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How Judges Think in the Brazilian Supreme Court: Estimating Ideal Points and Identifying Dimensions

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Abstract

We use NOMINATE (Nominal Three Step Estimation) (Poole and Rosenthal: 1983, 1997) to estimate ideal points for all Supreme Court Justices in Brazil from 2002 to 2012. Based on these estimated preferences we identify the nature of the two main dimensions along which disagreements tend to occur in this Court. These estimates correctly predict over 95% of the votes on constitutional review cases in each of the compositions of the Court which we analyze. The estimates are also used to (i) identify the median justice in each Court; (ii) analyze the strategic possibilities for the President to shift the median voter in the coming years; (iii) test different theories of judicial behavior; and (iv) analyze some specific seminal cases, including the landmark *Mensalão* trial, in which the court surprised experts and citizens by convicting high profile politicians members of the current ruling coalition. Although there is a large literature applying these methods to the US Supreme Court, their extension to non-US context is still underexplored. Similarly, although the study of the Supreme Court in Brazil has grown dramatically in recent years, most of this work is descriptive rather than analytical and the use of quantitative methods is rare. The main contribution of the paper is to identify that the main dimension along which preferences align in the Brazilian Supreme Court is for and against the economic interest of the Executive. This is significantly different than the conservative-liberal polarization of the US Supreme Court. Our estimates show that along this dimension the composition of the Court has been clearly favorable to the Executive's economic interests, providing the setting in which the dramatic transformation in institutions and policies that the country has undergone in last two decades could take place. Given that the Brazilian Supreme Court is highly independent and has the power to act as a crucial veto point, understanding its members' preferences and how they make their choices is key to understand the policy-making process and outcomes.

Keywords: Brazilian Supreme Court; ideal points; judicial behavior; federalism; law and economics.

JEL Code: H5; H77; K10; K39.

1 Introduction

Models of judicial decision making for the American judicial system have established a series of stylized facts about the Supreme Court that are widely accepted even when there are disagreements about what drives those characterizations or how they are to be understood. It is accepted that the justices' preferences fall within a single conservative to liberal dimension. It is believed that this single dimension accounts for enough of the variance in judicial voting that preferences along this dimension can be treated as a sufficient metric of judicial ideology for the purpose of the analysis of a series of issues related to the justices' choices and behavior (Grofman and Brazill, 2002; Martin and Quinn, 2002; Martin et al. 2005; Epstein et al, 2007). It is also believed, though less consensually, that there is considerable drift of the justices' preference over time (Epstein, Martin, Quinn and Segal, 2007).

Although the area of Judicial Politics in which these characterizations have emerged has in the past decade been the stage of lively debates and great advances in the use of statistical methods and formal theory, the focus of attention and consequently the results has been limited almost exclusively to the US Supreme Court. Wetstein et al. (2009) argue that 'there is no recent scholarship that has demonstrated that a similar unidimensional framework adequately explains the voting behavior of judges on the high courts of other countries.' Their analysis of the Canadian Supreme Court concludes that although an attitudinal model based on notions of left-right ideology do explain judicial behavior in some areas of Canadian law, this is not true across all areas, and they warn against an 'American fascination with simplistic notions of liberal-conservative voting and position taking' (Wetstein et al, 2009: 30).

In this paper we contribute to the field of Comparative Judicial Politics by analyzing the Brazilian Supreme Court with the use of formal theory and empirical methods that have been developed for and applied mostly to the American judicial system. Political institutions in general, and the judicial system in particular, are sufficiently similar to those in the US that those methods and theory are relevant for Brazil, yet there are sufficient differences to make the exercise interesting and insightful both for the testing the robustness of the theory and methods as well as for gaining a better understanding of the Brazilian institutions. Like the US, Brazil is a presidential system where the Executive faces a similar division of power with a Congress and a

Judiciary, with rules set by a Constitution. The judicial system is composed of several higher federal courts and a series of lower state courts, with the Supreme Court as the final word on constitutional issues. The Supreme Court is composed of 11 justices, who are appointed by the President and subject to approval by a committee of the Senate. The decisions made in the Supreme Court frequently have high profiles, are closely followed by the press and society, and have great impacts on the nation's destiny. Despite all these similarities with the judicial system in the US and many other countries there are also several particularities and idiosyncrasies specific to Brazil. It is these simultaneous similarities and peculiarities that make it interesting to apply to the Brazilian context the methods of the Judicial Politics literature.

There is already a large literature on the judicialization of politics in Brazil, which examines the political involvement of courts and explores how judges make decisions and affect policy outcomes (Carvalho, 2009; Vianna, Burgos and Salles, 2007; Castro, 1997; among others.) Yet, as Kapiszewski and Taylor (2008: 752), argue in a review of the burgeoning Latin American literature on the study of the court as a political actor, 'few pieces make effective use of the many excellent research tools that are available to carry out qualitative causal analysis, or the equally useful set of quantitative analytical techniques.' Exceptions for the case of Brazil are Leoni and Ramos (2006) and Lannes, Desposato and Ingram (2012) both of which use spatial methods to estimate the ideal points of Supreme Court judges. That both of these papers are still unpublished is evidence of the novelty of applying these methods to the Brazilian Supreme Court.

In this paper we use a database of 756 Direct Actions of Unconstitutionality (ADI) judged by the Brazilian Supreme Court (STF) from 2002 to 2012 to analyze the judicial behavior of this court's justices. ADIs can be initiated by a relatively broad list of actors (the President, the Attorney General, Governors, the speakers of the House and the Senate, political parties, the Bar Association, other professional organizations and unions) to strike down federal or state laws or other normative acts for not abiding to the Constitution. Thus ADIs are judged directly by the STF rather than having been initiated in other instances of the judiciary. In an ADI the STF directly exerts its role as a constitutional court. The interest in this type of case arises because to the important implications that emerge from an ADI: the decision in this type of case can overturn a law produced by the Executive or by the Legislature, at both the federal and the state levels. Consequently, contrary to other types of cases where the judicial decision affects

only the parties to the process, a decision made in an ADI extend to all of society.¹ A wide range of actors can be involved in any given ADI case, such as the Attorney General and the Union's General Advocate (both of which must participate in every case) as well as *amiciae curiae*, which makes for richer analytical possibilities. Also, monocratic decisions or decisions taken by sub-sets of the court - a possibility in other types of cases -, are not allowed for ADIs, making them more readily comparable statistically. Finally, an ADI has many of the characteristics of other types of cases considered by the Supreme Court, thus explaining their popularity in the empirical literature about the STF as well as their use exclusively in this paper without much loss in generality.

The technique used in this paper to estimate the Supreme Court Justices' ideal points is the NOMINATE (nominal three-step estimation). This method was created by political scientists Keith Poole and Howard Rosenthal (Poole and Rosenthal: 1983, 1997) and uses multidimensional scaling to spatially project preferences using binary votes as inputs. The method was originally conceived to study voting behavior in legislatures, a use for which it is already well-established with the ideal point scores widely used by analysts and even the press.^{2 3}

The first major output from the paper is the ideal point estimates for all Supreme Court Justices from 2002 to 2012. Because Brazilian justices face mandatory retirement at age 70 there is a quicker turnover of the Court's composition than in the US. Consequently we estimate ideal points for nine different compositions of the Court over this period. The list of periods and the composition of the court in each period are shown in Appendix 1. For each period we provide an ideal point for each justice along two dimensions, which can be conveniently presented in a unitary circle. We are also able to estimate ideal points for the Attorney General and for the Union's General Advocate, as they must give their position on every ADI. The former acts as a custodian

¹ This is because the Brazilian judicial system is statutory rather than common law, so that in regular cases past decisions do not necessarily constrain future decisions.

² For a primer on the NOMINATE method see Everson, Valelly and Wisman (2009). For a primer on the use of a software package for calculating NOMINATE scores in R, see Poole, Lewis, Lo and Carroll (2011). For a recent manual see Lo (2012) 'Using W-NOMINATE in R' available at <http://cran.r-project.org/web/packages/wnominate/vignettes/wnominate.pdf>

³ Because the Supreme Court is a much smaller group than Legislatures, for which this technique has been more frequently applied, there may be statistical issues known as 'micro-committee problems' in extending the analysis to courts. New techniques which may be better suited to courts have been devised, such as the Martin and Quinn scores employing Markov chain Monte Carlo (MCMC) methods to fit Bayesian measurement models of judicial preferences (Martin and Quinn, 2002; Bailey, 2007). We intend to compare the NOMINATE results to those of other methods for Brazilian data in future work.

of the law, while the latter is in charge of representing the Executive in the Supreme Court. This characteristic of the Brazilian Supreme Court allows us to more rigorously make inferences of the STF's position relative to the Executive and the Legislature (or at least the Law) and may eventually be useful for analysis of strategic behavior. As a means to test the goodness of fit of the estimated ideal points they are used to 'predict' the actual votes in each period. The accuracy varies from one period to the next, but more than 90% of the votes are always correctly 'predicted', indicating that the ideal point we estimate are a good measure to locate the justices' policy preferences.

Perhaps the major analytical contribution of this paper is the identification of the dimensions along which preferences align in the Brazilian Supreme Court.⁴ For the US it is well established that preferences in the Supreme Court, as in Congress, can be well portrayed as aligning along a single conservative to liberal dimension. This reflects the polarization of American politics that is present in all its political institutions, from electoral rules to political parties to the working of Congress, pervading even the judiciary. Given that Brazil has a more proportional than majoritarian system a similar polarization exists but is more nuanced and fragmented. These characteristics are reflected in our results, as we found that including a second dimension provided useful information. Contrary to the US, neither of the dimensions can be depicted as capturing a left to right or a liberal to conservative alignment of preferences. Our analysis indicates instead that the first and most important dimension captures disagreements between the Justices over laws that are in the Executive's direct interest, especially when related to economic issues. As the data covers a period in which Brazil underwent a highly transformative process of institutional strengthening and economic reform (Alston et al. 2012), in which the Court played an active role as a political actor, it is an important finding that this dimension has been the major guiding principle. Similarly, given that the estimated ideal points on this dimension capture the Justices' preferences on federal economic policy they can be used by other researchers to conduct analyses or test hypotheses where the Supreme Court Justices' preferences are relevant.

On the second dimension we identified preferences relating to the role of the States of the federation and their autonomy to create laws and establish policies. Scree plots of each period indicated that though the second dimension explains significantly

⁴ The statistical program yields the ideal points but does not provide any information on what is the content of each dimension. Identifying what overarching issues or characteristics explain each dimension must be inferred by the research by comparing the estimated ideal points to specific salient votes and/or voters. Identifying dimensions is thus, in part, an art.

less of the variance than does the first dimension, it nevertheless has enough explanatory power to compensate for the loss of parsimony entailed in using two rather than one dimension (the scree plots for all nine periods are presented in Appendix 2). The third dimension, on the other hand, provides insufficient marginal explanatory power to warrant its consideration.

After estimating the ideal point and identifying the dimensions we provide four different applications using these measures to analyze the working and different characteristics of the Brazilian Supreme Court. These applications serve both to show the range of possibilities of these methods for studying Judicial Politics in Brazil and other countries besides the US, as well as providing insights related to the functioning of political institutions in Brazil. The first application is to identify the Court's median Justice in each of the periods. Recognizing which Justice is the median voter is key for understanding the courts decisions', as under some fairly general conditions the median Justice's policy choice will also be the choice of the Court majority. Yet, as Martin, Quinn and Epstein (2005: 1279) argue, it is not always obvious how to locate and identify the Court's median. As we consider two dimensions it is possible for the median to be a different justice in each dimension. In most periods however the median in one dimension coincided with that in the other. Another interesting result we find is that the median Justice in most periods is the Justice that has most recently joined the Court. This 'rookie effect' suggests that the President has been able to closely influence the Court's decisions in our sample period. The second application also centers on the notion of a median Justice. We use the estimated ideal points to consider the possibilities for the current President (Rousseff) to remake the Court in the next years, considering the fact that several Justices will be forcefully retired (70 years of age) in the next two years. This follows the exercise performed in Martin, Quinn and Epstein (2005) that used estimated Supreme Court Justices' ideal points to assess the conventional view that existed at the time (2005), that President George W. Bush would be able to remake the Court.

