

Top 5 Institutions – Short- and Medium-Run Annual Rankings and Consolidation of Methodology

In addition to the Top 5 ranking currently elaborated by the Banco Central do Brasil comprising the most accurate short-, medium- and long-run forecast institutions that participate on the Market Expectations System, in January 2009 we will start to release a new annual ranking based on the deviations used for the calculations of the short- and medium-run monthly rankings for each month of the year. This new annual ranking is aimed at highlighting the institutions that have been more consistent in their forecasts and, consequently, encouraging even more investment in macroeconomic research.

This new ranking will take into consideration, for each institution, a linear transformation of the deviations used for the monthly calculations of the short- and medium-run rankings, so that the institution that presents the lowest monthly absolute deviation in determined ranking of a specific variable for a given period of time will be credited with 10 (ten) points. On the other hand, the institution with the highest monthly absolute deviation for the same ranking, variable and period will be credited with 0 (zero) point. The remnant institutions subject to the same conditions will be credited with points between 0 (zero) and 10 (ten), resulting from an interpolation procedure. The institutions will be allowed to participate on the annual ranking for a specific year only if they are ranked at least six times in the respective monthly rankings of that year. Regarding this ranking, we will consider two complementary procedures: a) firstly, for the short-run monthly ranking, the deviations of the monthly parcels of one institution will be equal to the average absolute deviation of the parcels of the participant institutions for each month prior to the beginning of its forecasts. The system will calculate the deviation to be attributed to the institution as if it had been considered by the regular Top 5 calculations for each one of those months. The linear transformation follows the pattern already mentioned; b) secondly, for the medium-run monthly ranking, instead of using the average absolute deviation, the system will use the highest absolute deviation of the parcels so that it will maintain the coherence of the calculation procedures presently used in the short- and medium-run Top 5 rankings. Therefore, considering months (from January to December); variables (IPCA, IGP-DI, IGP-M, exchange rate and the Selic rate); and the tenor (short- and medium-run), the institutions will have grades varying from zero to ten, and the average of these figures will be the basis for the new ranking calculation.

Thus, every January, in addition to the short-, medium- and long-run Top 5 rankings for the complied institutions, we will also publish the annual short- and medium-run rankings that will show how accurate and consistent were the expectations of the institutions that participate on the Market Expectations System for each of these forecast periods, throughout the previous year. The addition of this classification does not imply changes to the calculation methodology of the current rankings, available at Banco Central do Brasil web page at the Internet.

As an example, suppose that we are calculating the new ranking for the IPCA, for seven hypothetical institutions, based upon the following data:

Deviations used in the calculation of monthly short-run Top 5 rankings

| Institution | January | February | March | April | May | June | July | August | September | October | November | December |
|-------------|---------|----------|-------|-------|------|------|------|--------|-----------|---------|----------|----------|
| A | 0.25 | 0.18 | 0.16 | 0.21 | 0.15 | 0.20 | 0.30 | 0.21 | 0.24 | 0.25 | 0.30 | 0.20 |
| B | 0.05 | 0.04 | 0.03 | 0.05 | 0.07 | 0.08 | 0.02 | 0.06 | 0.08 | 0.10 | 0.08 | 0.05 |
| C | 0.02 | 0.03 | 0.05 | 0.01 | 0.03 | 0.05 | 0.06 | 0.08 | 0.11 | 0.12 | 0.10 | 0.08 |
| D | 0.33 | 0.25 | 0.24 | 0.13 | 0.09 | 0.06 | 0.02 | 0.07 | 0.11 | 0.07 | 0.07 | 0.07 |
| E | 0.18 | 0.15 | 0.18 | 0.25 | 0.18 | 0.06 | 0.08 | 0.10 | 0.12 | 0.15 | 0.20 | 0.22 |
| F | 0.15 | 0.03 | 0.12 | 0.11 | 0.08 | 0.12 | 0.10 | 0.10 | 0.15 | 0.15 | 0.13 | 0.15 |
| G* | 0.14 | 0.11 | 0.15 | 0.10 | 0.08 | 0.09 | 0.05 | 0.06 | 0.05 | 0.08 | 0.10 | 0.05 |

* as institution G only started to participate on the IPCA Top 5 in May, it received, between January and April, deviations based on parcels which considered the average of the deviations of the parcels of each monthly calculation - the Top 5 is calculated again for the months of January through April as if institution G presented, in each deviation parcel for each month, a figure equal to the average deviation of the other institutions that had participated (if the ranking were medium-run, the deviations of institution G, from January through April, would be calculated based on the parcels that considered the highest deviation of each monthly calculation - the Top 5 ranking, between January and April, would be calculated again as if institution G presented, in each monthly input, deviation equal to the highest deviation among other institutions' forecasts and certainly the values from January to April would not be these - they would be higher or equal to the maximum values of each column, among institutions A through F)

