



The Contextual Relationship with Access to Justice: Parameters That Impact the Brazilian Courts



ACADEMIC ARTICLES

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ABSTRACT

Access to justice is understood as a fundamental right that serves as an instrument for the courts to claim other rights. Factors such as ignorance of rights and the perception of justice as expensive, slow, and exclusionary prevent most of the population from going to court. This study aimed to analyze the quantitative determinants of (potential and actual) access to the Judiciary across all Brazilian courts, focusing on two perspectives: internal elements of the Judiciary and external elements. The method used was multiple linear regression, with a sample of 89 Brazilian courts (27 state courts of justice, 27 electoral courts, 24 regional labor courts, five federal regional courts, three military courts, and three superior courts). The results indicate that the statistically significant variables for effective access to the judiciary were the number of judges, the number of effective civil servants, resources invested in technology, the education rate, and Gross Domestic Product (GDP) per capita. Regarding potential access to the judiciary, the only statistically significant variables were the number of civil servants and GDP per capita.

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1 INTRODUCTION

The definition of “access to justice” has evolved, reflecting the multifaceted nature of this fundamental right.¹ In this sense, access to justice has been influenced by various factors, including political, religious, sociological, philosophical, and historical ones, reflecting the evolution of citizens’ struggle to affirm their fundamental rights.² Nevertheless, access to justice is closely connected to public policies that promote constitutionally guaranteed social rights, such as health, education, decent work, and social security. When these rights are not effectively upheld, their implementation may be challenged in court. However, access to justice itself is not always regarded as an essential public policy. Despite this conclusion, access to justice is understood as an essential right and as an instrument through which individuals can exercise and protect the rights guaranteed by constitutional safeguards.³

Thus, given the importance of judicial access, the difficulties encountered in effectively accessing the judiciary are consistently cited as an inhibiting factor in the full realization of citizenship.⁴ The lack of knowledge of rights and the perception that justice is seen as expensive and slow keep most of the population from the possibility of going to court.⁵ Access to justice for some groups, such as indigenous peoples in Latin America, is even more restrict.⁶ Understanding these dynamics is a crucial first step toward addressing society’s demands, mending the fractures in the social fabric, and distributing rights equitably.⁷ Moreover, access to justice is determinant in ensuring fairness and a permanent pathway to expanding citizenship and promoting equality. Thus, the efficiency of judicial decisions plays a central role in advancing the democratization of our society, as it increasingly aligns with social, political, economic, and cultural transformations occurring outside the courts.⁸ In this context, access is also understood in the literature as a dimension of judicial performance.⁹

In the Brazilian context, it is fundamental to emphasize that access to the judicial system is considerably distant for a significant part of the population; however, this access plays a crucial role in guaranteeing rights, resolving disputes, and promoting

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1 Nicholas S. Bryner, “Brazil’s Green Court: Environmental Law in the Superior Tribunal de Justiça (High Court of Brazil),” *Pace Environmental Law Review* 29, no. 2 (April 2012): 470–470, <https://doi.org/10.58948/0738-6206.1694>.

2 Rafaela Selem Moreira and Gisele Cittadino, “Favela’s Individual and Collective Access to Justice Under the Brazilian Democratic Constitution: An Overview of 30 Years of Insurgent Peripheral Litigation,” *International Journal of Arts, Humanities & Social Science* 04, no. 08 (August 2023): 16–28, <https://doi.org/10.56734/ijahss.v4n8a3>.

3 Ministry of Justice, *Atlas of Access to Justice, National Indicators of Access to Justice* (Brasília, 2013), 1–61, <https://www.conjur.com.br/dl/at/atlas-acesso-justica-brasil.pdf>.

4 Maria Tereza Aina Sadek, “Poder Judiciário: Perspectivas de Reforma,” *Opinião Pública* 10, no. 1 (May 2004): 1–62, <https://doi.org/10.1590/S0104-62762004000100002>.

5 Ibid.

6 Daniel M. Brinks, “Access to What? Legal Agency and Access to Justice for Indigenous Peoples in Latin America,” *The Journal of Development Studies* 55, no. 3 (March 2019): 348–65, <https://doi.org/10.1080/00220388.2018.1451632>.

7 Moreira and Cittadino, “Favela’s Individual and Collective Access to Justice under the Brazilian Democratic Constitution: An Overview of 30 Years of Insurgent Peripheral Litigation.”

