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Nº 003 - 2021

Documento de trabajo
ISSN 1688-7565

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Documento de trabajo del Banco Central del Uruguay 003-2021

Autorizado por: Jorge Ponce
Disponible en línea desde: 05/04/2021

Resumen

La adopción de regímenes de metas de inflación ha llevado a los bancos centrales a dedicar considerables esfuerzos para mejorar su transparencia. Siguiendo esta tendencia, muchos autores han desarrollado herramientas para medir y comparar los niveles de transparencia de los bancos centrales. Este trabajo busca realizar esta tarea para el Banco Central de Uruguay, aplicando dos índices de transparencia diferentes. El primero fue diseñado a mediados de los años 2000 y se ha aplicado en una amplia muestra de países, lo que resulta útil para comparar la posición de Uruguay. El segundo índice se basa en un nuevo enfoque que busca reflejar las mejores prácticas de los regímenes de metas de pronóstico de inflación más avanzados.

JEL: G21, G28, E44
Palabras clave: banks, credit, loan evergreening, regulatory arbitrage, zombie lending

Abstract

The adoption of inflation targeting regimes has led central banks to devote considerable efforts to improve their transparency. Following this trend, several authors have developed tools to measure and compare the levels of transparency of central banks. This paper seeks to carry out this task for the Central Bank of Uruguay applying two different transparency indices. The first one was designed in the mid 2000s and has been applied in a sample with a significant number of countries. The second index is based on a new approach that seeks to reflect the best practices of the most advanced inflation-forecast targeting regimes.

JEL: E0, E4
Keywords: monetary policy, central bank, transparency

☆The views expressed in this article are the sole responsibility of their authors and do not compromise the institutional position of the Central Bank of Uruguay.

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1. Introduction

In recent decades, a growing interest in the institutional framework of monetary policy has been developed. Specifically, the institutional reforms introduced in central banks have focused on three main areas. First, central banks' organic laws have suffered adjustments regarding their operations and their link with other branches of government. In particular, much progress has been made in the search for greater institutional independence of the central bank with respect to the latter. Second, as a counterpart to this greater autonomy, efforts have been made to improve accountability. Finally, central banks have tried to be more transparent in their operations. Greater transparency is at the same time a complement of greater accountability and is related to changes established in the design of monetary policy, particularly with the introduction of inflation targeting regimes.

Transparency contributes to greater monetary policy effectiveness and lays the foundation for adequate accountability. It is reflected in the quantity, quality and timeliness of information that the central bank gives to the public in regard to the monetary policy decision-making process (for example, the communication of objectives, the publication of statistics and forecasts, and the publication of the explanations of the decisions taken).

The adoption of inflation targeting regimes has led central banks to devote considerable resources and efforts to improve their transparency. As a result, various authors have developed tools to measure and compare the transparency levels of central banks. Examples of these are the measurements made by Cukierman et al. (1992), Fry et al. (2000), Jácome and Vázquez (2005), Eijffinger and Geraats (2006), Dincer and Eichengreen (2007), Crowe and Meade (2008), Dincer and Eichengreen (2010) and Dincer and Eichengreen (2014), among others.

Uruguay has not been foreign to this trend. The 2002 financial crisis and its costs in terms of international reserves determined the abandonment of the flotation bands exchange rate regime and the gradual adoption of an inflation targeting regime. In order to regain reputation and anchor market expectations, the Central Bank of Uruguay (BCU) defined a target in terms of the monetary base. From the beginning of 2004 until the first half of 2005, a more favorable macroeconomic context made it possible for monetary policy to place greater focus on the evolution of inflation. Later, towards the end of 2005, the BCU ceased to announce the trajectory of the monetary base, proceeding to use all monetary policy instruments in order to meet the

projected level of inflation.

Inflationary pressures experienced during 2007[1] determined a change in the design of monetary policy in Uruguay: the abandonment of the monetary aggregates' target led to the definition of the interest rate as the main monetary policy instrument (one-day inter-bank loan call rate). Specifically, the new target was defined within a "flexible corridor" where the floor was determined by the central bank's one-day deposit facility rate and the ceiling was defined by the lending facility rate[2]. Additionally, the BCU began to rely on the use of other instruments that would complement the management of the monetary policy rate, being an example of this the increases in the reserve requirements rates introduced in mid-2008 as well as the elimination of their remuneration.

This paper seeks to quantify the Central Bank of Uruguay's level of transparency. To our knowledge, with the exception of Dassatti and Rodríguez (2008), there are no previous attempts to measure the transparency of the BCU. In the case of Dassatti and Rodríguez (2008), their analysis is part of the application of the Jácome and Vázquez (2005) methodology to quantify the level of independence of the Central Bank of Uruguay. Our paper applies the Dincer and Eichengreen (2014) and Al-Mashat et al. (2018) methodologies with the intention of not only assessing the transparency of the BCU but also comparing Uruguay's position on the matter with respect to other countries.

The rest of the document is organized as follows. Section 2 describes the literature on central banks' transparency and its quantification. Section 3, analysis the degree of transparency of the Central Bank of Uruguay in terms of the Dincer and Eichengreen (2014) and Al-Mashat et al. (2018) methodologies, comparing Uruguay's relative position with respect to other countries. Finally, Section 4 concludes.

2. Literature Review

2.1. Transparency in the conduct of monetary policy

In recent decades there has been a growing interest regarding the transparency in the conduct of monetary policy. The search for greater transparency responds to a trend towards greater central bank independence,

[1] Explained by external factors such as the rise in the price of commodities, and internal factors such as the increase in labor costs and a greater dynamism in private demand.

[2] In the beginning, the range for the call rate was defined between 4% and 6%, but the persistence of inflationary pressures in the economy determined successive upward adjustments.

since transparency goes hand in hand with accountability, which is considered an essential component of the independence of central banks. At the same time, greater transparency makes monetary policy more predictable, hence contributing to its effectiveness through the role of agents' expectations.

If we focus on the application of the term *transparency* in the conduction of monetary policy, Winkler (2000) believes that the literature applies a too narrow vision, equaling transparency with the mere disclose of information. Specifically, he considers that the existing models in the matter do not shed light on the way in which central banks should transmit the information to ensure that it is understood by the public.

From a theoretical point of view, the transparency of monetary policy is linked to the models of temporal inconsistency (Barro and Gordon (1983), Kydland and Prescott (1977)), which analyze the credibility problem of the central bank. According to these models, in the absence of a central bank's clear and binding commitment to fight inflation, agents can expect the monetary authority to be tempted to seek higher inflation than expected in order to surprise the public and get temporary earnings in terms of lower unemployment. If the central bank announces a certain inflation rate but the agents are aware that there are incentives to seek to reduce unemployment with respect to their structural level, inflation expectations will be higher, therefore, the level of inflation in the economy will not be low. The Barro and Gordon (1983) model establishes that a higher level of transparency helps reduce inflation bias and the problem of temporal inconsistency, thus improving the credibility of the central bank in the conduct of monetary policy.

In practice, since the adoption of inflation targeting regimes, various central banks have begun to implement strategies with the objective of increasing transparency in the conduct of monetary policy. The success of monetary policy in these regimes can be measured by the ability of the monetary authority to anchor inflation expectations in the announced objectives, so communication becomes a tool central banks may use in order to guide expectations, reduce interventions and increase efficiency in the conduct of monetary policy (Blinder et al. (2001)).

Finally, models such as the one proposed by Demertzis and Hallett (2007) analyze how a more transparent monetary policy may impact on inflation and the output gap. Based on a theoretical model, they conclude that, although the lack of transparency does not affect the average levels of inflation and output, it does have an impact on their variability. This conclusion is later supported by a correlation analysis between the Eijffinger and Geraats (2006) index and the latter macro variables.