The third application is to consider what the estimated ideal points imply about the validity of three different theories of judicial behavior; attitudinal, legal and strategic. The main conclusion is that though different aspects of each of these theories are confirmed, other are not, and in the end we are unable to refute any of the explanations in favor of another.

The final application is a look at some important individual cases using the estimated ideal points. The NOMINATE method not only locates each Justice, the Attorney General and the Executive's Advocate in a unitary circle composed of two dimensions, but it also situates for each individual case a dividing line that represents the estimation of how these actors broke down in favor or against in that case. These diagrams make visually explicit the degree to which the ideal points explain the votes in each case and also show where it gets the votes wrong. One purpose of this application is to show how this method can be used by researchers to gain insights in specific seminal cases. One set of the cases we analyze is composed of the votes in the recent high-profile *Mensalão* scandal, where high level officials and politicians were tried and some condemned for a vote-buying scheme that was busted in 2005. The importance of this case lies in the fact that the Brazilian judiciary has historically been loath to punish the rich and powerful, opting instead for an excessive concern in guaranteeing fundamental rights and due process, which the accused have often been able to manipulate in their favor, leading to frequent impunity. The *Mensalão* trial broke all expectations by harshly condemning powerful and well-connected politicians and will probably become a watershed in the Supreme Court's history. It thus warrants a close examination of the votes using our ideal point estimates.

2 Estimation of Brazilian Supreme Court Justices' Ideal Points

2.1 - ADIs – Direct Actions of Unconstitutionality

The Direct Actions of Unconstitutionality (ADIs) are the main instrument of judicial review in the Brazilian judicial system. In these actions, the Brazilian Supreme Court decides over the constitutionality of laws or norms, with respect to the Constitution. An action can be approved or rejected: if approved, the norm is declared unconstitutional. An ADI cannot be decided individually by only one Justice, but by all of them together. A norm will be considered unconstitutional when at least six of the eleven Justices vote for it.

A broad range of actors can file an ADI. The Court cannot act *ex-officio*, so the claim of unconstitutionality must be brought by one of these actors. The list includes the President, the Attorney General, State Governors, the Executive Committees of the House or the Senate, political parties, the Bar Association, union confederations and national associations or class entities. Federal and state norms or laws can be reviewed,

from any of the three branches: Executive, Legislative and Judicial. Therefore, a wide range of interests can be involved in an ADI.

According to the Constitution, every ADI must have the participation of the Attorney General and the Advocate General of the Union (the Brazilian equivalent of the Solicitor General of the United States). The Attorney General (known as ‘PGR’) officiates as *custos legis* and issues an opinion, agreeing or disagreeing with the action. The Court may or may not follow this opinion. On the other hand, the Advocate General of the Union (known as ‘AGU’) should *always* ‘defend’ the law in question, arguing for the rejection of the action, even if this law is a state law. However, this compulsory role of the Advocate General has actually been abandoned in recent years and the Advocate General frequently argues favorably to the approval of the action and the unconstitutionality of the law. We interpret that because of this discretionary behavior of the Advocate General of the Union, he represents the interests of the federal government in the ADIs. Both the Attorney General (PGR) and the Advocate General of the Union (AGU) are appointed by the President. The difference is that while the Advocate General is an unconstrained choice of the President, who can nominate or replace the Advocate at will, the Attorney General must be confirmed by the Senate and has a fixed term. Since the Attorney General and the Advocate General of the Union participate of every case, ideal points of these actors were also estimated, creating useful points of reference to understand the Justices’ estimated ideal points.

2.2 Data

We use a database of 756 Direct Actions of Unconstitutionality (ADI) judged by the Brazilian Supreme Court (STF) from June 2002 to March 2012. This sample includes only final decisions (injunctions decisions were not considered) and decisions where the unconstitutional claim was actually analyzed (decisions regarding only procedure law were not considered). Data was mainly compiled from information about the actions available online on the Court’s webpage, and also from the STF’s archive.

For the Justices’ votes, we use the database created by Jaloretto and Mueller (2011), ranging from 2003 to October 2009. For the most recent years, votes were directly compiled from the published decisions. We also compiled data whether the Attorney General and the Advocate General of the Union agreed or disagreed with the unconstitutionality claim made in the action.

Votes for the rejection of the action (law considered constitutional) were coded '0' and votes for the approval of the action (law considered unconstitutional) were coded '1'. Votes for the 'partial' approval of the action were also coded '1': since our focus here is on the dissents, this seems an appropriate choice.

In the period we analyzed (2002-2012), twenty one Justices appointed by eight Presidents were part of the STF, as listed in Table 1.⁵ Since Brazil has a multi-party system, a brief summary may be useful. The current ruling coalition, led by Lula and Rousseff's Workers' Party (PT) governs the country since January 2003 and appointed half of the Justices in the Table. Before that, from 1995 to 2002, the country was governed by President Cardoso, from the Social Democracy Party (PSDB), nowadays the main opposition party and PT's strongest adversary. Sarney and Collor suffered strong criticism from the Workers' Party when in office, but are currently important political allies in the government's coalition. Franco was Collor's Vice President and had a short term after Collor's impeachment. Finally, Geisel and Figueiredo were the last Presidents of the Brazilian right-wing military dictatorship (1964-1985).

[Table 1 here]

2.3 Results

Due to space limitations we present only the results for the 7th, 8th and 9th period in this section. These period span from 10/23/2009 to 03/02/2011, 03/03/2011 to 12/18/2011, and 12/19/2011 to 03/08/2012. These periods were lumped into a single analytical unit because they encompass the end of President Lula's second term and the first term of President Rousseff. The period thus includes the last appointment by Lula (Toffoli) and the first two appointments by Rousseff (Fux and Weber). The results for the other periods – 1st to 6th – are presented in Appendix 3.

Figure 1 presents the estimated ideal points for each Supreme Court Justice along two dimensions using the W-NOMINATE statistical package for *R*.⁶ The numerical value for each Justice in the unit circle in Figure 1 is shown in Table 1. The method requires that researcher tell the program the name of a conservative Justice in order to orient the results in the intuitive right-left direction. In this case the chosen conservative Justice was Gilmar Mendes, which is a rather uncontroversial choice. Each Justice is given a data label that indicates the President who appointed him/her, with the

⁵ There's a mandatory retirement for the STF's Justices at the age of 70, which explains the high number of appointments.

⁶ Poole et al (2011) is a good reference for the use of this software.

Presidents listed on the top right-hand corner. Table 2 shows the number of votes in the period and indicates how many are correctly predicted using the estimated spatial model and how many are incorrectly predicted.⁷ An incorrect prediction takes place when there is no way to draw a straight cutline that divides those who voted in favor of a proposition from those who voted against.

[Figure 1 here]

[Table 2 here]

[Table 3 here]

Figure 2 shows the example of ADI 4568 that contested the constitutionality of Law 12382/2011 that determined new rules for readjusting the minimum wage. The Executive had introduced a new methodology to provide real gains to the minimum wage as part of its social inclusion policy. At issue was not the methodology itself, but rather the fact that the law removed Congress from the yearly procedure of readjusting the minimum wage. Two Justices voted for the ADI – Aurélio and Britto – but it was struck down by the majority of the Court. In this case it was possible to correctly separate those who voted in favor and those against with a straight cutline. But if, for example, Lewandowski had also voted in favor, then there would be one incorrectly predicted vote.

[Figure 2 here]

The estimated ideal points exhibit a recurring pattern that is also present in the previous periods (see Appendix 3). On the first dimension the AGU (Executive's Advocate) and the PGR (Attorney General) are located at one extreme with the Justices at the other extreme of the graph. Also, Aurélio is almost always the most extreme Justice in both dimensions. Another regularity is that there is more variation among the Justices along the second dimension than there is along the first. Finally, a recurring result is that the newest members of the Court tend to always hold more central ideal points along both dimensions, possibly migrating to more extreme positions as they gather more experience. This 'rookie effect' and other interpretations of these basic results will be explored in the following sections.

⁷ We use only the non-unanimous roll-calls, but because the AGU (Executive's Advocate) and the PGR (Attorney General) the number of unanimous decisions is greatly reduced.

3 Identifying Preference Dimensions

This section describes our major contribution, which is to identify the nature of the two dimensions along which disagreements take place in the Brazilian Supreme Court. The first and most important dimension captures disagreements between the Justices over laws that deal with economic policies promoted by the Executive. The second dimension involves positions related to the role of the States of the federation and their autonomy to create laws and establish policies. There is no technical way to identify the content of each dimension, rather they must be inferred by confronting the themes and details of each vote with the estimated ideal points and the estimated location of the law in the graphs. Here we describe how we reached the conclusion about the content of each dimension.

In order to understand which kind of dissent the Justices have, it is necessary to understand the nature of the two dimensions. The analysis of the published decisions of the cases that created such divisions allowed us to understand the nature of the two dimensions. In two kinds of cases the Justices were divided in where they showed up in the two-dimensional graphs.

In a group of cases that reveals the first dimension the AGU (Advocate General) takes falls on one extreme followed closely by the PGR (Attorney General), while the Justices take the other extreme, with some variation between them. In another group of cases that reveals the second dimension the Justices Mello, Britto and Aurélio, together with the AGU, voted in the opposite direction of the rest of the Court (and the PGR). As we pointed out, the first dimension is related to dissents regarding federal acts, especially when there is a relevant economic interest. The second dimension is related to dissents regarding state laws and policies, and expresses different views on states' autonomy and the role that the states should have in the Brazilian federation. The same division into these two groups of cases was observed in other periods, presented in Appendix 3.

The voters closest to the right side of the graph tended to approve cases related to federal laws with important economic interests and a potential loss for the federal government in case of declaration of unconstitutionality. On the other hand, those closest to the left side of the graph tended to reject those cases (voting for the constitutionality of the act).

Some specific ADIs can be provided as examples of this interpretation. Figure 2 shows the estimated ideal points for the court together with the estimated position of the law, which in this case is the new law for the minimum wage (ADI 4568 of 2011). The level of the minimum wage is of crucial importance for maintaining federal fiscal balance given its impact on social security. Justices Aurélio and Britto voted for approval of the action, against all the other voters. Other examples of important ADIs discussed in this period are the ones contrary to the “second social security reform” (rejected, against the votes of Mello, Britto and Aurélio), the creation of the new federal environmental protection agency (approved, against the ‘votes’ of the AGU, the PGR and Lewandowski – who have points closer to the left), the new basic education policy (rejected, against the votes of Peluso, Mendes, Gracie, Lúcia and Aurélio – who have points closer to the right).⁸ These divisions can easily be seen in the first dimension of the graph.

Justice Aurélio is an extreme point on the right side of the first dimension, in this and in the other periods. He was frequently alone publicly criticizing acts and voting for the approval of actions: if his understanding was followed by the majority of the Court, the federal Executive would suffer important consequences. Some examples in this period include actions regarding the omission of the federal government on providing good education, the creation of state minimum wages and a tax reform by the Lula government⁹. These actions were rejected, with Aurélio being the only vote in favor of their approval.

