as of May 12, 2008 the Banco de Guatemala decided to hold fund-raising through term-deposits with the non-financial private sector, in 7-day terms, through the Sistema de Valores de la Bolsa de Valores Nacional, Sociedad Anónima. [Values System of the National Stock Exchange, Stock Company].
Among the recommendations made by the IMF to the Ministerio de Finanzas Públicas [Equivalent to the US Department of Treasury], the following stand out:

a. Develop communication mechanisms coordinated with the Banco de Guatemala and other participants of the values markets;

b. Standardize the issues and create benchmarks, establish a maximum amount of bonds to be sold in each auction, keep a presence in the market as long as possible during the year;

c. Hold settlement transaction in T+O (on the same day) or at T+1 (the next day);

d. Recapitalize the Banco de Guatemala with standardized negotiable instruments in the market;

e. Consolidate, complete and publish the rules of treasury bond issues;

f. Gradually reduce the number of auctions/bids;

g. Allow the participation of all investors in each auction.

In the described context, the Ministerio de Finanzas Públicas [Equivalent to the US Department of Treasury] held the following actions:

a. The Ministerio de Finanzas Públicas [Equivalent to the US Department of Treasury] and the Banco de Guatemala have coordinated efforts with the purpose of implementing the recommendations of the IMF.

b. Regarding the standardization of the issues, which imply the issue of dematerialized issues, the project for the General Income and Expenditure Budget of the state approved by the Congress of the Republic for the 2009 fiscal year, incorporates the possibility of backing up the treasury bonds with the certi-bonds registered electronically in custody of the Banco de Guatemala and that they manage the registry and control of the titleholder changes of said titles.

c. Regarding the gradual reduction of auctions/bids, as of September 2008, the number of bids per week was reduced to once a week on Tuesdays. It is worth indicating that both events are held on the same
day, at the same time, therefore being complementary in such a way that they allow all investors to participate.

d. Regarding the settlement of transactions to be held T+O (on the same day) or at T+1 (the next day), as of September, both events settle on T+1 (previously the settlement of auctions was held on T+2).

e. Within the framework of strengthening the relative norm to the issue, negotiation and placement of values titles issued by the MFP, the projects were developed with the following norms:

- Regulation for the Issue, Negotiation, Placement and Payment of the Service of Treasury Bonds of the Republic of Guatemala;
- Regulation for the Issue, Negotiation, Placement and Payment of Treasury Letters Service;
- Norms for Public Bidding of Treasury Bonds from the Republic of Guatemala and Treasury Letters, through the Authorized Commerce Stock Exchanges in order to operate in the country; and,
- Norms for the Auction of Treasury Bonds of the Republic of Guatemala and Treasury Letters, through the Banco de Guatemala, as a Financial Agent.

Sincerely,

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The present decree was approved by the Technical Council of the Banco de Guatemala, is the session held on December 15, 2008.
ANNEX
ANNEX

I. RESULTS OF THE FOURTH RUNNING IN 2008 OF THE SEMI-STRUCTURAL MACROECONOMIC MODEL

A. FORECAST OF MID-TERM INFLATION

In November 2008, there was a fourth running of the Semi-structural Macroeconomic Model (MMS) corresponding to said year, which allowed obtaining the mid-term inflation forecasts consistent with the inter-relations of the main macroeconomic variables that affect inflation, as can be seen in the following figure:

As can be appreciated in the previous figure, according to the fourth running forecast for 2008, for the fourth quarter of 2008 we expect that the inter-annual inflation will be at 11.70%; while for the fourth quarter of 2009 we expect said variable to be at 7.01%. Said forecasts are conditional in that the Central Bank should lead an active monetary policy that leads inflation toward balance values in the medium and long terms55.

55 The model is calibrated in such a way that in the long term it will converge with an annual inflation rate of 3%.
In other words, it is supposed that the Central Bank will implement actions to determine the trajectory of the leading interest rate of the monetary policy. In the following figure, we will illustrate the trajectory of said rate that is compatible, according to the MMS, with the inflation forecasts presented.