Result of the linear transformation of the deviations, considering highest deviation=0, lowest deviation=10, and interpolating the other deviations

| Institution | January | February | March | April | May | June | July | August | September | October | November | December | average |
|-------------|---------|----------|-------|-------|-------|-------|-------|--------|-----------|---------|----------|----------|---------|
| A | 2.58 | 3.18 | 3.81 | 1.67 | 2.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 1.18 | 1.20 |
| B | 9.03 | 9.55 | 10.00 | 8.33 | 7.33 | 8.00 | 10.00 | 10.00 | 8.42 | 8.33 | 9.57 | 10.00 | 9.05 |
| C | 10.00 | 10.00 | 9.05 | 10.00 | 10.00 | 10.00 | 8.57 | 8.67 | 6.84 | 7.22 | 8.70 | 8.24 | 8.94 |
| D | 0.00 | 0.00 | 0.00 | 5.00 | 6.00 | 9.33 | 10.00 | 9.33 | 6.84 | 10.00 | 10.00 | 8.82 | 6.28 |
| E | 4.84 | 4.55 | 2.86 | 0.00 | 0.00 | 9.33 | 7.86 | 7.33 | 6.32 | 5.56 | 4.35 | 0.00 | 4.42 |
| F | 5.81 | 10.00 | 5.71 | 5.83 | 6.67 | 5.33 | 7.14 | 7.33 | 4.74 | 5.56 | 7.39 | 4.12 | 6.30 |
| G* | 6.13 | 6.36 | 4.29 | 6.25 | 6.67 | 7.33 | 8.93 | 10.00 | 10.00 | 9.44 | 8.70 | 10.00 | 7.84 |

Yearly Ranking

| | |
|----|------|
| B | 9.05 |
| C | 8.94 |
| G* | 7.84 |
| F | 6.30 |
| D | 6.28 |
| E | 4.42 |
| A | 1.20 |

Annex I - Top 5 Institutions – Consolidated Calculation Methodology

Tenors

The Investor Relations Group (Gerin) recognizes the forecasting excellence of all participating institutions of the Market Expectations Survey through the short-, medium-, and long-run Top 5 rankings.

Variables

All rankings are elaborated for the **IPCA**, the **IGP-M**, the **IGP-DI**, the **Selic rate**, and the **exchange rate**.

Definition

The short-term Top 5 takes into account the accuracy of 1-month forecasts over the last 6 months (Figure 1). The medium-run Top 5 ranks the accuracy of the forecasts in three consecutive given months in each of the previous respective four months (Figure 2). The long-term Top 5 ranks the accuracy of forecasts for the annual value of the variable made in each of the 12 months before the annual indicator is released in the subsequent January (Figure 3). For the short- and medium-run rankings, in addition to the monthly publication, annual rankings will be released based on the monthly forecast deviations occurred each month of the year, from January to December.

The annual ranking will take into consideration, for each institution, a linear transformation of the deviations used for the monthly calculations of the short- and medium-run rankings, so that the institution that presents the lowest monthly absolute deviation in determined ranking of a specific variable for a given period of time will be credited with 10 (ten) points. The institution with the highest monthly absolute deviation in the same ranking, variable and period will be credited with 0 (zero) point. The remnant institutions subject to the same conditions will be credited with points between 0 (zero) and 10 (ten), resulting from an interpolation procedure. The institutions will be allowed to participate on the annual ranking for a specific year only if they are ranked at least six times in the respective monthly rankings of that year. Regarding this ranking, we will consider two

complementary procedures: a) firstly, for the short-run monthly ranking, the deviations of the monthly parcels of one institution will be equal to the average absolute deviation of the parcels of the participant institutions for each month prior to the beginning of its forecasts. The system will calculate the deviation to be attributed to the institution as if the regular Top 5 had considered it each one of those months. The linear transformation follows the pattern already mentioned; b) secondly, for the medium-run monthly ranking, instead of using the average absolute deviation, the system will use the maximum absolute deviation of the parcels so that it will maintain the coherence of the calculation procedures presently used in the short- and medium-run Top 5 rankings. Therefore, considering months (from January to December); variables (IPCA, IGP-DI, IGP-M, exchange rate and the Selic rate); and the tenor (short- and medium-run), the institutions will have grades varying from zero to ten, being the average of these figures will be the basis for the new ranking calculation.