On the extreme opposite of Aurélio in this dimension is the AGU (Advocate General). His position is frequently isolated, with the PGR (Attorney General), defending the acts in question and arguing for the rejection of the ADI. Against the opinions of these actors, the Supreme Court unanimously approved in this period actions such as one regarding the distribution of federal taxes revenues to the states and one regarding a large workers’ fund managed by the government.¹⁰

Again, the relative isolation of Aurélio on one side and the AGU and the PGR on the other side can be easily seen in the graph, confirming our interpretation that the first dimension is related to the interests of the federal government.¹¹

⁸ Respectively these are the ADIs 3138, 4029 and 4167.

⁹ ADIs 1698, 4432 and 4033.

¹⁰ ADIs 442 and 2736

¹¹ An important caveat when comparing the ideal points of the AGU and the PGR with those of the Justices is that the former do not really vote on the cases: they issue opinions *before* the

We proceeded in the same manner to understand the second dimension. For this dimension, the votes of interest are the ones that divided the voters with the lowest coordinates (Aurélio, Britto, Mello – besides the AGU) and the voters with higher coordinates (the others). Justices Aurélio, Britto and Mello voted against the rest of the Court in this period in ADIs regarding the unconstitutionality of state laws. In these cases, the majority of the STF approved the actions (law considered unconstitutional), while they defended the rejection of the ADI and the constitutionality of the act. There were two main types of cases regarding the autonomy of the states in this and other periods: those which examined if a state was legislating in an area that is exclusively federal and those that examined if the organization of the states' governments was different from the organization prescribed by the 1988 Constitution. In both cases, the approval of an action transfers relative power from the state level to the federal level.

Hence, the lower a point in the graph, the stronger is the preference of that voter for more autonomy for the states. It was fairly common during the last decade for the Justices seen near the bottom of the graph to publicly express, in the decisions, their views favorable to a larger role for the states in the federation.

Once again, our interpretation that the second dimension refers to the autonomy of the states can be confirmed with some examples. Some important ADIs in the period regarding this dimension were the ones analyzing if the state of São Paulo could oversee nuclear activities (approved, against the votes of Mello, Britto, Aurélio and the AGU) or if the state of Rio de Janeiro could pass a consumer protection law regarding energy consumption (approved, against the vote of Aurélio).¹² In both cases, the Court considered that only federal acts could treat these subjects. The divisions occurred in these judgements can be seen in the graph, along the second dimension.

Therefore, the graph estimated for this period by NOMINATE presents on the right side those who did not defend federal acts, with the first dimension reflecting differences in votes when the economic interests of the federal government are in question, and towards the bottom of the graph those who defended state acts, with the second dimension reflecting the issue of the autonomy of the states. The estimated coordinates should be analyzed with these references in mind. Justices Aurélio and Britto, for example, had the most extreme coordinates in right and below, voting

Justices decide. In the judgments, the Justices might bring up new issues, not exactly addressed by the AGU and PGR in their opinions.

12 ADIs 1575 and 3905.

frequently for the approval of the ADIs against laws of interest of the federal Executive, and for the rejection of the ADIs against state laws. These two different kinds of ADI were also the determinants of the estimated coordinates in the other periods. Contrary to the US, neither of the dimensions can be depicted as capturing a left to right or a liberal to conservative alignment of preferences.

In Appendix 2, the scree plot for this graph is shown in Figure A6. The decay of the eigenvalues after the second dimensions confirms that two dimensions describe well the behavior of the Court in the period. The first dimension, though, explains significantly more of the variance than does the second dimension. The third dimension, on the other hand, provides insufficient marginal explanatory power to warrant its consideration. Scree plots for other periods are also presented in Appendix 2.

4 Applications Using Estimated Ideal Points

4.1 - Identifying the Median Justice and the ‘rookie effect’

A spatial model allows for the identification of the median Justice, that is, the most influential vote in the court. With the estimated coordinates, it is possible to identify who is this Justice in each dimension and how the median ‘shifts’ with every new configuration of the Court, as retiring Justices are replaced with new appointments. In this section, we also analyze the result that the most recently appointed Justice tends to be the median voter, which we call the ‘rookie effect.’

The estimated coordinates shown in Table 4 reveal that Justice Mendes has the median coordinates in both dimensions in the 7th, 8th and 9th period. It is noteworthy that the median in one dimension need not to be the median in the other. Table 4 ranks the Justices according to the percentage of ‘winning votes’ in the dissents of the period. If the median is indeed the most decisive Justice, it is expected that he has a higher percentage of winning votes, when compared to the other Justices – something that indeed happened to some extent in this period and that occurred in other periods as well. The Table shows Mendes as the winner in 96% of the dissents. In this period, Mendes is not exactly the Justice with the larger percentage of winning votes, as was the case with the median of the other periods, but this high percentage of winning votes is consistent with the estimate Mendes as the median voter.

It is noteworthy that the distance between Mendes ideal point and the points of the other Justices is not related to the fact that we picked him as the conservative Justice. The fact that Mendes was the median and had an ideal point near the center in

every other period may be counterintuitive for most observers of the Supreme Court, but the ideal points estimate depends on the pattern of his votes in comparison with the other Justices' votes. The only consequence of our choice is that he always had positive estimated coordinates (0 to 1) in the first dimension (placing him on the right side of the graph), with the points of the other Justices being estimated from this referential.

Even though only a few cases created dissent where the majority of the Court was formed by only six Justices, in all periods it was possible to visualize a median Justice, the one that belongs to the majority more often. There was actually a well defined pattern, which we call the 'rookie effect': in a given period the median was, in general, a Justice recently appointed to the Court, whose term started in the immediate preceeding period. Hence, it seems that the Presidential appointments of the last decade seem to have impacted the Court. The estimated median of the 2th period was Mendes (who entered the Court in the 1th period), the median of the 3th was Peluso (who entered in the 2th), the median of the 4th and 5th was Grau (who entered in the 3th), and the medians of the 6th were Lúcia and Lewandowski (who entered in the 4th and 5th)¹³. Table 4 confirms that these Justices had a high percentage of winning votes (or even the highest).

Two possible explanations for the rookie effect are coherent with judicial behavior models. One, coherent with the attitudinal model, is that the new Justice actually comes to the Court to have a decisive participation, affecting the decisions in a favorable way to the President who appointed him. The other explanation, coherent with the strategic model, is that the new Justices seek the approval of their peers, avoiding dissent and, as a consequence, being part of the majority more often.

Even if this pattern of median voter estimates is purely coincidental, it is still noteworthy that new Justices rarely have extreme points in the graph, given the low level of dissent.

4.2 Can Dilma Rousseff 'Remake' the Court?

The results presented above shed light on what to expect from the Supreme Court's composition in the coming years and on the possibilities for President Rousseff to 'remake' the court. In her first two years in office, Rousseff had the opportunity of

¹³ This pattern could not be repeated in the 7th, 8th and 9th period because the Justice appointed in the previous period (Direito) passed away a couple of years later and was no longer in the Court when the votes of this period took place.

appointing three Justices to the Court (Fux, Weber and Zavascki) and may appoint two other Justices soon, with the mandatory retirement of Justice Britto and the expected retirement of Justice Mello. We follow the exercise in Martin, Quinn and Epstein (2004) to analyze the impact of these retirements on Rousseff's ability to change the Court's median voter.

Considering the median voter the most influential Justice of the Court, how could new appointments made by Rousseff affect the Court's decision? Martin, Quinn and Epstein (2004) analyzed how the next President of the United States to be elected in that year (George W. Bush or John Kerry) could use new appointments so that the median Justice would be a Justice with preferences more closely in line with those of his party, since the Court was rigorously divided between liberals and conservatives and the median voter, Justice O'Connor, was about to retire. A similar analysis can be done for the Brazilian Supreme Court, despite the fact that the results presented have shown that such polarization between Justices appointed by Presidents from the different parties do not exist in the STF.

The graph estimated with the most recent data (Figure 1), referring to the 7th, 8th and 9th periods, does not show a divided court, as in Martin, Quinn and Epstein, but rather a relatively cohesive group of eight Justices and a more isolated group of three Justices that dissent frequently in both dimensions. The same pattern was observed in other periods: Justices Mello, Aurélio and Britto are part of the smaller group, voting with more intensity against the interests of the federal Executive and favorably to the autonomy of the states. The Justice estimated as the median voter was never a part of the small group.

An important difference between our analysis and the one made by Martin, Quinn and Epstein is that there is a quicker turnover of the Brazilian Supreme Court's composition than in the US, given mandatory retirement. For example, the recently appointed Justice Teori Zavascki will face the mandatory retirement only five years after the beginning of his term. Martin, Quinn and Epstein (2005: 1315) believed, when analyzing John Kerry's possibilities regarding the median Justice, in a 'near-historic position to move the Court (...) in a direction that favors his vision of public policy'. In Brazil, former President Lula alone appointed eight Justices when in office. That fact is even more remarkable if we remember that Lula was the first President elected by the Workers's Party: before him, no Justice was ever appointed by his party or any other close ally.

Even though we do not observe in the Brazilian Supreme Court the polarization that exists in its American counterpart and despite the fact that appointments for the Court are more frequent, it is still interesting to study Rousseff's possibilities of remaking the STF. Rousseff has already replaced three Justices of the larger group: Grau for Fux, Gracie for Rosa Weber and Peluso for Teori Zavascki. The most interesting possibilities, though, reside in the future substitutions of Britto and Mello. These Justices belong to the smaller group, the one inclined to invalidate the Executive's acts and to give a larger role for the States in the federation. Assuming that Justices Fux, Weber and Zavascki have preferences similar to those of their predecessors (Fux in fact had an ideal point close to the center of the graph), the substitution of Justices Britto and Mello for new Justices more inclined to belong to the larger group could change the Court's dynamics in important ways.

Britto and Mello's retirements could isolate even more Justice Aurélio, in both dimensions. As a consequence, the Supreme Court would be even more favorable to the interests of the federal government and even less favorable to a larger autonomy of the subnational entities. This translates into a stronger federal Executive for Rousseff in both dimensions.

In both dimensions, important issues currently appear in the federal legislative debate. As the country's growth slows down, there are frequent requests for the continuity of the economic reforms agenda, which relates to the first dimension. Congress is also debating a 'new federative pact', regarding the distribution of oil and federal taxes revenues to the states, among other subjects that relate to the second dimension. The results of these agendas could be brought to judicial review in the Supreme Court, 'remade' by Rousseff.

If Rousseff's new appointments indeed isolate Aurélio, estimated graphs of future periods would possibly present new dimensions. Since NOMINATE is based on dissent and Justices Mello and Britto often diverged from the rest of the Court. New types of dissent could emerge and gather importance as the issues that created the old dissents become more consensual.

We propose a simple exercise in order to understand the possibilities and limitations that Rousseff has of shifting the median voter, following the approach of Martin, Quinn and Epstein (2005). The first line of Figure 3 places the Justices according to the last estimated coordinates in the first dimension, that is, the configuration of the Court in this dimension after Justice Fux was appointed. We

indicate the median, Mendes, with a vertical black line. How could Rousseff get a more favorable median with her next appointments?

[Figure 3 here]

Keeping in mind that the first dimension relates to the interests of the federal Executive – especially in the economic area - Rousseff would prefer a median less inclined to overturn these acts. Hence, it is of her interest that the new median is located to the left to the current median (Mendes).

With Gracie's exit and the appointment of Weber, Rousseff had an opportunity of shifting the median voter. Since Gracie was to the right of Mendes, the President would have a more favorable median voter if Weber was placed anywhere in the colored area, to the left of the previous median. As an example, assume that Weber joined the Court between Barbosa and Peluso in this dimension, as indicated in the second line of the Figure. That would make Peluso the median Justice, a median located slightly more to the left in this dimension, which would be in Rousseff's interest.