2.2. Central bank transparency indices

As was already mentioned, greater central banks' independence has raised the need for greater transparency in their actions and communications, both for reasons of responsibility and legitimacy and to guide agents' expectations. As a result, several attempts to measure the degree of independence and transparency of central banks have arisen, being some examples the ones made by Eijffinger and Geraats (2006), Cukierman et al. (1992), Jácome and Vázquez (2005) and Crowe and Meade (2008).

Following the dimensions defined by Geraats (2002), Crowe and Meade (2008) build a central bank transparency index for a group of countries (sample of advanced and emerging countries) for the period 1998-2006. They find that the increase experienced in central banks' transparency for the period considered is mainly explained by economic and policy transparency dimensions. However, they observe that the most significant increase in the index was registered for developed countries, which is explained by the fact that in many cases an inflation targeting regime (IT) was already implemented, which entails the adoption of accountability and transparency practices.

A limitation of the Fry et al. (2000) index observed by Dincer and Eichengreen (2007) refers to the fact that it is built based on responses to a central banks survey, which may be influenced by respondent's subjectivity. As a consequence, they replicate and extend the index defined by Eijffinger and Geraats (2006) based on information extracted from websites and reports published by central banks (100 central banks during the period 1998-2005). They find that the most transparent central banks in 2005 were, in descending order, the Reserve Bank of New Zealand, the Swedish Riksbank, the Bank of England, the National Bank of the Czech Republic, the Bank of Canada, the ECB and the Central Bank of the Philippines.

Subsequently, Dincer and Eichengreen (2014) update their index for the period 1998-2010 adding countries that were not considered in the previous versions of the DE index (reaching a sample of 120 countries)[3]. They conclude that central banks with inflation-forecast targeting (IFT) have the highest levels of transparency (reaching values close to 15, the maximum value of the index). Specifically, the case of the Central Bank of the Czech Republic stands out, with a value of 14.5.

However, according to Al-Mashat et al. (2018), the DE index has limitations. First, it is difficult to compare levels of transparency across different monetary policy regimes. In addition, all countries with IFT

[3]The new version of the DE index includes data from the following central banks: Angola, Azerbaijan, Bosnia, Botswana, Cambodia, Cayman Islands, Curacao, Iran, Lebanon, Macao, Macedonia, Mozambique, Samoa, Seychelles, Tanzania, Tonga, Venezuela, Laos, The Maldives and Syria.

regimes register levels of the DE index very close to the maximum, since given the way in which the DE index is designed, it is difficult to differentiate across IFT regimes or between countries with IFT regimes and countries that do not apply IFT in its monetary policy. Finally, after the international financial crisis, a transparent communication about the interaction between the monetary and macroprudential policies has become increasingly important.

In response to these limitations, Al-Mashat et al. (2018) develops a new transparency index (CBT-IT), focusing only on central banks with IFT regimes. The new index is organized into three broad categories: transparency about objectives, transparency about the forecasting and policy analysis system, and transparency about the policy process[4]. According to the authors, by focusing solely on IFT central banks, the new index achieves a more detailed analysis of them, translating into actions that could be implemented to improve their transparency levels. Their index is calculated for the case of the Central Bank of the Czech Republic, which again displays high levels of transparency under the new index. Nonetheless, the design of the CBT-IT index makes it possible to find dimensions on which further progress could be made.

3. The case of Uruguay

As mentioned earlier, with the exception of Dassatti and Rodríguez (2008), there are no previous attempts to measure the transparency of the Central Bank of Uruguay. In the case of Dassatti and Rodríguez (2008), the assessment is part of the application of the Jácome and Vázquez (2005) methodology to quantify the independence of the Central Bank of Uruguay. According to their quantification for 2008[5], the transparency sub-index for Uruguay is 0.75 (indicator range: 0-1). This result is compared with a value of 1 for Chile and a value of 0.5 for Peru. During this period the Uruguayan parliament was discussing a reform project for the Organic Law of the BCU; Dassatti and Rodríguez (2008) also analyze the impact of the changes proposed on the project, arriving to a value of 1 for the transparency sub-index (this value is the same when the analysis is based on the Organic Law that was finally approved).

We first calculate both the Dincer and Eichengreen (2014) and Al-Mashat et al. (2018) indexes for the Central Bank of Uruguay during 2019, and later we analyze the impact of the changes introduced in the communication of monetary policy in Uruguay in terms of the new values reached on both metrics.

[4]The questions included in each of the dimensions are detailed in Appendix C.
[5]BCU Organic Law of 1995.

3.1. Dincer-Eichengreen Index

The central bank transparency index of Dincer and Eichengreen (2014) is organized according to the dimensions defined by Geraats (2002): political, economic, procedural, policy and operational transparency. The value of the global index is the sum of the values obtained in each of these dimensions.

The calculation of the index for Uruguay yields a value of 8 (the maximum value of the index is 15), which is broken down into the following values for each dimension: 2.5 over 3 on political transparency, 1.5 over 3 on the dimension of economic transparency, 0 over 3 on procedural transparency, 2.5 over 3 on policy transparency, and 1.5 over 3 on the operational transparency dimension.

3.1.1. Political Transparency (2.5 over 3)

The components of the political transparency dimension are the following:

- whether there is a formal statement of the objective(s) of monetary policy, with an explicit prioritization in case of multiple objectives. It takes the value of 0 if there are no formal objectives, 0.5 if there are multiple objectives but without prioritization, and 1 if there is a primary or multiple objectives with an explicit prioritization criterion.
- whether the primary objective is quantified, taking the value of 1 if it is the case and 0 otherwise.
- whether there is a formal contract or an institutional agreement between the monetary authority and the government, taking the value of 1 if it is the case and 0 otherwise.

According to BCU's Organic Law (Art. 3), the Central Bank of Uruguay will have as primary purposes:

- Price stability that contributes to growth and employment objectives.
- The regulation of the operation and supervision of the payment system and the financial system, promoting its soundness, solvency, efficiency and development.

Given that the text does not include an explicit prioritization criterion, the assigned score for the first item this dimension is 0.5.

The second item assess whether the primary objective is quantified. We assign a value of 1 to this item since the BCU explicits the quantification of its primary objective in each of the communication documents issued by the Monetary Committee.

Finally, we also assign a value of 1 for the last item of the political transparency dimension, since the Organic Law of the BCU (Art. 41) establishes the creation of a Macroeconomic Coordination Committee, conformed by the Minister of Economy and Finance and two other officials from his portfolio and by the three members of the Board of the Central Bank of Uruguay. According to the Organic Law, the functions of this Committee are the following: the sharing of information related to central bank powers and general economic policy, the establishment of the price stability goal to which the Bank commits itself and the general exchange regime. In case of lack of an agreement between the representatives of the Bank and the Ministry, the Government will decide.

3.1.2. Economic Transparency (1.5 over 3)

The components of the economic transparency dimension are the following:

- whether the basic economic data relevant for the conduct of monetary policy is publicly available, taking the value of 0 if there are quarterly time series of at least 2 out of the 5 relevant variables (money supply, inflation, GDP, unemployment and capacity utilization), 0.5 if quarterly time series are published on at least 3-4 of the 5 relevant variables, and 1 if quarterly time series exist for all relevant variables.

- whether the central bank publishes the macroeconomic models used for its analysis, taking the value of 1 if it is the case and 0 otherwise.

- whether the central bank regularly publishes its macroeconomic predictions, taking the value of 1 if quarterly numerical forecasts for inflation and output for the medium term are published, 0.5 if forecasts are published for one of the two variables or in case the frequency is less than quarterly, and 0 if there are no publications in this regard.