8 Ibid.

9 Renato Máximo Sátiro, Marcos Moraes Sousa, and Pedro Miguel Alves Ribeiro Correia, “Administration of Justice: An Essay on the Dimensions and Explanatory Variables of Judicial Performance,” *READ Revista Eletrônica de Administração (Porto Alegre)* 30, no. 3 (December 2024): 1554–84, <https://doi.org/10.1590/1413-2311.424.137042>.

harmony in social conflicts.¹⁰ In this context, a modern approach to structuring the justice system emphasizes that effective access to the judiciary and administrative bodies is now a fundamental requirement of a contemporary legal system; moreover, it is crucial to enforce other rights.¹¹

The extent of judicial procedures and, consequently, the very functioning of the legal system are highly relevant to the agendas of social researchers, public policymakers, politicians, lawyers, and court administrators in several nations worldwide. Whether the time required to resolve a legal dispute in a country is reasonable remains a matter of debate. In the case of Brazilian courts, it is important to note that they are generally perceived as slow.¹² Despite the measures adopted in recent years to promote the so-called reform of the judiciary,¹³ as well as all the initiatives implemented to increase efficiency and speed in adjudicating judicial cases in Brazil, it is observed, on many occasions, that the citizen continues to be deprived of their constitutionally guaranteed right to a reasonable duration of the judicial process.¹⁴

Access to justice is limited by several barriers that hinder the right of the population to resort to the justice system; as an example of such obstacles, we have high judicial costs, a lack of adequate representation, geographical distance, excessive formalism, procedural slowness, and a lack of information about the rights of the population.¹⁵ Despite the courts' increased investment in recent years, studies are still needed to assess the effectiveness of the strategies implemented to improve the efficiency of the Brazilian judiciary.¹⁶ Thus, understanding the factors that affect access to justice, whether economic, social, demographic, or cultural, and how they affect a particular population, allows the government to program and implement specific and targeted solutions to improve the provision of justice to citizens.¹⁷

These authors measure potential access to justice along three dimensions: the first is the size, represented by the number of judges; the second is judicial productivity,

10 Marcella Raphaella Faustino, Eduardo Cerqueira Batitucci, and Marcus Vinicius Gonçalves Cruz, "Public Defense: Paths and Gaps in Access to Justice," *Revista Direito GV* 19 (2023): 1–25, <https://doi.org/10.1590/2317-6172202314>.

11 Caio Santiago Fernandes Santos, "Access to Justice in Brazil: Notes on the Legal Service Model of the Public Defender's Office," *Revista Brasileira de Sociologia do Direito* 3, no. 2 (September 2016): 130–45, <https://doi.org/10.21910/rbsd.v3n2.2016.59>.

12 Caio Castelliano and Tomas Aquino Guimaraes, "Court Disposition Time in Brazil and in European Countries," *Revista Direito GV* 19 (2023): 1–25, <https://doi.org/10.1590/2317-6172202302>.

13 Thiago Maia Sayão Moraes, Duljon Laerti Boldrin, and Marcos Moraes Sousa, "Innovation in the Judiciary: LIODS and Potential Developments in the Light of the Map of Processes and Results," *Humanidades & Inovação* 10, no. 18 (2023): 174–85, <https://revista.unitins.br/index.php/humanidadeseinovacao/article/view/9694>.

14 Renato Máximo Sátiro and Marcos Moraes Sousa, "Quantitative Determinants of Judicial Performance: Factors Associated with the Productivity of the Courts," *Revista Direito GV* 17, no. 1 (2021): 1–27, <https://doi.org/10.1590/2317-6172202107>.

15 Eloisa Gonçalves Silva Torlig and Bernardo Oliveira Buta, "A Relação Entre Acesso Potencial e Efetivo na Justiça Brasileira," ed. Tomas Aquino Guimarães, Adalmir Oliveira Gomes, and Edson Ronaldo Guarido Filho (Curitiba: Instituto Brasileiro de Estudos e Pesquisas Sociais – IBEPES, 2020): n.p., <https://www.enajus.org.br/anais/assets/papers/2020/sessao-06/1-a-relac-a-o-entre-acesso-potencial-e-efetivo-na-justic-a-brasileira.pdf>.

16 Adalmir Oliveira Gomes, Simone Tiêssa Jesus Alves, and Jéssica Tragueto Silva, "Relação Entre Investimento em Tecnologia e Produtividade de Tribunais no Brasil," ed. Tomas Aquino Guimarães, Adalmir Oliveira Gomes, and Edson Ronaldo Guarido Filho (Brasília: EnAJUS, 2018): n.p., https://www.enajus.org.br/anais/assets/papers/2018/020_EnAJus.pdf.