Continuing with the exercise, the President had another opportunity with Peluso's retirement and the appointment of Zavascki. As before, to have a favorable median, her interest is that Zavascki occupies any spot to the left of the previous median (Peluso). Assuming Zavascki is placed, in the third line, between Barbosa and Weber, the median Justice would be Weber.

The exercise follows in the same manner for the following appointments. With the retirement of Britto (who was to right of the median), Rousseff will appoint a new Justice, yet without a name, and it is of her interest that he occupies any point to the left of the previous median. Assuming, in the fourth line, that he occupies a point between Toffoli and Fux, the median would shift from Weber to Zavascki. Not only would Rousseff have a median appointed by her, but the surrounding Justices would also have been her appointments, and the Justices on the right would be more isolated.

With the expected exit of Mello, Rousseff would have before the end of her term another opportunity of substituting someone more located to the right. As previously, it is of her interest that the new Justice be located to the left of the median Zavascki (or even Weber). In this fictitious example, in the fifth line, this Justice joins the Court between Zavascki and Weber, and Zavascki would remain as the median. In our exercise, Rousseff would have shifted the median voter and isolated Justices less favorable to the interests of the federal government.

The purpose of this exercise was only to analyze the President's possibilities and limitations. The examples in each line were chosen for this reason and were obviously arbitrary. The final result would be similar if every new Justice occupied another point on the colored area. Also, nothing precludes a new Justice from joining the Court already as the median.

Some caveats must be made. The exercise assumed that the points in this first dimensions would be relatively stable as in Figure 3 we chose to present fixed ideal points for the 'old' Justices. Another assumption behind the exercise is that Rousseff has perfect information about her appointees and can anticipate their behavior when in Court. Finally, the same comments made previously about the method have to be taken into consideration in particular the fact that not all of the distances in the dimension are due to dissents in votes regarding economic interests of the federal governments.

4.3 Testing Theories of Judicial Politics

How do judges think? There are three main models of judicial behavior, largely discussed in studies of the United States Supreme Court: the legal model, the attitudinal model and the strategic model. The first takes a normative approach and assumes that a judge's behavior is largely constraint by the law. There are no such restrictions for the 'attitudinalists' (Segal and Spaeth: 1992, 2002), who argue that judges decide cases according to their personal preferences and ideology. The most popular proxy for ideology in the attitudinal studies is the party of the appointing President: Justices appointed by Democrat Presidents would make liberal decisions, and Justices appointed by Republican Presidents would make conservative decisions. Finally, in the strategic model (Epstein and Knight: 1998), a judge are seen as making strategic choices in order to achieve their objective, since there are restrictions for his behavior both inside and outside the court. Because of that Posner (2008) considers the strategic theory to be a theory of means, while the legal and attitudinal theories would be theories of ends.¹⁴ Our results are compatible with different aspects of each of these theories so we are unable to refute any of the theories or pick out one that best explains the data. We discuss the reasons for it in this section.

A major difference between the dimension regarding the interests of the federal government and the dimension regarding the autonomy of the states is that there is no clear reason for the dissent in the former one. It is easy to understand that a Justice who

14 For an overview of the theories see Posner's book *How Judges Think* (2008).

defends states' acts in cases that discuss the autonomy of the subnational entities has a different view on the federation. But when a Justice votes for the unconstitutionality of a federal law there is no obvious reason for that choice. Even though part of these decisions could be connected with budgetary concerns, it is not possible to affirm that these decisions are connected with preferences regarding the size of the State: in the analyzed ADIs, the Justices' votes were explained based on different articles or principles from the Constitution. Thus, these dissents could reflect different preferences regarding public policy, or different strategic considerations towards the Executive, or even different views on the flexibility that should be given to the government. It could even simply reflect different perceptions about the quality of the act itself.

Therefore, we know which actions generated the coordinates in this first dimension (the ones regarding the federal acts), but the reason behind the dissent is not obvious as it is in the second dimension (different views on the role of the states in the federation). In the cases we consider it was common for Justices, in justifying their votes, to explicitly affirm their preferences regarding the structure of the federation, but that rarely happened regarding the first dimension.

Considering the attitudinal model and taking the party of the appointing President as the proxy for ideology, the positions of the points in the graphs should be related to their symbols (since Justices with different symbols, i.e. circles, squares and diamonds, were appointed by different Presidents). That does not happen: diamonds (Lula's appointments) are all over the graph, and points with other symbols (other Presidents' appointments) are also not grouped together. Indeed, the division seen in the graphs is between two groups of Justices: one, smaller and more isolated, formed by Justices Mello, Britto and Aurélio, and another larger group formed by the rest of the Justices in each period. Not only is this separation not related to the different appointing Presidents, but also the two groups are heterogeneous in terms of Presidential appointment: Mello, Britto and Aurélio were each appointed by a different President.

The nature of the second dimension should be taken into consideration: in Brazil, the role of the states in the federation is not an issue that opposes the main political parties. Hence, the pattern of the points in this dimension could reflect different ideological preferences, but not in the way prescribed by the attitudinal theory in its most known form.

On the other hand, the results do not completely refute the model. The graphs for the 1st and 3rd periods, shown in the Appendix 3, present a pattern compatible with the

theory. Another graph where the model seems to be pertinent is the one of the *mensalão* scandal trial, analyzed further in this paper (Figure 4).

The graph also brings some insights about the validity of the strategic model. In the past ten years the Supreme Court has had a strong inclination to decided that many laws in which the federal Executive had strong interest were not unconstitutional. Although one cannot know the real determinants of those choices, an advocate of the strategic model would see it as evidence of strategic behavior: the reluctance to upset another branch, because of the fear of retaliation.

Against the strategic model we note that the STF has decided that many other acts where these interests appeared were unconstitutional. Also, the distance between the Justices and the Advocate-General (AGU) raises some doubt about the applicability of the strategic model. We believe that the discretionary behavior of the AGU in recent years, choosing not to defend several acts, allow us to suppose that, at least partially, his ideal point reflects preferences of the federal Executive. But if the strategic model was valid, the AGU should be closer to the Justices' points in the first dimension, which does not happen (nor it did in other periods). The idea that the Supreme Court would not be independent for fear of the Executive doesn't seem that pertinent when the distance between the Justices and the AGU is taken into consideration.

Another possibility of strategic behavior inside the Court could exist regarding recently appointed Justices. As we will show, new Justices tend to have estimated ideal points near or at the median, coherent with little dissent. This pattern could be explained by what Posner (2008, 32) calls "dissent aversion", the phenomenon that judges do not like to dissent. This could be an intentional strategy to avoid confrontation and animosity of other Justices.

The results are also inconclusive regarding the applicability of the legal model of Justice behavior. The literature considers this model particularly difficult to test, since doing so requires comparing actual decisions to a reference of what the correct legal view on each case should be. This reference in our graph could be the Attorney-General's (PGR) point, as he/she officiates in the ADIs as *custos legis*, issuing a neutral and independent opinion in the matter, based solely on the constitutionality of the act. If indeed there's no agenda behind this opinion, the PGR's opinion could be a proxy for what the legal decision should be, and the distance of this ideal point to those of the Justices would indicate the validity of the theory.

Indeed, the PGR's point is located closest to a group of Justices on the top of the graph and distant from the others. A possible explanation is that the upper group would decide cases in the way prescribed by the legal model, while the others would decide cases in a more discretionary way, less restricted by the law. It is also interesting to observe that the extreme point of the second dimension, opposed to PGR, is the ideal point of Justice Aurélio, widely known for his isolation in the Court. Aurélio has more than once expressed how he makes his decisions: "First I idealize the fairest solution (...) Only later I seek support in the law." (Kostman, 2006: 99). That would be, in fact, a behavior incompatible with the legal model. In this scenario, the hypothesis regarding the PGR would point that the behavior of part of the Court could be explained by the legal model, while the behavior of another part could not. On the other hand, the very existence of dissent is not coherent with that theory, according to the literature. Consensus would be the consequence of the behavior predicted by the legal model in its purest form.

Therefore, we are unable to conclude if any of the three models is adequate to explain judicial behavior in the STF. The analysis of the other periods, shown in Appendix 3, brings new elements to the discussion, but also does not allow a definitive conclusion. Depending on the assumptions used, there is evidence favorable to each of the three models: distances according to the appointing President (attitudinal), reluctance in declaring unconstitutional Executive acts (strategic) or the proximity with the PGR (legal). This difficulty on choosing one single model is probably inherent to a study like this, and has been pointed out by other authors.

4.4 Analyzing Specific Cases with NOMINATE – The *Mensalão* Case

Although the Direct Actions of Unconstitutionality (ADIs) are a frequent and important type of case judged by the Supreme Court, they are not the only one. For others types of cases, the Justices' ideal points could have a different dispersion pattern, since different types of cases can be related to different areas of law, with new patterns of dissent. Indeed, the Court's most notorious case, the *Mensalão* scandal, was a criminal case, an unusual type of case for the STF.

The *Mensalão* scandal was a vote-buying scheme busted in 2005. The ruling Workers's Party (PT) was accused of using public funds to buy political support for The Lula government in Congress. Payments were made on a monthly basis, hence the name *mensalão* ('big monthly payment' in Portuguese). The party's most important

politicians were involved in the scheme, including Lula's Chief of Staff, considered the mastermind behind the scheme, the Speaker of the House, and the party's Chairman. Dozens of politicians from allied parties, businessmen and bankers were charged with corruption, embezzlement, conspiracy, money laundering and other crimes. The trial, broadcasted live on TV, took place during the last four months of 2012 drawing unprecedented attention from society and media, that labeled it 'the trial of the century'. Against general expectations, given a tradition of impunity in Brazil, the most powerful defendants were sentenced several years in jail. This happened despite the fact that Lula and Rousseff had appointed eight of the eleven Justices of the Supreme Court. This result was considered a watershed in the Supreme Court's history, since the Brazilian judiciary has historically been loath to punish the rich and powerful.

Although there was no constitutional controversy in the case, the Supreme Court still had to judge it because, according to the Constitution, National Congress members can only be judged by the Court. Unlike the judicial review actions, in the *Mensalão* case the Supreme Court judged a criminal case in the same way lower courts do, with the important difference that the defendants were high profile politicians. Criminal cases like this are not judged often by the Supreme Court, but get a lot of attention due to the defendants' status.

We again estimated ideal points for the Supreme Court Justices, this time applying NOMINATE to the *Mensalão* data. This was possible because there was a large number of separate votes in this single trial: 38 defendants were accused of seven different crimes. The sample we used has 113 votes: in each vote the Justices decided for the conviction (coded '1') or acquittal (coded '0') of each defendant for each crime he was being accused.¹⁵

Figure 4 presents the estimated ideal points for each Justice along two dimensions. Table 5 presents the numerical value for each Justice in the unit circle and Table 6 has additional information. An ideal point was also estimated for the Attorney General (PGR), but not for the Advocate General (AGU). Unlike an ADI, the Advocate General does not participate in criminal cases. The Attorney General, however, acts like prosecutor. The Court's composition is slightly different than before: Justice Gracie retired and Weber was appointed by President Rousseff for her place, and because of

¹⁵ Data were extracted from media reports, since it can take months before the decision is made publicly available. See 'Placar da votação', available at: <http://g1.globo.com/politica/mensalao/infografico/platb/votos> (In Portuguese).

mandatory retirement Justice Peluso left the Court during the trial. Therefore, there are only ten estimated Justices' ideal points (and hence no median voter). Justice Mendes was again considered the conservative Justice.