The item in which we assign the value of 1 is the one associated with the publication of the macroeconomic models used for the analysis performed in the Central Bank of Uruguay, since the associated working papers are published in the web site of BCU.

In contrast, the other two items are assigend a value of 0.5 (item a) and 0 (item c). The value associated to item (a) is justified in the existence of publicly available time series for three out of the five relevant

variables. Specifically, the BCU publishes times series for the following variables: money supply, inflation, and GDP. The unemployment rate is calculated and published by the National Statistics Institute (INE), while there is no publicly available data about the capacity utilization. Finally, item (c) has a score of zero because the Central Bank of Uruguay does not publish its own macroeconomic forecasts. Although the index punishes this with a zero value, there is a justification for the lack of information on this matter, which is given by the fear of an undesirable effect on expectations.

3.1.3. Procedural Transparency (0 over 3)

As can be seen, the dimension where less progress has been made is the one associated to procedural transparency. Explicitly, this dimension is divided into three aspects:

- whether the bank provides an explicit policy rule or strategy (value of 1) or not (value of 0).
- whether the central bank publishes the policy deliberations within a reasonable time, taking the value of 0 in case it does not comply or does so with delays (more than eight weeks), and 1 in case it publishes the complete minutes of the meetings, including a discussion of the arguments.
- whether the central bank reveals the process that led to each decision on the level of its main operating instrument or objective, taking the values of 0 and 1 according to the criteria mentioned in the previous point.

As will be shown in Section 3.3, this dimension experiences a significant improvement through the changes introduced in the conduction of monetary policy during 2020.

3.1.4. Policy Transparency (2.5 over 3)

The components of the policy transparency dimension are the following:

- whether the decisions associated with the main operating instrument or the main monetary policy objective are announced promptly, taking the value of 1 if the announcement is made on the same day they are implemented and 0 otherwise.
- whether the central bank publishes explanations about its policy decisions, taking the value of 1 if it always does, 0.5 if it does so only superficially or in the face of changes, and 0 if it never does.

- whether the central bank publishes an explicit reference to its possible future actions (at least quarterly), taking the value of 1 if it is the case and 0 otherwise.

The only item in which Uruguay does not perform on the highest level is the one associated with the publication of explanations about the central bank's policy decisions. Again, in Section 3.3 we will show how the new changes introduced during 2020 had an impact on this dimension.

3.1.5. Operational Transparency (1.5 over 3)

Finally, the components of the operational transparency dimension are the following:

- whether the central bank regularly evaluates the achievement of its policy objectives, taking the value of 0 if it does not or if it is done with a very low frequency, 0.5 if it is performed without major explanations in case of deviations, and 1 if it is done including also explanations in case of deviations.
- whether the central bank provides regular information on macroeconomic factors that may affect the transmission mechanism of monetary policy, taking the value of 0 if it does or does so with a very low frequency, 0.5 if it does only through short-term forecasts or analysis of current macroeconomic developments, and 1 if at least annually it includes a discussion of past prediction errors.
- whether the central bank provides an evaluation of the result of policies considering its objectives, taking the value of 0 if it does not or only with a very low frequency, 0.5 if it does superficially, and 1 if it does including an explanation of the contribution of monetary policy to the achievement of the objectives.

Uruguay's score in this final dimension is somehow halfway, since all items are assigned with a score of 0.5.

Finally, as can be seen in Figure 3.1, if we compare the value of the Dincer and Eichengreen (2014) index obtained for Uruguay (8) with that of the rest of countries included in the sample[6], we conclude that Uruguay's relative position is located above the median of the values. The maximum value of the index for the 2015 sample corresponds to Sweden (14.5), while the minimum corresponds to the Central Bank of the African States (0.5)[7].

[6] https://eml.berkeley.edu/ eichengr/data.shtml
[7] See details of countries Appendix A.

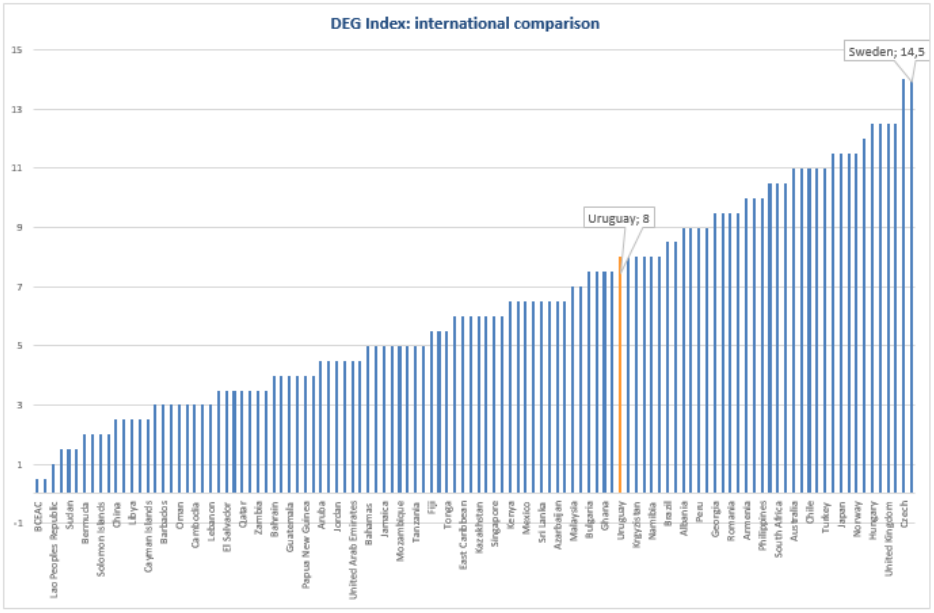

Figure 3.1: *DEG Index: Uruguay's relative position, 2015*

3.2. Al-Mashat et al. Index

As mentioned earlier, the Al-Mashat et al. (2018) index applies only to central banks with inflation-forecast-targeting regimes. It is organized into three broad categories: transparency about objectives, transparency about the forecasting and policy analysis system, and transparency about the policy process[8].

The transparency about objectives section analyzes the transparency of the central bank based on four aspects: formulation of the objectives, clear communication of the objectives, communication of the performance of the central bank regarding the management of short-term trade-off between inflation and GDP, and the role of financial stability in the communication of monetary policy.

On the other hand, the following section of the CBT-IT index is based on the existence of a monetary policy model that includes a reaction or loss function, according to which the short-term interest rate moves endogenously to return inflation to its long-term target level. Likewise, the forecasting and policy analysis system must rely on communication mechanisms between the policymakers and the analysts in charge of the model, in order to ensure that the model captures the key aspects of the monetary policy transmission mechanisms. The third aspect included in this section refers to the need for a communication channel

[8]The questions included in each of the dimensions are detailed in Appendix C.

between policymakers and analysts in charge of forecasts, in order to reach consensus on the assumptions used for both the baseline scenario and for the alternative scenarios.

Finally, the section associated to the transparency of the policy processes refers to the communication mechanisms of the policy decisions adopted by the central bank. A maximum value of the index is achieved in cases where the central bank organizes a press conference after each policy meeting, with pre-announced deadlines that are public knowledge. Additionally, both the press conference and the Q&A sessions should be published in the central bank's website (in English). Finally, another aspect refers to the regular presentation of central bank forecasts to market agents (press, analysts, etc.), with their corresponding publication (in English) on the monetary authority's website.