Release

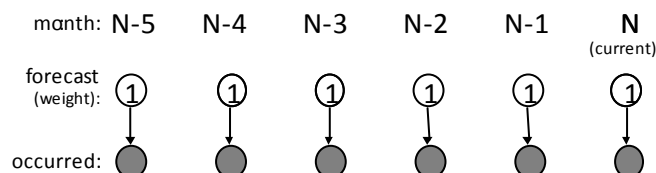
The short- and medium-run Top 5 institutions rankings are released monthly, while the long-run and annual rankings are released once a year, in January. For the Selic rate, the short- and medium-run Top 5 rankings are released only for months when Copom meetings take place.

Exclusion Criteria

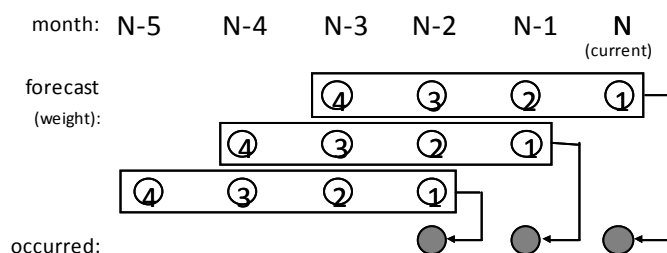
Some criteria applicable to all kinds of institutions were defined with the purpose of imposing penalties to participants that do not comply with the BCB's minimum reporting requirements of promptness and transparency: institutions are excluded from the ranking if they have not confirmed or updated their annual projections for at least 3 months into the future, and if they have not confirmed or updated their annual projections for at least one year, in the 30-day prior to the last reporting day (or in each one of the dates that compose the last pair of reporting dates, in the case of exchange and Selic rates – details below). As an example, considering the short-term Top 5 ranking for the January 2007 exchange rate, which is released in February 2007, institutions that do not have valid forecasts in the last pair of reporting dates related to January, that is, on December 29th (last working day of the previous month) and January 15th 2007, are excluded from the ranking. Once the Market Expectations System identifies this situation, it immediately discards the institution from the calculation of the ranking, for that variable. Valid forecast at a given day is the projection present in

the Market Expectations System at that specific day and that have been either confirmed or updated during the previous 30 days. The institutions will be allowed to participate on the annual ranking for a specific year only if they are ranked at least six times in the respective monthly rankings of that year.

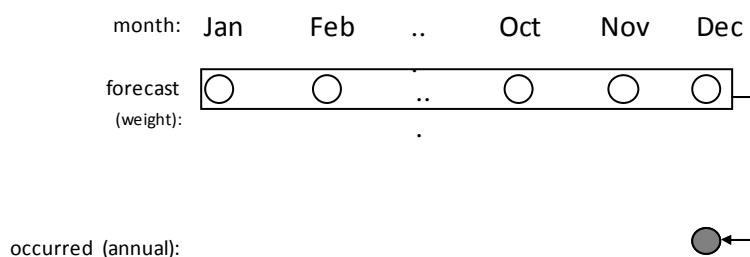
**Figure 1
Short-Term Top 5**



**Figure 2
Medium-Term Top 5**



**Figure 3
Long-Term Top 5**



Last Reporting days

The last reporting days, for each one of the variables, are the following:

- . IPCA: Last working day immediately before the day of release of the IPCA-15;
- . IGP-DI: Last working day immediately before the day of release of the IGP-M 2nd preview;
- . IGP-M: Last working day immediately before the day of release of the IGP-M 1st preview;

. Exchange Rate: Last working day of the previous month and last working day prior or equal to the 15th of the current month;

. Selic Rate: Last working day prior or equal to the Wednesday of the week immediately previous to the Copom Meeting of the reference period and the last day prior or equal to the Wednesday of the fourth week previous to the Copom Meeting of the reference period.

The projections must be inexcusably included in the Market Expectations System up to 5 p.m. of a day, Brasilia time, in order to be considered in the same date.

Penalties

All rankings are based on equations that specify penalties for each institution, considering the deviation of its forecasts from the actual result of the variable. The lower the penalty, the higher the institution's ranking. The differences among the methodologies for calculating the short-, medium- and long-run rankings are the time span considered for calculating the deviation, the weights attributed to past forecasts, and the time horizon of the survey (forecasts for one month, from one to four months ahead, and from one to twelve months ahead).