[Figure 4 here]

[Table 5 here]

[Table 6 here]

The estimates are significantly different from the ADIs' estimates. The first dimension is clearly related to votes more or less favorable to the defendants: the extreme point at the right side of the graph is the ideal point of the PGR (Attorney General), who called for condemnation of 36 defendants. The nearest Justice is Barbosa, the case's *rapporteur* (Justice randomly designated to direct the proceedings and write an initial report) and the furthestmost Justice is Lewandowski, the case's 'revisor' (Justice designated to oversee the *rapporteur*'s report). This result is not surprising at all: Barbosa and Lewandowski had notorious disagreements about the case and their heated arguments were repeatedly shown in news broadcast, especially those regarding whether a defendant was guilty or not. The estimate for Justice Toffoli is also rather intuitive: his participation in the trial was heavily criticized by the public opinion at the time, since he had previously worked as a lawyer for the Workers's Party campaigns and at Lula's Chief of Staff Office, allegedly the mastermind of the scheme. As expected, Justice Toffoli indeed considered not guilty many of the defendants, including his former boss. Unlike the first dimension, there's no easy answer about the pattern in the second dimension, which seem to be related to the isolation of Justice Aurélio in some votes.

The *Mensalão* trial estimates show that the estimation of ideal points for the Brazilian Supreme Court Justices can be significantly different depending on the sample used. In a criminal case, dissent is obviously not focused on the economic interests of the Executive or on the autonomy of States of the federation. Justices who tend to agree in constitutional matters could disagree in criminal ones: Justices Barbosa and Lewandowski, for example, had very close estimated ideal points at the 6th period analyzed (see Appendix 3). This seems similar to the idea of 'ideological drift' defined by Posner (2008): the tendency of judges to depart from the political stance of the party of the President who appointed him when new issues arise with time. Justice Barbosa was Lula's first appointment to the Court and, almost a decade later, led the convictions

in the *Mensalão* trial, a result widely considered a historical setback for the Workers' Party.

The different pattern observed for the points also bring new insights on the validity of judicial behavior models in the Brazilian Supreme Court. A common division of the Court seen in the ADIs – Justices Aurélio, Mello and Britto against the rest – is no longer seen here. Actually, the left-right division in the graph seems to divide the Court between the most recent appointees (in the left) - those appointed by Lula and Rousseff *after* the scandal was busted - and the Justices appointed before that (in the right) (see again Table 1)¹⁶. This is an expected division according to the attitudinal model in its purest form (the President's party as a proxy for the Justices' decision). Interestingly, the attitudinal model had not done particularly well in explaining the estimated ideal points in the ADIs.

Therefore, the *Mensalão* trial estimates indicate that some caution is important while interpreting the estimated ideal points in the Direct Actions of Unconstitutionality (ADIs), since they can be different in other types of cases. The *Mensalão* estimates also show that a model such as NOMINATE has as an advantage its flexibility, allowing estimation for different cases and samples.

5 Conclusion

In recent years the Brazilian Supreme Court has been playing an increasingly important role in mediating and shaping political choices. In addition the Court's influence is more visible and recognized by society than it has ever been. Although the study of the Court has followed this increased interest, very little of this scholarship uses quantitative methods to assess the Court's impact or the determinants of its actions and choices. Our W-NOMINATE estimates of several different Supreme Court configurations in Brazil show that rather than aligning along a left-right or liberal-conservative dichotomy, the Judges follow instead a configuration for and against the Executive's economic interests, along the first dimension, and for and against states' autonomy to set the law, on the second. These results and others that we explore in the paper show that the methods and theories we used, which were devised originally for the US judicial system, can be profitably adapted to analyze other systems that have

¹⁶ The exception would be Justice Fux's point. Indeed, after the high profile trial Workers' Party politicians reported to the press that, before been appointed, Justice Fux had compromised himself to vote in a favorable way for the party during the trial, as in <http://josiasdesouza.blogosfera.uol.com.br/2012/12/24/gilberto-carvalho-diz-ter-ouvido-de-luiz-fux-que-ele-absolveria-os-reus-do-processo-do-mensalao/> (In Portuguese).

some similarities but many difference. Our main objective in this paper has been to take some first steps towards a larger research agenda that intends to apply these and other quantitative methods to study the judicial system in Brazil and other Latin American countries.

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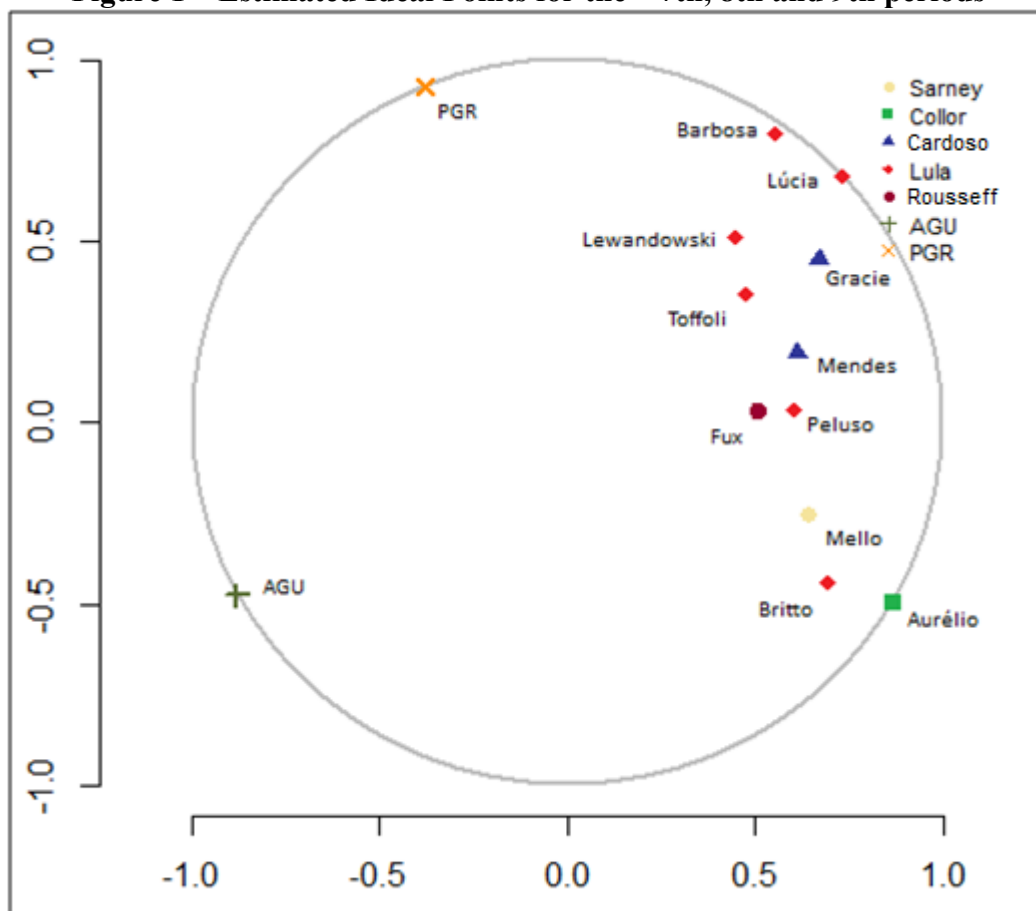
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Table 1 – Brazilian Supreme Court Justices between June 2003 and March 2013

Justice	President	Assumed office
Moreira Alves	Geisel	June 20, 1975
Sydney Sanches	Figueiredo	August 31, 1984
Sepúlveda Pertence	Sarney	May 17, 1989
Celso de Mello	Sarney	August 17, 1989
Carlos Velloso	Collor	June 13, 1990
Marco Aurélio	Collor	June 13, 1990
Ilmar Galvão	Collor	June 26, 1991
Maurício Corrêa	Franco	December 15, 1994
Nelson Jobim	Cardoso	April 15, 1997
Ellen Gracie	Cardoso	December 14, 2000
Gilmar Mendes	Cardoso	June 20, 2002
Cezar Peluso	Lula	June 25, 2003
Ayres Britto	Lula	June 25, 2003
Joaquim Barbosa	Lula	June 25, 2003
Eros Grau	Lula	June 30, 2004
Ricardo Lewandowski	Lula	March 16, 2006
Carmen Lúcia	Lula	June 21, 2006
Menezes Direito	Lula	September 5, 2007
Dias Toffoli	Lula	October 23, 2009
Luiz Fux	Rousseff	March 3, 2011
Rosa Weber	Rousseff	December 19, 2011

Figure 1 – Estimated Ideal Points for the – 7th, 8th and 9th periods



7th, 8th and 9th period: 23/10/2009 to 02/03/2011, 03/03/2011 to 18/12/2011, 19/12/2011 to 08/03/2012. **Chosen conservative Justice:** Gilmar Mendes.

Table 2 – Estimated Coordinates– 7th, 8th and 9th period

Justice	Coordinates	
	1 st dimension	2 nd dimension
Mello	0,644	-0,257
Aurélio	0,868	-0,496
Gracie	0,670	0,451
Mendes	0,612	0,194
Peluso	0,607	0,033
Britto	0,697	-0,441
Barbosa	0,556	0,797
Grau*	N/A	N/A
Lewandowski	0,451	0,509
Lúcia	0,733	0,680
Toffoli	0,478	0,355
Fux	0,511	0,031
Weber*	N/A	N/A
AGU	-0,880	-0,475
PGR	-0,379	0,925

*These Justices entered the court at the end of the period and do not have enough votes yield trustworthy estimates.

Table 3 – Summary estimates – 7th, 8th and 9th periods

Number of roll calls	73 (56 omitted)
‘Yes’ predicted	505 of 522 - 96,7% correctly predicted
‘No’ predicted	230 of 244 - 94,3% correctly predicted

Figure 2 - ADI 4568 (2011)

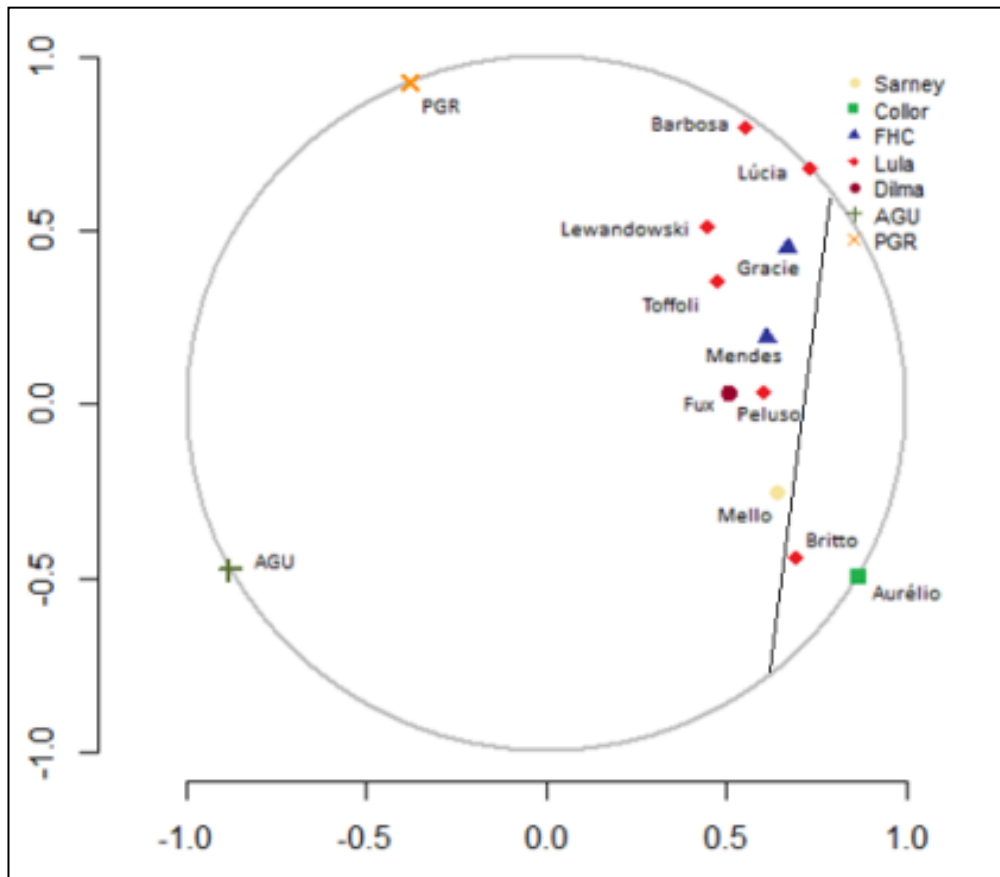


Table 4 – % Winning Votes and the Median Justice

1 st Period	
Justice	Winning Votes
Mendes	100%
Sanches (Median)	100%
Mello	100%
Gracie	100%
Alves	100%
Jobim	100%
Corrêa	98%
Velloso	96%
Galvão	96%
Pertence	93%
Aurélio	83%
PGR	93%
AGU	10%