The overall value of the index for Uruguay is 4.25 (the maximum possible is 20), which is broken down into a value of 2 for the dimension of objectives, 1.75 for the dimension of forecasting and analysis system and 0.5 for the dimension of transparency of processes. If we compare these values with the maximum values that each of the categories can reach (4, 9 and 7 respectively), one can conclude that the dimension in which Uruguay registers a better score is the one associated with the transparency about objectives. The value obtained in this dimension responds to the components A2 and A3, respectively associated with the definition of the inflation target –as a " control range ", instead of a specific objective)–, and with whether financial stability objectives could override the inflation objective. On the other hand, the value obtained in the dimension of transparency about forecasts and analysis system is explained by the values associated with components B1 (there is a basic set of publicly available data series = 0.5), B2 (quarterly projection model used publicly available only in working paper format, irreproducible = 0.25), and B8 (publication of alternative scenarios in the monetary policy reports = 1). Finally, the dimension of transparency about policy process takes a value of 0.5, which responds only to the value obtained in paragraph C1 (publication of a press release after policy decisions, only in the mother tongue)[9].

Al-Mashat et al. (2018) calculated their index for the Central Bank of the Czech Republic, obtaining a value of 11.75 out of 20. This score is broken down into the following values for each of the dimensions: 2.5 out of 4 for the objectives dimension, 3.5 over 9 for the dimension about forecasting and analysis system and 5.75 over 7 for the transparency dimension about the policy process. If these values are compared with those obtained by Uruguay (see Figure 3.2), in relative terms, Uruguay's greatest distance from the Czech

[9]The Detail of the components of the index for Uruguay can be found in Appendix D.

Republic refers to dimension associated with the transparency about the policy processes. Meanwhile, the dimension associated with the objectives reflects the shortest relative distance between the two countries (2 and 2.5 out of 9 for Uruguay and the Czech Republic, respectively).

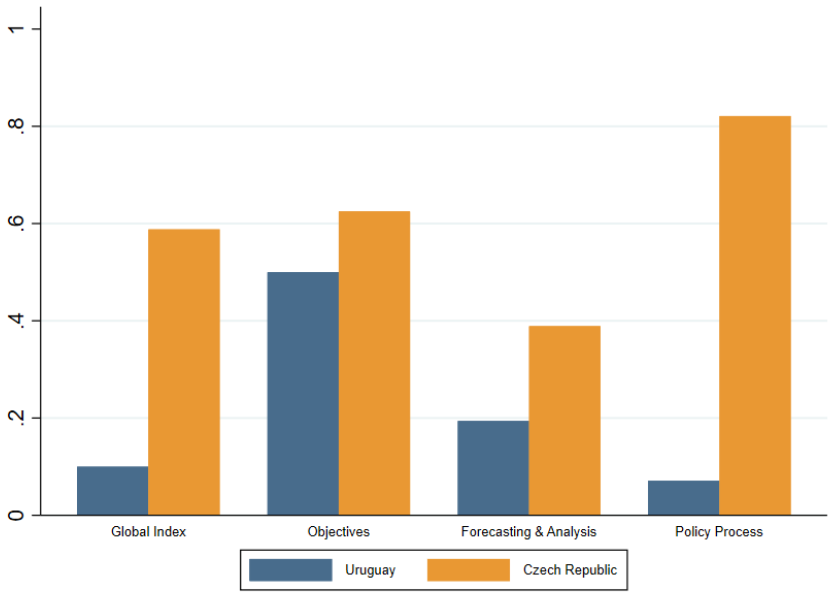

Figure 3.2: *Al-Mashat et al. (2018) Index, Uruguay versus Czech Rep. (% with respect to maximum values)*

As already mentioned, according to Dincer and Eichengreen (2014) index, the Central Bank of the Czech Republic obtains the maximum value within the sample considered by the authors. This is explained by one of the observations made by Al-Mashat et al. (2018) to that index: countries with inflation target regimes obtain scores close to the maximum, which prevents from finding differences between them. By focusing solely on central banks with such regimes, the Al-Mashat et al. (2018) index seeks to define a benchmark that reflects the best practices associated with IFT regimes in order to motivate further improvements in the transparency of monetary policy. As a result, the application of the Al-Mashat et al. (2018) index to the Central Bank of the Czech Republic reflects aspects in which there is room for improvement, while its application to the Central Bank of Uruguay yields a significantly different value than that obtained in the Dincer and Eichengreen (2014) index.

When comparing the two indices, Uruguay obtains a score of 0.5 in the paragraph *1a* of the Dincer and Eichengreen (2014) index (definition of multiple objectives without an order of prioritization between them)

and a score of 1 in the paragraph *1b* (existence of quantified objectives), while the Al-Mashat et al. (2018) index assigns scores of 0 and 1 respectively in similar sections (*A1*, definition of a single objective or multiple objectives without prioritization, and *A2*, inflation target defined as a control range).

On the other hand, regarding the economic transparency dimension, in the paragraph *2b* of the Dincer and Eichengreen (2014) index Uruguay obtains a score of 1, since it only considers whether the central bank has published the model applied for the conduct of the policy, while the Al-Mashat et al. (2018) index raises a more specific question that distinguishes between a publication of the model through a working paper (0.25, score obtained by Uruguay), a publication in a working paper that also includes the code used (0.5), or a working paper with code and a web-based front-end to modify forecast assumptions.

Regarding the transparency of policies, Uruguay obtains scores of 1, 0.5 and 1 in the paragraphs *4a* (announcement of adjustment decisions in the policy objectives), *4b* (explanation of the policy decisions), and *4c* (disclosure of policy inclination) of the Dincer and Eichengreen (2014) index respectively. Meanwhile, according to the *C* (policy transparency) dimension of the Al-Mashat et al. (2018) index, Uruguay scores 0.5 because the index punishes that the announcements are published only in the mother tongue. This criterion is debatable since a key aspect for the transparency of the monetary policy is that the relevant economic agents of the country that is being analyzed receive the information clearly; hence, the publication of announcements translated into English is not a relevant requirement for a Spanish speaking country like Uruguay. Finally, as will be discussed in Section 3.3, this dimension experiences some improvement as a result of the changes introduced in the conduction of the monetary policy in Uruguay during 2020.

When we focus on the operational transparency dimension, Uruguay obtains a score of 0.5 in all items included in the Dincer and Eichengreen (2014) index (evaluation of compliance with objectives, information about macroeconomic disturbances that may affect the transmission mechanism of monetary policy, and evaluation of policy outcome). These scores can be compared with that obtained in the paragraph *C6* of the Al-Mashat et al. (2018) index (forecasting performance at least annually reviewed in monetary policy reports or other documents), being zero the value associated with it.

Finally, the Al-Mashat et al. (2018) index includes other items that capture aspects not collected by the Dincer and Eichengreen (2014) index, such as: the use of a loss function to evaluate the management of short-run output-inflation trade-off, the transparency of the central bank regarding the application of that loss function, the regular publication of forecast densities (fan charts) and its methodology, the publication

of time series and forecasts of financial variables, and the regular presentation of updates of their forecasts with a Q&A session for the press, analysts and market participants. The score obtained by the Central Bank of Uruguay in these literals shows a possible road map for improvements in its monetary policy transparency.

3.3. Changes in monetary policy

On April 2020, the Monetary Policy Committee (COPOM), decided to implement new measures in order to improve the accountability of the monetary authority and the communication with the different sectors and actors of the economy. To this end, the COPOM decided to intensify the frequency in the decision-making process, as well as the periodicity of the communication of the measures adopted and of the monitoring of monetary policy.

Specifically, the COPOM doubled the number of its annual meetings; in addition to the four regular meetings held at the end of each quarter, other four meetings were added and scheduled on intermediate dates. As a result, the evaluation and monitoring of the global and domestic context is done on a shorter term basis, foreseeing greater speed in the eventual use of available instruments to mitigate the negative short-term effects or strengthen the monetary policy orientation.