The average observed value of the leading interest rate of the monetary policy registered in the third quarter 2008 was of 7.08%, while for the fourth quarter of 2008, according to the fourth running of the MMS in 2008, said interest rate will be at a quarterly average of 7.42%. As of the first quarter 2009 a descending trajectory of the rate, located at 6.99% in said quarter and later taking values of 6.32%, 5.68% any 5.20%, in the last three quarters of 2009, in that order.
In relation to the real economic activity, as can be seen in the previous figure, the product gap\textsuperscript{56} was positive and growing in the first three quarters of 2007; after, in the fourth quarter of the same year and in the first and second of 2008 it was positive, but falling. According to the forecast, said gap went from slightly negative in the third quarter of 2008, while as of the fourth quarter of 2008 the gap became slightly positive and, basically, stable up to the fourth quarter of 2009. Eventually, in the long term, they would converge to a stationary level (zero).

\textsuperscript{56} The product gap is defined as the difference between the observed gross domestic product and the potential gross domestic product, the former is defined as the gross domestic product that does not generate inflationary pressure or deflationary pressure in the economy.
The trajectory of the gap of the real exchange rate consistent for the reported forecasts is appreciated in the previous figure. The gap of the real exchange rate was positive in the second quarter of 2008 (0.34%). Later, the gap became negative as of the third quarter of 2008 (-1.15%). According to the forecast, the gap will continue to be negative during the horizon forecast, to later converge to zero (stationary value) in the long term.

### B. EFFECT ON INFLATION AND ON THE ECONOMIC GROWTH RATE AS A RESULT OF THE INCREASE IN THE LEADING INTEREST RATE OF THE MONETARY POLICY

The effect generated by the increase of a percentage point in the leading interest rate of the monetary policy on the endogenous variables of the MMS can be measured through the analysis of impulse-response. For the effect, it is supposed that the variables of the model are initially found in the seasonal state; in other words, in the long term balance levels. Later, an increase is simulated (shock) in the analysis variable and the model quantifies the effect that said increase has on the other variables, throughout a determined period. Therefore, it is possible to quantify the total effect of the shock on each variable, making
abstraction of the effects that could be derived from shocks in other variables in the model. It is worth indicating that, added to this the properties of convergence imposed to the MMS the variables of the model move toward their stationary status value.

The following figure illustrates the effect of a 100-point shock in the leading interest rate of the monetary policy, as well as the dynamics of said variable after the referred shock. The value of the stationary state\(^\text{57}\) of this variable is of 5.5% and is represented by the means of a horizontal line. The total duration of the impact is of approximately fifteen quarters, after the mentioned shock. However, the leading interest rate comes back to its long-term balance of five quarters after the impact. Later, as of the sixth quarter, the interest rate drops slightly under said level and gradually converges to the balance value of 5.5%.

The following figure illustrates the effect of a 100-basic point shock on the leading interest rate of the monetary policy on the product gap. As we can see, the increase of the leading interest generates a reduction in the product gap of up to

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\(^{57}\) The stationary state of variables that make up the MMS is defined as the state of the economy in the long term in which all the variables grow at constant rates, previously specified in the model.
0.27% in the fourth quarter. However, the mentioned increase tends to dilute and the observed product converges toward its potential, so the product gap tends toward zero in the long term.

Just as is illustrated in the following figure, the balance inflation rate in the long term is of 3%. A shock of 100-basic points in the leading interest rate of the monetary policy generates a decrease of the inflation rate, which reaches 2.90% in the seventh semester; following, said rate slowly converged to its long-term balance state.
Summarizing, a temporary shock of 100-basic points in the leading interest rate of the monetary policy will cause a maximum reduction, also temporary, of 0.10% in the inter-annual inflation rate (which represents a reduction of 3.3% of the value of the seasonal state of this variable). For the materialization of said effect, the transmission mechanism involves a temporary maximum reduction of 0.27% of the potential product.