2nd Period	
Justice	Winning Votes
Mendes (Median)	100%
Mello	100%
Peluso	98%
Velloso	97%
Jobim	97%
Corrêa	96%
Gracie	96%
Barbosa	95%
Pertence	94%
Britto	83%
Aurélio	73%
PGR	80%
AGU	20%

3rd Period	
Justice	Winning Votes
Jobim	98%
Peluso (Median)	97%
Mendes	95%
Gracie	92%
Grau	91%
Velloso	88%
Barbosa	88%
Pertence	87%
Mello	87%
Britto	79%
Aurélio	54%
PGR	72%
AGU	42%

4 th and 5 th Periods	
Justice	Winning Votes
Grau (Median)	99%
Lúcia	98%
Peluso	98%
Lewandowski	98%
Gracie	97%
Pertence	96%
Mendes	94%
Mello	93%
Britto	90%
Barbosa	90%
Aurélio	58%
PGR	73%
AGU	45%

6 th Period	
Justice	Winning Votes
Mendes	100%
Barbosa	100%
Peluso	100%
Lewandowski (median)	98%
Lúcia (median)	98%
Gracie	98%
Direito	95%
Mello	93%
Grau	91%
Britto	90%
Aurélio	58%
PGR	78%
AGU	33%

7 th , 8 th and 9 th Periods	
Justice	Winning Votes
Gracie	97%
Lewandowski	97%
Fux	96%
Toffoli	96%
Lúcia	96%
Mendes (Median)	96%
Barbosa	95%
Peluso	94%
Mello	91%
Grau	89%
Britto	83%
Aurélio	62%
PGR	73%

AGU	38%
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Dimension

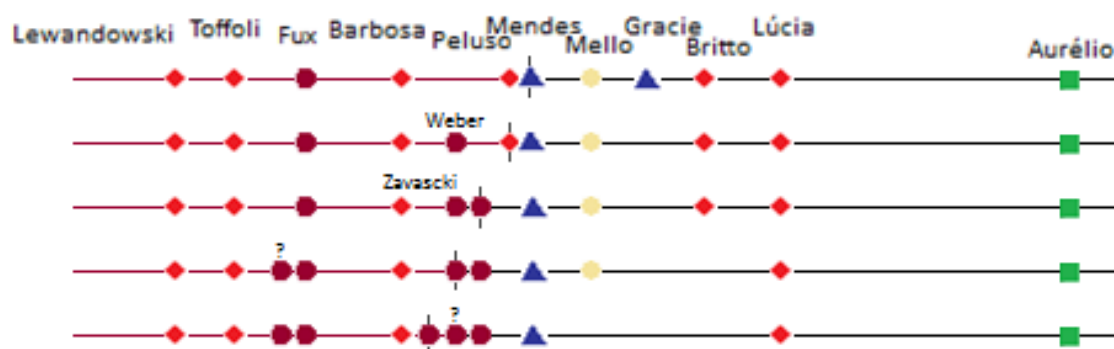


Figure 4 – Estimated Ideal Points for the *Mensalão* trial

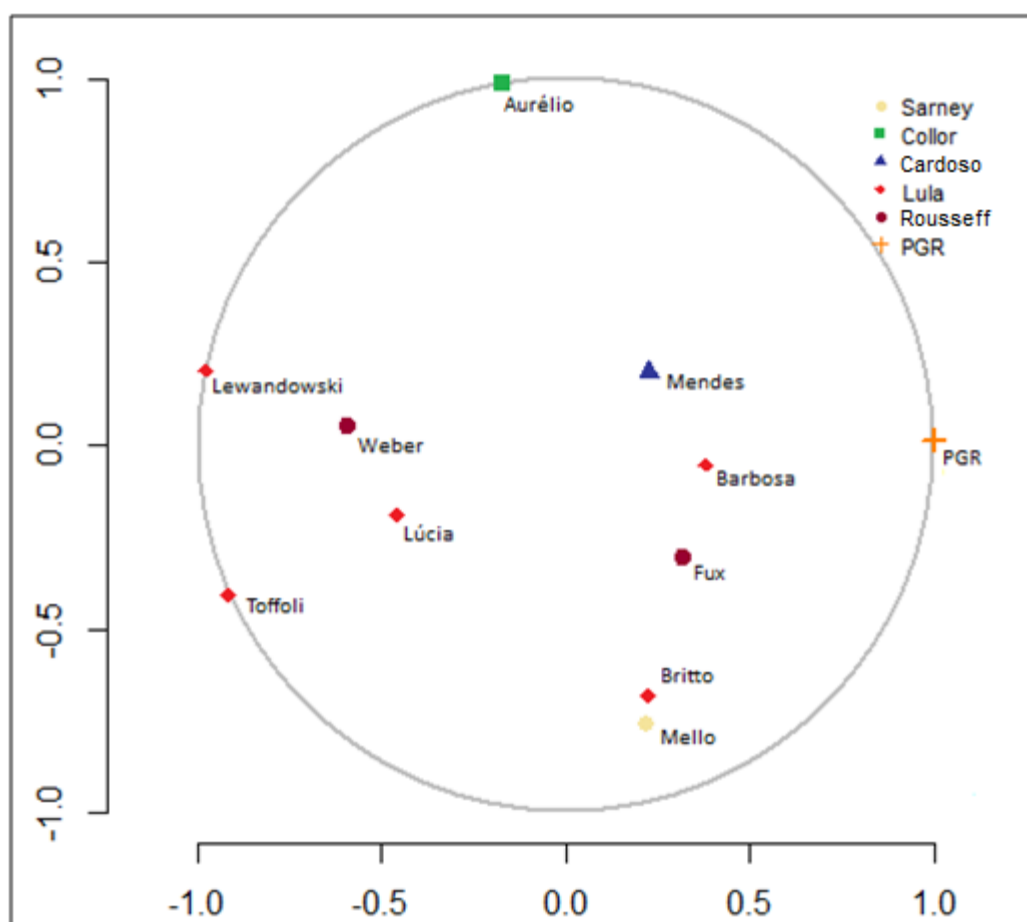


Table 5 – Estimated Coordinates – The *Mensalão* trial

Justice	Coordinates	
	1st dimension	2nd dimension
Mello	0,221	-0,756
Aurélio	-0,172	0,985
Mendes	0,228	0,200
Peluso	N/A	N/A
Barbosa	0,382	-0,051
Britto	0,225	-0,679
Lúcia	-0,455	-0,187
Lewandowski	-0,978	0,206
Toffoli	-0,915	-0,405
Weber	-0,588	0,054
Fux	0,323	-0,306
PGR	1,000	0,015

Table 6 – Summary estimates – The *Mensalão* trial

Number of roll calls	74 (39 omitted)
‘Yes’ predicted	452 de 471 - 96,0% correctly predicted
‘No’ predicted	323 de 343 - 94,2% correctly predicted

Appendix 1

Table A1 – Periods of Different Court Compositions

Period	Date
1 st	20/06/2002 to 24/06/2003
2 nd	25/06/2003 to 29/06/2004
3 rd	30/06/2004 to 15/03/2006
4 th	16/03/2006 to 20/06/2006
5 th	21/06/2006 to 04/09/2007
6 th	05/09/2007 to 22/10/2009
7 th	23/10/2009 to 02/03/2011
8 th	03/03/2011 to 18/12/2011
9 th	19/12/2011 to 08/03/2012

Table A2 – Court Composition per Period

[illegible]

Appendix 2

Figure A1 – *Scree plot* – Dimension (horizontal axis) and eigenvalues (vertical axis)
1st period

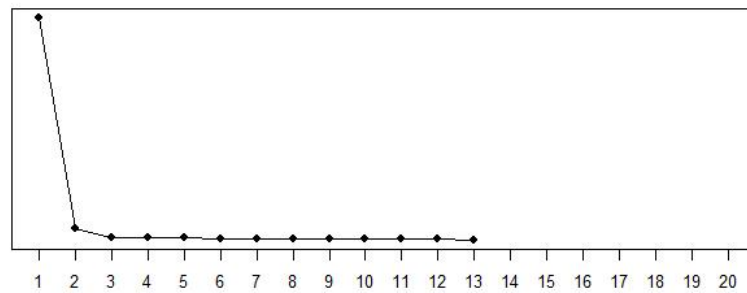


Figure A2 – *Scree plot* – Dimension (horizontal axis) and eigenvalues (vertical axis)
2nd period

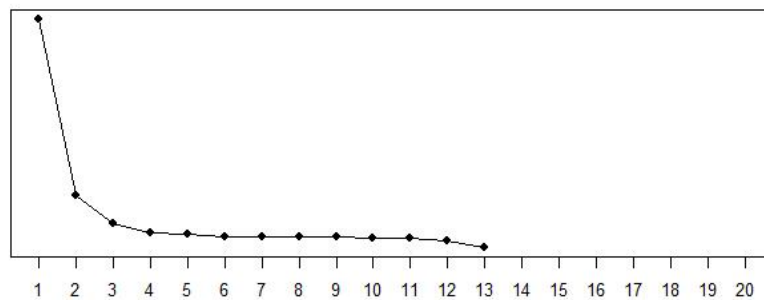


Figure A3 – *Scree plot* – Dimension (horizontal axis) and eigenvalues (vertical axis)
3rd period

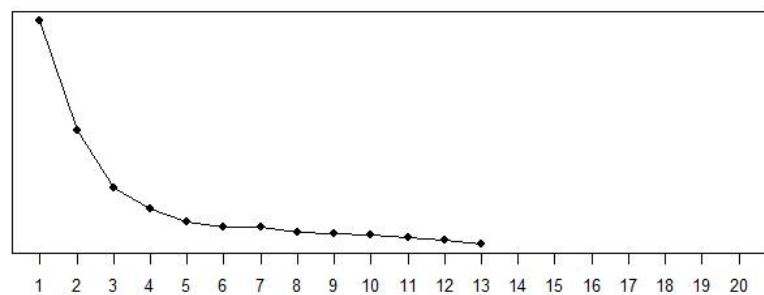


Figure A4 – *Scree plot* – Dimension (horizontal axis) and eigenvalues (vertical axis)
4th and 5th period

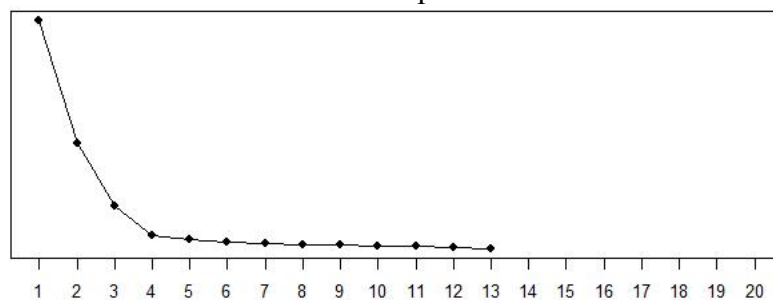


Figure A5 – *Scree plot* – Dimension (horizontal axis) and eigenvalues (vertical axis)
6th period