Furthermore, the communication of the monitoring and decisions adopted in the COPOM meetings was amplified. Specifically, the COPOM decided to complement the statement issued on the same day of its meetings with the publication of a MINUTE within 72 hours after the meeting was held. The idea is to inform the public and markets about the analysis of the situation, justifying and making more explicit the arguments that led to the decisions adopted. This new communication tool was first published on April 21, 2020.

Finally, the monetary authority decided to maintain the quarterly publication of the Monetary Policy Report, which includes complete information on the economic results and the evaluation of policy results.

These changes had a direct impact on the procedural and policy transparency dimensions of the Dincer and Eichengreen (2014) index, and on the policy transparency dimension of the Al-Mashat et al. (2018) index. In particular, the most significant improvement is observed in the procedural transparency of the Dincer and Eichengreen (2014) index, which went from a score of 0 to 2. This increase responds to the publication of the minutes of the COPOM's meetings. Consistently with this, the policy transparency dimension of the Al-Mashat et al. (2018) index goes from a score of 0.5 to 1, due to an increase in item *C4*, which assesses

whether the central gives account of policy deliberations through the publication of meetings' minutes.

Finally, as a result of these novel design in the conduction of monetary policy in Uruguay, the new global scores in each index are 10.5 over 15 and 4.75 over 20, respectively. One should bear in mind the motivation that led to the design of the Al-Mashat et al. (2018) index, which focuses on central banks with inflation-forecast targeting regimes that consequently deliver scores very close to the maximum in terms of the Dincer and Eichengreen (2014) index. Given this focus, although the changes introduced in the communication of the monetary policy in Uruguay have a significant positive impact in terms of the Dincer and Eichengreen (2014), they do not translate into a major increase in the score of the Al-Mashat et al. (2018) index.

4. Conclusion

This paper seeks to quantify the level of transparency of the Central Bank of Uruguay. To this end, two methodologies of transparency indices of central banks with wide dissemination in the literature are applied: the one elaborated by Dincer and Eichengreen (2014), and the index of Al-Mashat et al. (2018). The first methodology follows the taxonomy proposed by Geraats (2002), according to which the transparency of monetary policy is analyzed based on five dimensions: political, economic, procedural, policy, and operational. The CBT-IT index methodology, meanwhile, analyzes central banks' transparency according to three broad dimensions: transparency about objectives, transparency about the forecasting and policy analysis system, and transparency about the policy process.

Under the Dincer and Eichengreen (2014) index, the calculation for Uruguay during 2019 reaches a value of 8 over 15, which is broken down into the following values: 2.5 over 3 for the political transparency dimension, 1.5 over 3 for the economic transparency dimension, 0 out of 3 for the transparency of process dimension, 2.5 over 3 for the policy transparency dimension, and 1.5 out of 3 for the operational transparency dimension. As a result, the dimension where less progress has been made refers to transparency about processes. In the international comparison (with country data for 2015), Uruguay is located above the median of the values obtained for the sample considered. The maximum value of the index for 2015 corresponds to Sweden (14.5), while the minimum corresponds to the Central Bank of the African States (0.5).

After considering the changes introduced in the design on monetary policy during 2020, the final value of the Dincer and Eichengreen (2014) index is 10.5, which is explain by the improvements in terms of

the dimension of procedural transparency (which changes from 0 over 3 to a value of 2 over 3), and the improvement in terms of the transparency of policies' dimension (which changes from 2.5 over 3 to 3 over 3).

On the other hand, when applying the methodology of Al-Mashat et al. (2018) for the case of Uruguay during 2019, the overall value of the index for Uruguay is 4.25, which is broken down into a value of 2 over 4 for the objective dimension, 1.75 over 9 for the forecast and analysis dimension, and 0.5 over 7 for the procedural dimension. When comparing the results obtained with those associated to the country for which the CBT-IT index has been calculated (Czech Republic), the greatest relative distance is registered in the dimension of transparency about policy processes. Meanwhile, the category associated with the objectives of the monetary authority reflects the shortest relative distance between the two countries (2 and 2.5 over 4 for Uruguay and the Czech Republic, respectively).

If we incorporate the changes in the design of monetary policy implemented during 2020, the final value of the Al-Mashat et al. (2018) index is 4,75, being the improvement in terms of the procedural transparency the factor that explains the slight increase in the index.

The notorious difference between the values obtained under each of the indexes is explained by the focus placed by the Al-Mashat et al. (2018) index in countries with IFT regimes, therefore including more specific questions regarding the forecast models and the transparency associated with the forecast systems of the central bank, as well as the communication of the monetary policy decision-making process. These results allow us to identify the aspects in which we can continue working to make progress in terms of transparency of the Central Bank of Uruguay.

Finally, the changes introduced in the communication process of the monetary policy in Uruguay have translated into improvements in terms of the procedural and policy transparency dimensions. Nonetheless, given the differences between both indexes, these improvements imply a greater increase in terms of the score of the Dincer and Eichengreen (2014) index, compared with the new score reached in the Al-Mashat et al. (2018) index.

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A. Dincer-Eichengreen Index: questions.

1. **Political Transparency**

   (a) Is there a formal statement of the objective(s) of monetary policy, with an explicit prioritization in case of multiple objectives?
   - No formal objective(s) = 0.
   - Multiple objectives without prioritization = 1/2.
   - One primary objective, or multiple objectives with explicit priority = 1.

   (b) Is there a quantification of the primary objective(s)?
   - No = 0.
   - Yes = 0.

   (c) Are there explicit contacts or other similar institutional arrangements between the monetary authorities and the government?
   - No, central bank contracts or other institutional arrangements = 0.
   - Central bank without explicit instrument independence or contract = 1/2.
   - Central bank with explicit instrument independence or central bank contract although possibly subject to an explicit override procedure = 1.

2. **Economic Transparency**

   (a) Is the basic economic data relevant for the conduct of monetary policy publicly available? (The focus is on the following five variables: money supply, inflation, GDP, unemployment rate and capacity utilization.)
   - Quarterly time series for at most two out of the five variables = 0.
   - Quarterly time series for three or four out of the five variables = 1/2.
   - Quarterly time series for all five variables = 1.

   (b) Does the central bank disclose the macroeconomic model(s) it uses for policy analysis?
   - No = 0.
   - Yes = 0.

   (c) Does the central bank regularly publish its own macroeconomic forecasts?
   - No, numerical central bank forecasts for inflation and output = 0. Numerical central bank forecasts for inflation and/or output published at less than quarterly frequency = 1/2.
   - Quarterly numerical central bank forecasts for inflation and output for the medium term (one to two years ahead), specifying the assumptions about the policy instrument (conditional or unconditional forecasts) = 1.

3. **Procedural Transparency**

   (a) Does the central bank provide an explicit policy rule or strategy that describes its monetary policy framework?
   - No = 0.
   - Yes = 1.

   (b) Does the central bank give a comprehensive account of policy deliberations (or explanations in case of a single central banker) within a reasonable amount of time?

- No or only after a substantial lag (more than eight weeks) = 0.
- Yes, comprehensive minutes (although not necessarily verbatim or attributed) or explanations (in case of a single central banker), including a discussion of backward- and forward-looking arguments = 1.

(c) Does the central bank disclose how each decision on the level of its main operating instrument or target was reached?

- No or only after a substantial lag (more than eight weeks) = 0.
- Yes, comprehensive minutes (although not necessarily verbatim or attributed) or explanations (in case of a single central banker), including a discussion of backward- and forward-looking arguments = 1.

4. **Policy Transparency**

(a) Are decisions about adjustments to the main operating instrument or target announced promptly?

- No or only after the day of implementation = 0.
- Yes, on the day of implementation = 1.

(b) Does the central bank provide an explanation when it announces policy decisions?