17 Torlig and Buta, "A Relação Entre Acesso Potencial e Efetivo na Justiça Brasileira."

measured by the number of cases resolved per judge; and the third is the effectiveness of the courts, reflected in the congestion rate. Our study focused on the number of judges as the leading indicator of potential access. This approach stems from the recognition that judges play a key role in the administration of justice, as they embody the judicial system and act as its essential pillar. Consequently, we consider judicial productivity and the congestion rate to be aspects of judicial infrastructure, supporting factors that facilitate the functioning of the justice system but do not overshadow the central importance of judges as key actors in the delivery of justice.

This discussion is grounded in several factors: the structural problems observed in the Brazilian judiciary; the social, cultural, and demographic characteristics of the different regions of a country with continental dimensions such as Brazil; the urgent debate on the exercise of citizenship prerogatives by those subject to jurisdiction; and the coexistence of different judicial specializations across institutional levels within the Brazilian judiciary. Based on these considerations, the following research question is posed: what are the quantitative determinants of potential and actual access to the judiciary across all Brazilian courts?

2 FACTORS THAT IMPACT ACCESS TO THE JUDICIARY

An increasing trend in the number of cases reaching the judiciary has been observed across all judicial levels and branches in Brazil.¹⁸ This imbalance revealed a persistent mismatch between the demand for services and the judiciary's capacity to meet it, present across all years and all bodies of the Brazilian judicial system.¹⁹ A consistent upward trend in the number of cases reaching the judiciary has been observed across Brazil's judicial instances and branches.²⁰ The volume of demand for judicial services is undeniably high, revealing a persistent mismatch between demand and the judiciary's capacity to respond to it across different years, institutional levels, and branches of the Brazilian judicial system.²¹ Importantly, the management model adopted by courts is also one factor contributing to the inefficiency of judicial organizations.

The justice administration system faces bottlenecks in modernization, computerization, and rationalization, and challenges are evident in the executive and legislative branches as well.²² In this context, the author emphasized that effective changes will only occur by overcoming administrative obstacles, even with a broad regulatory reform. This factor, i.e., the excess of cases brought before the judiciary and the consequent deficit in the functionality of the judicial service, can be attributed to several factors, of which three stand out: excessive litigation, procedural legislation, and administrative management.²³ First, Brazil has the highest number of lawyers per capita in the world

18 Adalmir Oliveira Gomes, Tomas Aquino Guimaraes, and Luiz Akutsu, "Court Caseload Management: The Role of Judges and Administrative Assistants," *Revista de Administração Contemporânea* 21, no. 5 (October 2017): 648–65, <https://doi.org/10.1590/1982-7849rac2017160179>.

19 Sadek, "Poder Judiciário: Perspectivas de Reforma."

20 Gomes, Guimaraes, and Akutsu, "Court Caseload Management: The Role of Judges and Administrative Assistants."

21 Sadek, "Poder Judiciário: Perspectivas de Reforma."

22 Pierpaolo Cruz Bottini, "A Reforma Do Judiciário: Aspectos Relevantes," *Revista da Escola Nacional da Magistratura* 2, no. 3 (April 2007): 89–99. <https://bdjur.stj.jus.br/dspace/handle/2011/20830>.

23 Ibid.

and a high litigation rate, which could suggest that mechanisms of access to justice function effectively.²⁴ However, a closer analysis indicates that access to the judicial system is unevenly distributed: while a small proportion of individuals and organizations use it intensively, much of the population lacks access to formal mechanisms for conflict resolution.²⁵ Procedural legislation is another factor contributing to delays, as the rules governing civil, criminal, and labor proceedings can delay dispute resolution.²⁶

Judges conduct the judicial process, overseeing trials, decisions, sentences, and appeals, while interpreting the law and exercising their discretion; a role that justifies society's high expectations. In line with structures such as the Brazilian National Justice Council (*Conselho Nacional de Justiça – CNJ*) Access to Justice Index, we distinguish between potential access (structural/demographic conditions, e.g., availability of legal aid) and actual access (institutional performance).²⁷ Unlike Torlig and Buta (2020), we classify court staff and lawyers as explanatory variables that shape the judicial infrastructure, rather than as direct measures of potential access, reserving the latter for judges as the judiciary's core capacity.²⁸ In accordance with Gomes and Guimarães (2013), access to justice is framed as a dimension of judicial performance, emphasizing the equitable provision of services beyond the mere resolution of cases.²⁹ This multidimensional view highlights the interaction between internal resources (e.g., judges) and external barriers (e.g., socioeconomic disparities), advocating for inclusive justice policies.