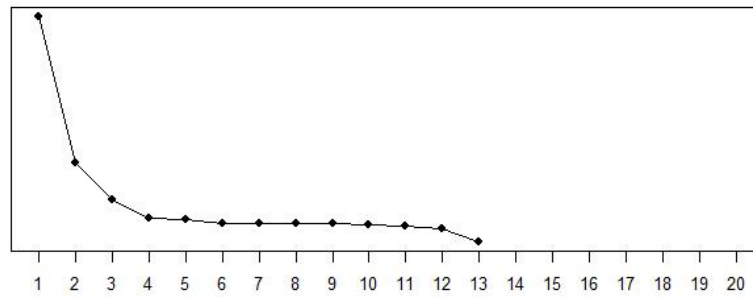
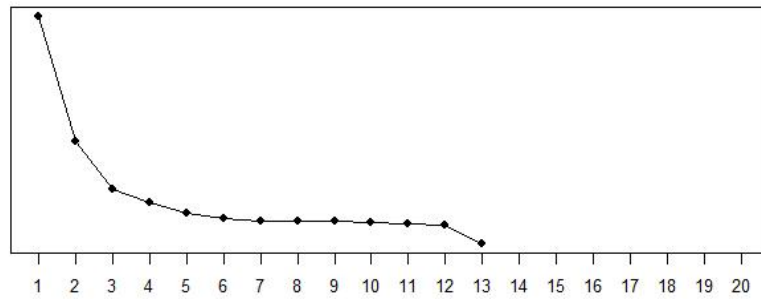


Figure A6 – *Scree plot* – Dimension (horizontal axis) and eigenvalues (vertical axis)
7th, 8th and 9th period



Appendix 3

1st period: 06/20/2002 to 06/24/2003.

Chosen conservative Justice: Moreira Alves.

Composition¹⁷: Moreira Alves, Sydney Sanches, Sepúlveda Pertence, Celso de Mello, Carlos Velloso, Marco Aurélio, Ilmar Galvão, Maurício Corrêa, Nelson Jobim, Ellen Gracie, *Gilmar Mendes*.

Figure A7 – Estimated Ideal Points – 1st period

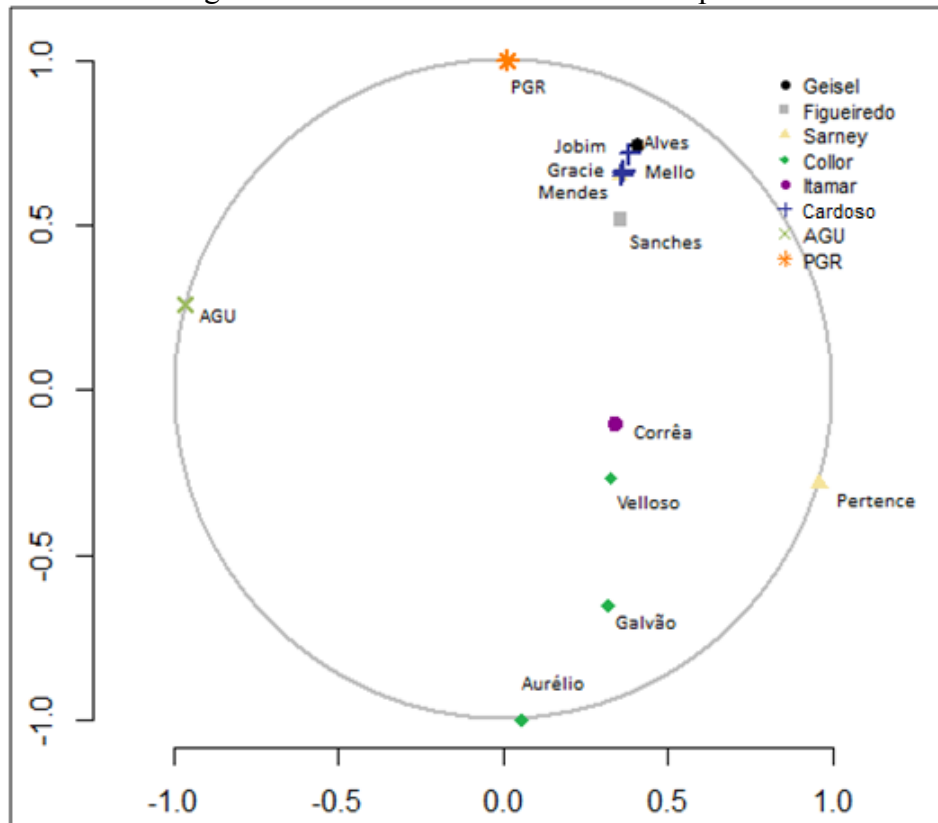


Table A3 – Summary estimates – 1st period

Number of votes	117 (37 omitted)
‘Yes’ predicted	1058 of 1066 - 99,2% correctly predicted
‘No’ predicted	209 of 218 - 95,9% correctly predicted

¹⁷ Justices written in italic have joined the court in the period. Justices with an asterisk didn't have enough votes for trustworthy estimates.

2nd period: 06/256/2003 to 06/29/2004.

Chosen conservative Justice: Gilmar Mendes.

Composição: Sepúlveda Pertence, Celso de Mello, Carlos Velloso, Marco Aurélio, Maurício Corrêa, Nelson Jobim, Ellen Gracie, Gilmar Mendes, *Cezar Peluso*, *Ayres Britto*, *Joaquim Barbosa*.

Figure A8 – – Estimated Ideal Points – 2nd period

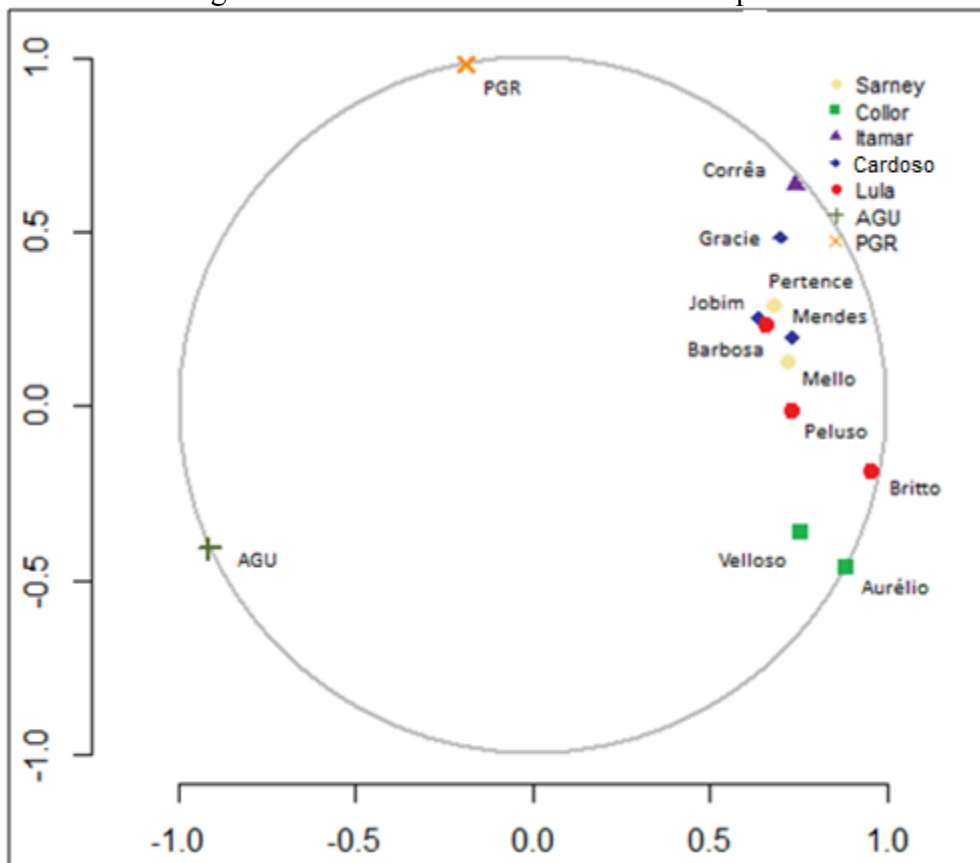


Table A4 – Summary estimates – 2nd period

Number of votes	50 (39 omitted)
‘Yes’ predicted	405 of 414 - 97,8% correctly predicted
‘No’ predicted	135 of 141 - 95,7% correctly predicted

3rd period: 06/30/2004 to 03/15/2006.

Chosen conservative Justice: Gilmar Mendes.

Composition: Sepúlveda Pertence, Celso de Mello, Carlos Velloso, Marco Aurélio, Nelson Jobim, Ellen Gracie, Gilmar Mendes, Cezar Peluso, Ayres Britto, Joaquim Barbosa, *Eros Grau*.

Figure A9 – Estimated Ideal Points – 3rd period

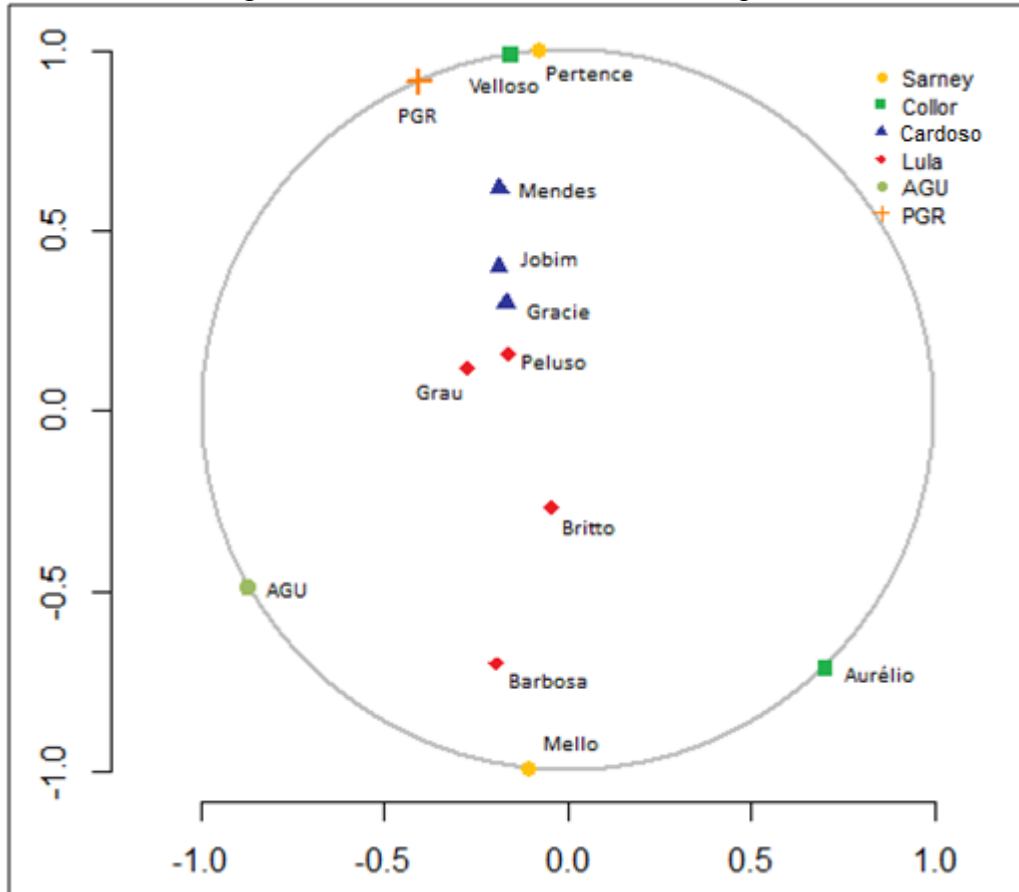


Table A5 – Summary estimates – 3rd period

Number of votes	65 (55 omitted)
‘Yes’ predicted	447 of 481 - 92,9% correctly predicted
‘No’ predicted	258 of 279 - 92,5% correctly predicted

4th e 5th period¹⁸: 03/16/2006 to 06/20/2006, 06/21/2006 to 09/04/2007.