- No = 0.
- Yes, when policy decisions change, or only superficially = 1/2.
- Yes, always and including forwarding-looking assessments = 1.

(c) Does the central bank disclose an explicit policy inclination after every policy meeting or an explicit indication of likely future policy actions (at least quarterly)?

- No = 0.
- Yes = 1.

5. **Operational Transparency**

(a) Does the central bank regularly evaluate to what extent its main policy operating targets (if any) have been achieved?

- No or not very often (at less than annual frequency) = 0.
- Yes, but without providing explanations for significant deviations = 1/2.
- Yes, accounting for significant deviations from target (if any); or, (nearly) perfect control over main operating instrument/target = 1.

(b) Does the central bank regularly provide information on (unanticipated) macroeconomic disturbances that affect the policy transmission process?

- No or not very often = 0.
- Yes, but only through short-term forecasts or analysis of current macroeconomic developments (at least quarterly) = 1/2.
- Yes, including a discussion of past forecast errors (at least annually) = 1.

(c) Does the central bank regularly provide an evaluation of the policy outcome in light of its macroeconomic objectives?

- No or not very often (at less than annual frequency) = 0.
- Yes, but superficially = 1/2.
- Yes, with an explicit account of the contribution of monetary policy in meeting the objectives = 1.

B. Dincer-Eichengreen Index: application to Uruguay.

Application to Uruguay, 2019	8,00
1) Political Transparency	**2,50**
a) Is there a formal statement of the objective(s) of monetary policy, with an explicit prioritization in case of multiple objectives? No formal objective(s) = 0. Multiple objectives without prioritization = 1/2. One primary objective, or multiple objectives with explicit priority = 1.	0,50
b) Is there a quantification of the primary objective(s)? No = 0. Yes = 1.	1,00
c) Are there explicit contracts or other similar institutional arrangements between the monetary authorities and the government? No central bank contracts or other institutional arrangements = 0. Central bank without explicit instrument independence or contract = 1/2. Central bank with explicit instrument independence or central bank contract although possibly subject to an explicit override procedure = 1.	1,00
2. Economic Transparency	**1,50**
a) Is the basic economic data relevant for the conduct of monetary policy publicly available? (The focus is on the following five variables: money supply, inflation, GDP, unemployment rate and capacity utilization.) Quarterly time series for at most two out of the five variables = 0. Quarterly time series for three or four out of the five variables = 1/2. Quarterly time series for all five variables = 1.	0,50
b) Does the central bank disclose the macroeconomic model(s) it uses for policy analysis? No = 0. Yes = 1.	1,00
c) Does the central bank regularly publish its own macroeconomic forecasts? No numerical central bank forecasts for inflation and output = 0. Numerical central bank forecasts for inflation and/or output published at less than quarterly frequency = Quarterly numerical central bank forecasts for inflation and output for the medium term (one to two years ahead), specifying the assumptions about the policy instrument (conditional or unconditional forecasts) = 1.	-
3. Procedural Transparency	-
a) Does the central bank provide an explicit policy rule or strategy that describes its monetary policy No = 0. Yes = 1.	-
b) Does the central bank give a comprehensive account of policy deliberations (or explanations in case of a single central banker) within a reasonable amount of time? No or only after a substantial lag (more than eight weeks) = 0. Yes, comprehensive minutes (although not necessarily verbatim or attributed) or explanations (in case of a single central banker), including a discussion of backward- and forward-looking arguments = 1.	-
c) Does the central bank disclose how each decision on the level of its main operating instrument or target was reached? No or only after a substantial lag (more than eight weeks) = 0. Yes, comprehensive minutes (although not necessarily verbatim or attributed) or explanations (in case of a single central banker), including a discussion of backward- and forward-looking arguments = 1	-

Figure B.1

4. Policy Transparency	**2,50**
a) Are decisions about adjustments to the main operating instrument or target announced promptly? No or only after the day of implementation = 0. Yes, on the day of implementation = 1.	1,00
b) Does the central bank provide an explanation when it announces policy decisions? No = 0. Yes, when policy decisions change, or only superficially = 1/2. Yes, always and including forwarding-looking assessments = 1.	0,50
c) Does the central bank disclose an explicit policy inclination after every policy meeting or an explicit indication of likely future policy actions (at least quarterly)? No = 0. Yes = 1.	1,00
5. Operational Transparency	**1,50**
a) Does the central bank regularly evaluate to what extent its main policy operating targets (if any) have been achieved? No or not very often (at less than annual frequency) = 0. Yes, but without providing explanations for significant deviations = 1/2. Yes, accounting for significant deviations from target (if any); or, (nearly) perfect control over main operating instrument/target = 1.	0,50
b) Does the central bank regularly provide information on (unanticipated) macroeconomic disturbances that affect the policy transmission process? No or not very often = 0. Yes, but only through short-term forecasts or analysis of current macroeconomic developments (at least quarterly) = 1/2. Yes, including a discussion of past forecast errors (at least annually) = 1.	0,50
c) Does the central bank regularly provide an evaluation of the policy outcome in light of its macroeconomic objectives? No or not very often (at less than annual frequency) = 0. Yes, but superficially = 1/2. Yes, with an explicit account of the contribution of monetary policy in meeting the objectives = 1.	0,50

Figure B.2

C. CBT-IT Index (Al-Mashat et al. (2018)): questions.

(A) **Transparency about objectives**

1) Is there a formal statement of the objectives of monetary policy emphasizing the dual mandate (or multiple objectives), and that inflation is the primary objective? Is it easily accessible on the central bank's website?
   - Single inflation objective or multiple policy objectives without prioritization = 0.
   - Inflation as the primary objective such that any other objective (output, etc.) cannot be inconsistent with the primary objective of anchoring inflation and inflation expectations = 1.
2) Is the inflation target defined clearly?
   - No medium-term numerical target over a horizon of 2-3 years or more (hereafter medium term) = 0.
   - Inflation target defined as a "tolerance" or "control range" target. Inflation target defined as a medium-term target, however, the meaning of the range or the band is not clear = 0,5.
   - Inflation target defined as a well-defined point target. If a band is used, it is clearly communicated = 1.
3) Might financial stability objectives override the primacy of the inflation (price stability) objective? If the central bank does not have a financial stability responsibility, it should be explicit that it uses the policy interest rate tool to affect financial conditions to the extent that it affects the output gap and hence achieving the inflation target.
   (I) Another institution is responsible for financial stability.
      - Central bank cares about financial stability to the extent that it affects stabilization objectives (output and unemployment), but it is unclear that inflation is the primary objective (Example: uses language such as "lean against the wind") = 0.
      - Central bank cares about financial stability to the extent that it affects stabilization objectives (output and unemployment), and makes it clear that inflation is the primary objective = 1.
   (II) Central bank is at least partly responsible for financial stability.
      - The borderlines between the monetary policy and financial stability tools are unclear. This creates confusion about the primary objective of price stability = 0.
      - The central bank has both monetary policy and macroprudential tools and it is clear how the central bank adjusts its tools to achieve its monetary policy and financial stability objectives = 1.
4) Does the central bank use a loss function evaluation to show how well it has been doing in managing the short-run output-inflation tradeoff?
   - No = 0.
   - Yes = 1.

(B) **Transparency about forecasting and policy analysis system**

1) Are the basic economic data relevant for the conduct of monetary policy publicly available in a downloadable format from the central bank's website (could also include links to other statistical agencies)?
   - No database is publicly available = 0.

- A minimal set of series is publicly available, output gap or other ways of measuring capacity utilization, inflation, inflation expectations, wages, unemployment, and GDP = 0.5.
- All series used in producing the MPR are published in a downloadable format, such as an Excel spreadsheet. These series include at least the seven series above (capacity utilization (preferably the output gap), inflation, inflation expectations, wages, unemployment, and GDP) = 1.