As far as the medium- and long-run rankings are concerned, those institutions that do not have valid forecasts in each month are penalized in that month through the attribution of the highest absolute deviation registered among all projections informed. In the case of the short-run ranking, institutions that do not present valid forecasts in each month are penalized through one of the two methods: if the institution has already participated in the survey in the past, it is assigned the highest absolute deviation; otherwise, it is assigned the average absolute deviation of the participating institutions with valid forecasts.

In the cases of exchange and Selic rates, which present two last reporting days for each month, the penalties are the averages of the absolute deviations for the two last reporting days.

Equations

Short-Run Ranking

Short-run forecasting institutions are ranked according to Equation 1.

$$\psi^R = \sum_{t=N-5}^N \{ (\text{average penalty})_{d_t} \cdot (1 - j_{d_t}) + j_{d_t} \cdot [(\text{maximum penalty})_{d_t} \cdot (1 - k_{d_t}) + |E_{d_t} \tau_t^R - \tau_t| \cdot k_{d_t}] \} / 6$$

(1), where:

ψ^R = penalty assigned to institution R;

t = month for which the deviation is calculated;

N = month referring to the day immediately after the last reporting day;

d_t = last reporting day of τ in month t;

$E_{d_t} \tau_t^R$ = forecast provided by institution R, since valid on d_t for τ_t (in case of the exchange and Selic rates, there are two last reporting days);

τ_t = actual result of the surveyed variable τ for month t;

$(\text{average penalty})_{d_t}$ = average absolute deviation of the valid forecasts of the participating institutions on d_t , from the surveyed variable τ_t 's effective result in month t;

$(\text{maximum penalty})_{d_t}$ = maximum absolute deviation of the valid forecasts of the participating institutions on d_t , from the surveyed variable τ_t 's effective result in month t;

$k_{d_t} = 0$, when the institution does not have a valid forecast on d_t ;

1, when the institution has a valid forecast on d_t ;

$j_{d_t} = 0$, if d_t is a day previous to the day of the first forecast of the institution for τ ;

1, if d_t is at least the day of the first forecast of the institution for τ ;

Medium-Run Ranking

Medium-run forecasting institutions are ranked according to Equation 2.

$$\psi^R = \left\{ \sum_{t=N-3}^N (N - t + 1) \cdot \sum_{w=1}^3 [(\text{maximum penalty})_{d_{t-w+1}} \cdot (1 - k_{d_{t-w+1}}) + |E_{d_{t-w+1}} \tau_{N-w+1}^R - \tau_{N-w+1}| \cdot k_{d_{t-w+1}}] \right\} / 30$$

(2)

(2), where:

ψ^R = penalty assigned to institution R;

t = month for which the deviation is calculated;

N = month referring to the day immediately after the last reporting day;

w = group of forecasts for the same monthly indicator;

d_{t-w+1} = last reporting day of τ in month $t-w+1$;

$E_{d_{t-w+1}} \tau_{N-w+1}^R$ = forecast of the institution R valid on d_{t-w+1} for τ_{N-w+1} (in the cases of the exchange and Selic rates, there are two reporting dates);

τ_{N-w+1} = actual value of the surveyed variable τ in the month $N-w+1$;

(maximum penalty) $_{d_{t-w+1}}$ = maximum absolute deviation of the valid forecasts of the participating institutions on d_{t-w+1} , for τ_{N-w+1} , from the surveyed variable τ_{N-w+1} , compared to the actual result;

$k_{d_{t-w+1}} = 0$, when the institution does not have a valid forecast on d_{t-w+1} ;

1, when the institution has a valid forecast in d_{t-w+1} .

Long-Run Ranking

Long-run forecasting institutions are ranked according to Equation 3.

$$\psi^R = \sum_{t=N-11}^N (N-t+1) \cdot [(\text{maximum penalty})_{d_t} \cdot (1 - k_{d_t}) + |E_{d_t} \tau^R - \tau| \cdot k_{d_t}] / 78 \quad (3), \text{ where:}$$

ψ^R = penalty assigned to institution R ;

t = month for which the deviation is calculated;

N = month referring to the day immediately after the last reporting day;

d_t = last reporting day of τ in month t ;

$E_{d_t} \tau_t^R$ = forecast provided by institution R since valid on d_t for τ (in the cases of the exchange and Selic rates, there are two reporting dates);

τ = yearly actual value of the surveyed variable τ ;

(maximum penalty) $_{d_t}$ = maximum absolute deviation of the valid forecasts of the participating institutions on d_t , from the yearly surveyed variable τ 's effective result;

$k_{d_t} = 0$, when the institution does not have a valid forecast in d_t ;

1, when the institution has a valid forecast in d_t .