Chosen conservative Justice: Marco Aurélio.

Composition: Sepúlveda Pertence, Celso de Mello, Marco Aurélio, Nelson Jobim*, Ellen Gracie, Gilmar Mendes, Cezar Peluso, Ayres Britto, Joaquim Barbosa, Eros Grau, Ricardo Lewandowski, Carmen Lúcia.

Figure A10 – Estimated Ideal Points – 4th and 5th periods

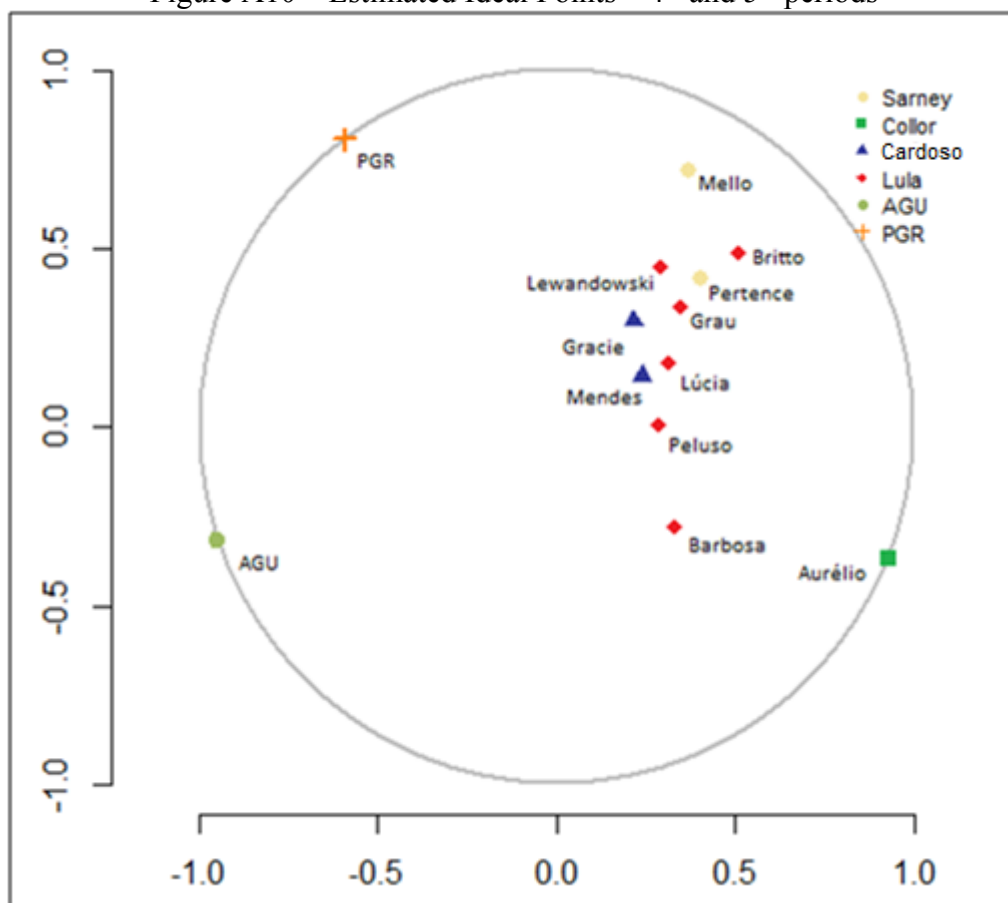


Table A6 – Summary estimates – 4th and 5th periods

Number of votes	86 (80 omitted)
‘Yes’ predicted	641 of 668 - 96,0% correctly predicted
‘No’ predicted	309 of 328 - 94,2% correctly predicted

¹⁸ These periods are presented together because there weren’t enough votes for separate estimates.

6th period: 05/09/2007 to 22/10/2009.

Chosen conservative Justice: Gilmar Mendes.

Composition: Celso de Mello, Marco Aurélio, Nelson Jobim, Ellen Gracie, Gilmar Mendes, Cezar Peluso, Ayres Britto, Joaquim Barbosa, Eros Grau, Ricardo Lewandowski, Carmen Lúcia, *Menezes Direito*.

Figure A11 – Estimated Ideal Points – 6th period

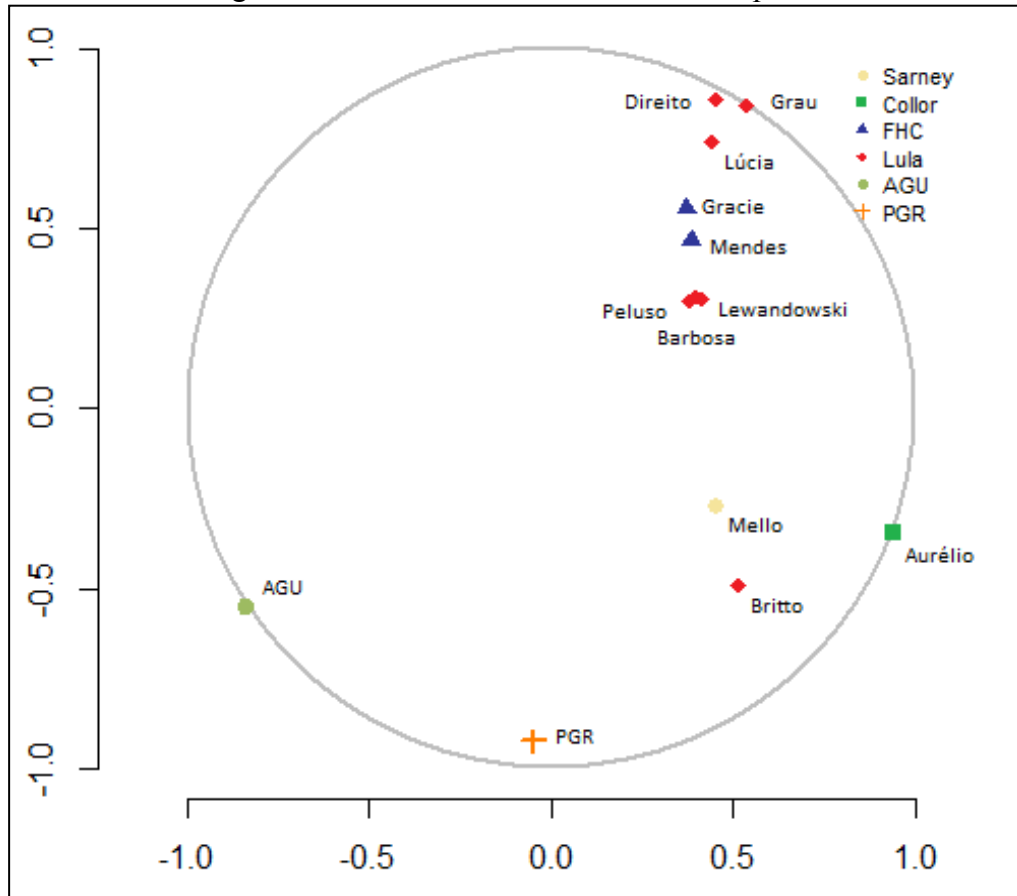


Table A7 – Summary estimates – 6th period

Number of votes	54 (42 omitted)
‘Yes’ predicted	429 of 435 - 98,6% correctly predicted
‘No’ predicted	142 of 159 - 89,3% correctly predicted

7th, 8th e 9th period: 23/10/2009 to 02/03/2011, 03/03/2011 to 18/12/2011, 19/12/2011 to 08/03/2012.

Chosen conservative Justice: Gilmar Mendes.

Composition: Celso de Mello, Marco Aurélio, Nelson Jobim, Ellen Gracie, Gilmar Mendes, Cezar Peluso, Ayres Britto, Joaquim Barbosa, Eros Grau*, Ricardo Lewandowski, Carmen Lúcia, *Dias Toffoli, Luiz Fux, Rosa Weber**.

Figure A12 – Estimated Ideal Points – 7th, 8th and 9th periods

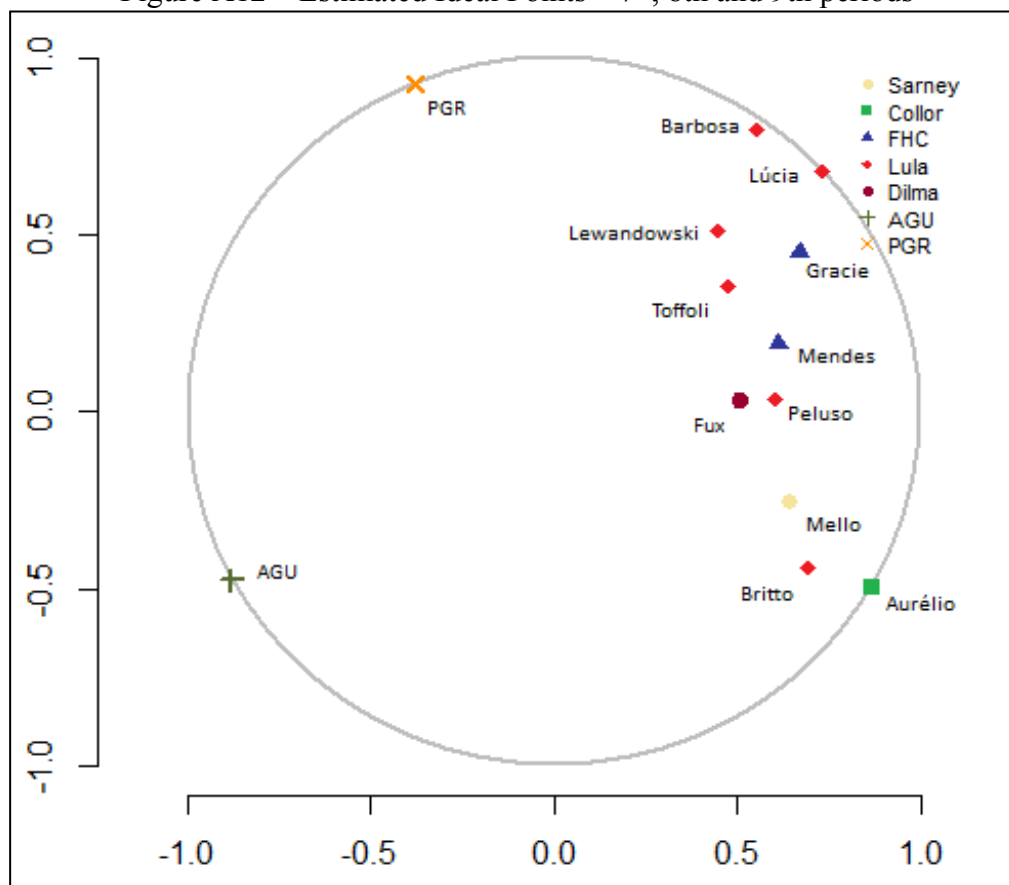


Table A8 – Summary estimates – 7th, 8th and 9th periods

Number of votes	73 (56 omitted)
‘Yes’ predicted	505 of 522 - 96,7% correctly predicted
‘No’ predicted	230 of 244 - 94,3% correctly predicted