2) Is the core quarterly projection model (model used for policy-making) publicly available and documentation updated within the last 5 years?
   - No = 0.
   - Yes, in a "working paper" format only, i.e., irreproducible = 0.25.
   - Yes, in a working paper and with code = 0.5.
   - Yes, in a working paper, with code, and web-based front-end to modify forecast assumptions = 1.
3) How transparent is the central bank about the reaction functions (or loss functions) that are used to compute the interest rate paths (or paths for other instruments when the policy rate is constrained by the ELB) in their regular projection exercises? Do the monetary policy reports include a reference to the core model documentation that has the reaction function or the loss function?
   - The central bank does not publish either the reaction function or the loss function = 0
   - The central bank publishes the reaction function and/or loss function (with the coefficients) in an easily accessible place on the central bank's website = 1.
4) For what variables does the central bank publish a consistent endogenous instrument (e.g., policy rate) quarterly macroeconomic projection over a horizon of at least two years?
   - None = 0.
   - Inflation = 0,2.
   - Inflation and GDP growth = 0,4.
   - Inflation, GDP growth, and the endogenous interest rate path = 0,6.
   - Inflation, GDP growth, the endogenous interest rate path, and the output gap = 0,8.
   - Inflation, GDP growth, the endogenous interest rate path, the output gap, and the exchange rate = 1.
5) Does the central bank regularly publish forecast densities (fan charts) to communicate forecast uncertainty?
   - No fan chart = 0.
   - Fan chart for inflation = 0.2.
   - Fan charts for inflation and GDP growth = 0.4.
   - Fan charts for inflation, GDP growth, and the endogenous interest rate path = 0.6.
   - Fan charts for inflation, GDP growth, the endogenous interest rate path, and the output gap = 0.8.
   - Fan charts for inflation, GDP growth, the endogenous interest rate path, the output gap, and the exchange rate = 1.
6) Is the underlying methodology constructing the forecast densities (fan charts) clear and easily accessible? For example, do the regularly published forecast densities (fan charts) reflect (i) monetary policy reaction to shocks (model-based stochastic simulations); (ii) historic experience (past forecast errors); (iii) judgment (e.g., magnitude of structural shocks versus measurement errors); and (iv) other constraints (e.g., effective lower bound)?

- No fan chart, or the fan chart methodology is not explained = 0.
- Fan charts published in all monetary policy reports and the methodology is clearly explained and/or links to a technical paper is provided = 1.

7) Does the central bank regularly publish an assessment of forecast revisions (decomposition of forecast changes vis-à-vis the previous forecast)?
   - No = 0.
   - For inflation only with a discussion of the underlying causes = 0.2.
   - For inflation and GDP growth with a discussion of the underlying causes = 0.4.
   - For inflation, GDP growth, and the endogenous interest rate path with a discussion of the underlying causes = 0.6.
   - For inflation, GDP growth, the endogenous interest rate path, and the output gap with a discussion the underlying causes = 0.8.
   - For inflation, GDP growth, the endogenous interest rate path, the output gap, and the exchange rate with a discussion the underlying causes = 1.0.
8) Does the central bank publish alternative scenarios in their monetary policy reports to illustrate key risk(s) in the baseline forecast?
   - No alternative scenario = 0.0.
   - The major risk(s) is communicated in an alternative scenario(s) = 1.0.
9) Do the monetary policy reports include historical data and forecasts for financial variables? Financial variables include long-term government bond yields, consumer lending rates, mortgage rates, equity prices, property prices, credit aggregates, corporate risky spreads (e.g., BAA-AAA bond yields), and credit standards (e.g., loan officer surveys). All data should be available in downloadable format.
   - No data or forecast of financial variables are available = 0.
   - Historical data on less than 5 of the above variables are available, and forecasts for less than 5 of the above variables are available = 0.1-0.9.[10]
   - Historical data on 5 or more of the above variables are available, and forecasts for 5 or more of the above variables are available = 1.0.

(C) **Transparency about policy process**

1) Does the central bank publish a press statement immediately following the policy decisions?
   - The central bank does not publish a press statement immediately after the policy decisions = 0.
   - The central bank publishes press statements in the native language only = 0.5.
   - The central bank publishes press statements in English = 1.
2) Is the policy decision explained at a press conference immediately after it is announced? Are the presentations available in English?
   - No = 0.
   - Yes, after all policy meetings, at pre-announced dates and times. The press conference with the Q&A session is webcasted and the recording is then made available on the website. The presentations are available in downloadable form only in the native language = 0.5.

[10] For historical series, the central bank would be awarded 0.1 for each type of financial variables up to a maximum of 0.5. For forecast series, the central bank would be awarded 0.1 for each type of financial variables up to a maximum of 0.5.

- Yes, after all policy meetings, at pre-announced dates and times. The press conference with the Q&A session is webcasted and the recording is then made available on the website. The presentations are available in downloadable form in English = 1.

3) Does the central bank present its regular forecast updates with the Q&A session to journalists, analysts, and market participants? Are the presentations available in English?
   - No = 0.
   - Yes.The presentation and Q&A are available only in the native language = 0.5.
   - Yes. The presentation and Q&A are available in English = 1.0.

4) Is there a public account of the policy deliberations ("minutes") published in less than one month after the meeting?
   (I) when policy decisions are made by a monetary policy committee:
      - No = 0.
      - Yes, but condensed, non-attributed, and without voting results = 0.5.
      - Yes, detailed and with voting results on the main policy instrument. Contributions by individual MPC members and votes are not attributed = 0.75.
      - Yes, detailed and with voting results on the main policy instrument. Contributions by individual MPC members and votes are attributed = 1.
   (II) when policy decisions are made by a single policymaker:
      - No = 0.
      - Yes, with arguments/explanations = 1.0.

5) Is the role of staff and policymakers in the baseline forecast process communicated clearly?
   - No. It is not clear how the forecast is constructed and is used in the decisionmaking process = 0.
   - Yes. The ownership of the forecast and its role in the decision-making process is defined clearly = 1.

6) Is the forecasting performance of the central bank reviewed at least once a year in the monetary policy reports or in a separate document?
   - No = 0.
   - Yes = 1.

7) When was the last time the central bank or the government held or invited an external evaluation of the policy framework and the FPAS, and made the results publicly available?
   - No evaluation in last 5 years = 0.
   - Either policy framework or FPAS evaluation in the last 5 years = 0.5.
   - Both policy framework and FPAS evaluation in the last 5 years = 1.