In one of the work fronts of the present study, we are interested in examining issues within the judiciary's internal structure; thus, we seek to understand the relationship between the Brazilian justice system's internal structure and access to the judiciary. In this sense, an insufficient number of magistrates is often identified as a determinant of the judiciary's low performance. There is a very unfavorable relationship between judges and population size in Brazil.³⁰ In particular, the "production of justice" is considered a "laborious" activity.³¹ In this context, judges play a prominent role among the operators of law because they utter the final word on controversies, litigation, crimes, and rights.³²

Despite the recognized importance of magistrates in delivering justice and the social prestige associated with judicial careers, both judges and judicial staff have been

24 Zakariae Elattar and Mingque Ye, "The Role and Impact of Institutional Distance on China's Export Trade with Countries in Africa and Asia," *International Journal of Economics and Finance* 15, no. 8 (July 2023): 96–105, <https://doi.org/10.5539/ijef.v15n8p96>.

25 Bottini, "A Reforma Do Judiciário: Aspectos Relevantes."

26 Ibid.

27 CNJ, *Justice in Numbers 2021: Year-Base 2020* (Brasília: Conselho Nacional de Justiça, 2021): 1–341, <https://www.cnj.jus.br/wp-content/uploads/2021/11/relatorio-justica-em-numeros2021-221121.pdf>.

28 Torlig and Buta, "A Relação Entre Acesso Potencial e Efetivo na Justiça Brasileira."

29 Adalmir Oliveira Gomes and Tomás Aquino Guimarães, "Judicial Performance: Conceptualization, State of the Art and Research Agenda," *Revista de Administração Pública* 47, no. 2 (April 2013): 379–401, <https://doi.org/10.1590/S0034-76122013000200005>.

30 Sadek, "Poder Judiciário: Perspectivas de Reforma."

31 Gustavo Ferro, Carlos A. Romero, and Exequiel Romero-Gómez, "Efficient Courts? A Frontier Performance Assessment," *Benchmarking: An International Journal* 25, no. 9 (November 2018): 3443–58, <https://doi.org/10.1108/BIJ-09-2017-0244>.

32 Sadek, "Poder Judiciário: Perspectivas de Reforma"; James Holston, "The Misrule of Law: Land and Usurpation in Brazil," *Comparative Studies in Society and History* 33, no. 4 (October 1991): 695–725, <https://doi.org/10.1017/S0010417500017291>.

deeply affected by recent reforms to the structure of the Brazilian judicial system.³³ In this context, the literature indicates a positive relationship between the number of human resources in a given court and the number of cases resolved.³⁴ Similarly, Sauerbronn and Sauerbronn (2015) suggest that a larger number of employees positively affects court productivity.³⁵

Thus, considering the structural reforms that have taken place concerning the structure of the judiciary, as well as the number of demands brought to the court in recent years and the complexity of the court personnel structure observed, the following hypotheses are proposed:

- H1: The number of judges positively impacts actual access to the judiciary.
- H2: The number of public servants positively impacts potential access to the judiciary.
- H2B: The number of public servants positively impacts actual access to the judiciary.
- H3: The number of outsourced civil servants positively impacts potential access to the judiciary.
- H3B: The number of outsourced public servants positively impacts actual access to the judiciary.

From another perspective, a court's administrative organization can significantly affect how judicial services are provided and accessed within its jurisdiction.³⁶ Therefore, researchers should consider not only individuals but also institutions, such as courts and administrative bodies, as well as other potential structural barriers that may restrict access to justice.³⁷ Thus, among the various actions the State may take to ensure access to justice, the most elementary is to create and maintain a judicial structure. The bodies that comprise this structure must provide citizens with access to mechanisms for efficiently resolving cases brought before the courts.³⁸

33 Fernanda Filgueiras Sauerbronn and João Felipe Rammelt Sauerbronn, "Social Representations of the Judicial Reform – a Study Based on the Perspectives of the Employees of the Court of Justice of Bahia State," *Revista de Administração Pública* 49, no. 3 (June 2015): 719–37, <https://doi.org/10.1590/0034-7612130108>; Ricardo Augusto Ferreira Silva, Tomas Aquino Guimarães, and Marcos Moraes Sousa, "What Judges Think about the Meaning of Their Work," *International Journal for Court Administration* 10, no. 1 (February 2019): 59–66, <https://doi.org/10.18352/ijca.258>.

34 Renan Marçal Manz and Marcos Moraes Sousa, "The Relationship between Demand and Performance of Magistrates: Investigation of a Functional Model in the Form of an Inverted U," *Revista de Administração Pública* 55, no. 5 (October 2021): 1215–31, <https://doi.org/10.1590/0034-761220210027>; Virginia Rosales-López, "Economics of Court Performance: An Empirical Analysis," *European Journal of Law and Economics* 25, no. 3 (June 2008): 231–51, <https://doi.org/10.1007/s10657-008-9047-9>.

35 Sauerbronn and Sauerbronn, "Social Representations of the Judicial Reform – a Study Based on the Perspectives of the Employees of the Court of Justice of Bahia State."

36 Alexandre Samy Castro, "Court Performance in Brazil: Evidence from Judicature-Level Data," *SSRN Electronic Journal*, (April 2009): 1–80, <https://doi.org/10.2139/ssrn.2612941>.

37 Catherine Albiston and Rebecca L. Sandefur, "Expanding the Empirical Study of Access to Justice," *Wisconsin Law Review* 2013, no. 1 (June 2013): 101–20, <https://wlr.law.wisc.edu/wp-content/uploads/sites/1263/2013/04/4-Albiston-Sandefur.pdf>.

38 Rodrigo Alvares Carneiro, "The Importance of the Theory of the Costs of the Right to the Study of Access to Justice in the Brazilian Judicial Courts," *Revista Acadêmica da Faculdade de Direito do Recife* 90, no. 2 (December 2018): 218–44, <https://doi.org/10.51359/2448-2307.2018.237649>.

In this regard, an issue that has yet to be explored in studies on the administration of justice remains: the size of the courts. The size of a court may be influenced by its legal culture, and its size and organizational structure can contribute to greater operational efficiency.³⁹ Nevertheless, from this perspective, based on the context of the judicial reform implemented in Spain in the early 2000s, which aimed to improve aspects of promoting the efficiency of the courts, changes in judicial organization and the improvement of technology, as well as changes in substantive and procedural norms, new studies should be conducted to determine the effects of these changes on judicial performance.⁴⁰

From this perspective, when analyzing access to justice, it is important to observe which party, the victim or defendant, is more responsive to increased travel distances to court.⁴¹ This evaluation will depend on the parties' characteristics and the relative importance of their transport costs. For example, large corporations are usually located in large cities with easy access to courts. Therefore, the distance costs may be insignificant in this specific case. Thus, considering the particularities of the sample of court objects of the present study, which are composed of heterogeneous courts among themselves, headquartered and with jurisdiction in territories also with enormous distinctions between them, the following hypothesis is formulated:

- H4: The number of judicial units positively impacts potential access to the judiciary.
- H4B: The number of judicial units positively impacts actual access to the judiciary.

From another perspective, two of the alternatives proposed as measures to address the judiciary's crisis are the adoption of information and communication technologies (ICTs) and the hiring of personnel, including judges and administrative assistants.⁴² These practices have been identified as among the main strategies used by Brazilian judicial organizations to address challenges in the justice system, such as limited access to justice, high caseloads, and delays in case resolution.⁴³ In a related study, Procopiuck (2018) examined the use of ICTs and the implementation of management strategies to ensure reasonable court timeframes in different legal contexts.⁴⁴ In this line, it was

39 Teresa Dalton and Jordan M. Singer, "Bigger Isn't Always Better: An Analysis of Court Efficiency Using Hierarchical Linear Modeling," *Pace Law Review* (Teaneck) 34, no. 3 (December 2014): 1169–89, <https://doi.org/10.58948/2331-3528.1869>.

40 Miguel A. García-Rubio and Virginia Rosales-López, "Justice and Economy: Evaluating Judicial Efficiency in Andalusia," *InDret: Revista Para El Análisis Del Derecho* 4 (2010): 1–26, https://indret.com/wp-content/themes/indret/pdf/773_es.pdf.

41 Nathalie Chappe and Marie Obidzinski, "The Impact of the Number of Courts on the Demand for Trials," *International Review of Law and Economics* 37 (March 2014): 121–25, <https://doi.org/10.1016/j.irl.2013.09.002>.