D. CBT-IT Index: application to Uruguay.

CBT - IT Index	4,25
Category A: Transparency about objectives	2
A1. Is there a formal statement of the objectives of monetary policy emphasizing the dual mandate (or multiple objectives), and that inflation is the primary objective? Is it easily accessible on the central bank's website?	0
Single inflation objective or multiple policy objectives without prioritization. 0 Inflation as the primary objective such that any other objective (output, etc.) cannot be inconsistent with the primary objective of anchoring inflation and inflation expectations. 1	
A2. Is the inflation target defined clearly?	1
No medium-term numerical target over a horizon of 2-3 years or more (hereafter medium term). 0 Inflation target defined as a "tolerance" or "control range" target. Inflation target defined as a medium-term target, however, the meaning of the range or the band is not clear. 0,5 Inflation target defined as a well-defined point target. If a band is used, it is clearly communicated. 1	
A3. Might financial stability objectives override the primacy of the inflation (price stability) objective? If the central bank does not have a financial stability responsibility, it should be explicit that it uses the policy interest rate tool to affect financial conditions to the extent that it affects the output gap and hence achieving the inflation target.	1
(i) Another institution is responsible for financial stability. Central bank cares about financial stability to the extent that it affects stabilization objectives (output and unemployment), but it is unclear that inflation is the primary objective. Example – uses language such as "lean against the wind". 0.0 Central bank cares about financial stability to the extent that it affects stabilization objectives (output and unemployment), and makes it clear that inflation is the primary objective. 1.0 (ii) Central bank is at least partly responsible for financial stability. The borderlines between the monetary policy and financial stability tools are unclear. This creates confusion about the primary objective of price stability. 0.0 The central bank has both monetary policy and macroprudential tools and it is clear how the central bank adjusts its tools to achieve its monetary policy and financial stability objectives. 1.0	
A4. Does the central bank use a loss function evaluation to show how well it has been doing in managing the short-run output-inflation tradeoff?	0
No. 0.0 Yes. 1.0	

Category B: Transparency about FPAS	1,75
B1. Are the basic economic data relevant for the conduct of monetary policy publicly available in a downloadable format from the central bank's website (could also include links to other statistical agencies)? For example, data reported in the monetary policy reports should be made available on the website.	0,5
No database is publicly available. 0.0 A minimal set of series is publicly available, output gap or other ways of measuring capacity utilization, inflation, inflation expectations, wages, unemployment, and GDP. 0.5 All series used in producing the MPR are published in a downloadable format, such as an Excel spreadsheet. These series include at least the seven series above (capacity utilization (preferably the output gap), inflation, inflation expectations, wages, unemployment, and GDP). 1.0	
B2. Is the core quarterly projection model (model used for policy-making) publicly available and documentation updated within the last 5 years?	0,25
No. 0.0 Yes, in a "working paper" format only, i.e., irreproducible. 0.25 Yes, in a working paper and with code. 0.5 Yes, in a working paper, with code, and web-based front-end to modify forecast assumptions. Example - none. 1.0	
B3. How transparent is the central bank about the reaction functions (or loss functions) that are used to compute the interest rate paths (or paths for other instruments when the policy rate is constrained by the ELB) in their regular projection exercises? Do the monetary policy reports include a reference to the core model documentation that has the reaction function or the loss function?	0
The central bank does not publish either the reaction function or the loss function. 0.0 The central bank publishes the reaction function and/or loss function (with the coefficients) in an easily accessible place on the central bank's website. 1.0	
B4. For what variables does the central bank publish a consistent endogenous instrument (e.g., policy rate) quarterly macroeconomic projection over a horizon of at least two years?	0
None. 0 Inflation. 0.2 Inflation and GDP growth. 0.4 Inflation, GDP growth, and the endogenous interest rate path. 0.6 Inflation, GDP growth, the endogenous interest rate path, and the output gap. 0.8 Inflation, GDP growth, the endogenous interest rate path, the output gap, and the exchange rate. 1	
B5. Does the central bank regularly publish forecast densities (fan charts) to communicate forecast uncertainty?	0
No fan chart. 0.0 Fan chart for inflation. 0.2 Fan charts for inflation and GDP growth. 0.4 Fan charts for inflation, GDP growth, and the endogenous interest rate path. 0.6 Fan charts for inflation, GDP growth, the endogenous interest rate path, and the output gap. 0,8 Fan charts for inflation, GDP growth, the endogenous interest rate path, the output gap, and the exchange rate. 1	

B6. Is the underlying methodology constructing the forecast densities (fan charts) clear and easily accessible? For example, do the regularly published forecast densities (fan charts) reflect (i) monetary policy reaction to shocks (model-based stochastic simulations); (ii) historic experience (past forecast errors); (iii) judgment (e.g., magnitude of structural shocks versus measurement errors); and (iv) other constraints (e.g., effective lower bound)?	0
No fan chart, or the fan chart methodology is not explained. 0.0 Fan charts published in all monetary policy reports and the methodology is clearly explained and/or links to a technical paper is provided. 1.0	
B7. Does the central bank regularly publish an assessment of forecast revisions (decomposition of forecast changes vis-à-vis the previous forecast)?	0
No. 0.0 For inflation only with a discussion of the underlying causes. 0.2 For inflation and GDP growth with a discussion of the underlying causes. 0.4 For inflation, GDP growth, and the endogenous interest rate path with a discussion of the underlying causes. 0.6 For inflation, GDP growth, the endogenous interest rate path, and the output gap with a discussion the underlying causes. 0.8 For inflation, GDP growth, the endogenous interest rate path, the output gap, and the exchange rate with a discussion the underlying causes. 1.0	
B8. Does the central bank publish alternative scenarios in their monetary policy reports to illustrate key risk(s) in the baseline forecast?	1
No alternative scenario. 0.0 The major risk(s) is communicated in an alternative scenario(s). 1.0	
B9. Do the monetary policy reports include historical data and forecasts for financial variables? Financial variables include long-term government bond yields, consumer lending rates, mortgage rates, equity prices, property prices, credit aggregates, corporate risky spreads (e.g., BAA-AAA bond yields), and credit standards (e.g., loan officer surveys). All data should be available in downloadable format.	0
No data or forecast of financial variables are available. 0.0 Historical data on less than 5 of the above variables are available, and forecasts for less than 5 of the above variables are available. 0.1-0.9. Historical data on 5 or more of the above variables are available, and forecasts for 5 or more of the above variables are available. 1.0	

Category C: Transparency about policy process	**0,5**
C1. Does the central bank publish a press statement immediately following the policy decisions?	0,5
The central bank does not publish a press statement immediately after the policy decisions. 0.0 The central bank publishes press statements in the native language only. 0.5 The central bank publishes press statements in English. 1.0	
C2. Is the policy decision explained at a press conference immediately after it is announced? Are the presentations available in English?	0
No. 0.0 Yes, after all policy meetings, at pre-announced dates and times. The press conference with the Q&A session is webcasted and the recording is then made available on the website. The presentations are available in downloadable form only in the native language. 0.5 Yes, after all policy meetings, at pre-announced dates and times. The press conference with the Q&A session is webcasted and the recording is then made available on the website. The presentations are available in downloadable form in English. 1.0	
C3. Does the central bank present its regular forecast updates with the Q&A session to journalists, analysts, and market participants? Are the presentations available in English?	0
No. 0.0 Yes. The presentation and Q&A are available only in the native language. 0.5 Yes. The presentation and Q&A are available in English. 1.0	
C4. Is there a public account of the policy deliberations ("minutes") published in less than one month after the meeting?	0
(i) when policy decisions are made by a monetary policy committee. No. 0.0 Yes, but condensed, non-attributed, and without voting results. 0.5 Yes, detailed and with voting results on the main policy instrument. Contributions by individual MPC members and votes are not attributed. 0.75 Yes, detailed and with voting results on the main policy instrument. Contributions by individual MPC members and votes are attributed. 1 (ii) when policy decisions are made by a single policymaker. No 0.0 Yes, with arguments/explanations. 1.0	
C5. Is the role of staff and policymakers in the baseline forecast process communicated clearly?	0
No. It is not clear how the forecast is constructed and is used in the decisionmaking process. 0.0 Yes. The ownership of the forecast and its role in the decision-making process is defined clearly. 1.0	
C6. Is the forecasting performance of the central bank reviewed at least once a year in the monetary policy reports or in a separate document?	0
No 0.0 Yes 1.0	
C7. When was the last time the central bank or the government held or invited an external evaluation of the policy framework and the FPAS, and made the results publicly available?	0
No evaluation in last 5 years. 0.0 Either policy framework or FPAS evaluation in the last 5 years. 0.5 Both policy framework and FPAS evaluation in the last 5 years. 1.0	