42 Adalmir Oliveira Gomes, Tomas Aquino Guimaraes, and Luiz Akutsu, "The Relationship between Judicial Staff and Court Performance: Evidence from Brazilian State Courts," *International Journal for Court Administration* 8, no. 1 (October 2016): 12–19, <https://doi.org/10.18352/ijca.214>; Gomes and Guimarães, "Judicial Performance: Conceptualization, State of the Art and Research Agenda."

43 Gomes, Alves, and Silva, "Relação Entre Investimento em Tecnologia e Produtividade de Tribunais no Brasil."

44 Mario Procopiuck, "Information Technology and Time of Judgment in Specialized Courts: What Is the Impact of Changing from Physical to Electronic Processing?," *Government Information Quarterly* 35, no. 3 (September 2018): 491–501, <https://doi.org/10.1016/j.giq.2018.03.005>.

concluded that there was no significant difference between the durations of the physical and electronic processes. It was even found that, in the context studied by the author above, physical cases are occasionally faster than cases presented electronically.

In this respect, given the importance of ICTs across different fields of knowledge and their widespread presence in contemporary organizations, including the branches of government and the judiciary.⁴⁵ Based on this discussion, the following hypotheses are formulated:

- H5: Investment in technology positively impacts potential access to the judiciary.
- H5B: Investment in technology positively impacts actual access to the judiciary.
- H6: The cost of technology positively impacts potential access to the judiciary.
- H6B: The cost of technology positively impacts actual access to the judiciary.

From the second perspective of the present study, we are interested in looking “outside the judiciary.” We are currently interested in understanding how a given location’s economic and social characteristics influence access to the judiciary. In this regard, it should be noted that despite the constraints that naturally keep a significant portion of the population away from access to justice, economic, social, and, especially, educational difficulties, the volume of cases in the judiciary has continuously grown and reached superlative levels.⁴⁶ Thus, perhaps one of the primary obstacles to full access to justice is the lack of information among those targeted about fundamental rights and guarantees, which in turn leads to a lack of knowledge of the mechanisms (judicial and extrajudicial) and care units involved in accessing justice.⁴⁷

An important reflection on this topic highlights how we administer justice through courts and lawyers often resembles the reactive nature of an emergency room rather than the proactive approach of preventive justice.⁴⁸ Moreover, for people to have the autonomy to make good choices regarding justice and conflict prevention/resolution, they need to be educated. Nevertheless, in this context, it can be seen that, by expressing constitutional provisions, under the terms of Article 205 of the Federative Republic of Brazil’s Constitution of 1988 (*Constituição Federal – CF*), the State must provide citizens with the means to acquire an education that prepares them for the whole exercise of citizenship.⁴⁹ The State must also make up for any lack of information on fundamental rights and guarantees and must, above all, guarantee access to justice in Brazil, whose protection, both at the individual and collective levels, is a fundamental right of immediate applicability (*CF*, Art. 5, item XXXV, §§ 1 and 2).⁵⁰

Therefore, the following hypotheses are formulated:

45 Renato Máximo Sátiro, *Determinantes Emergentes da Produtividade em Tribunais de Justiça Estaduais*, (Goiania, 2019): 1–68, <https://repositorio.bc.ufg.br/tede/handle/tede/9327>.

46 Maria Tereza Aina Sadek, “Acesso à Justiça: Um Direito e Seus Obstáculos,” *Revista USP*, no. 101 (May 2014): 55–66, <https://doi.org/10.11606/issn.2316-9036.v0i101p55-66>.

47 Ministry of Justice, *Atlas of Access to Justice, National Indicators of Access to Justice*.

48 Trevor C. W. Farrow, “What Is Access to Justice?,” *Osgoode Hall Law Journal* 51, no. 3 (April 2014): 957–88, <https://doi.org/10.60082/2817-5069.2761>.

49 Brazil, “Constitution of the Federative Republic of Brazil of 1988,” (Brasília: Presidency of the Republic: 1988): n.p., https://www.planalto.gov.br/ccivil_03/constituicao/constituicao.htm.

50 Ministry of Justice, *Atlas of Access to Justice, National Indicators of Access to Justice*.

- H7: The educational attainment rate positively impacts potential access to the judiciary.
- H7B: The educational attainment rate positively impacts actual access to the judiciary.
- H8: The illiteracy rate negatively impacts potential access to the judiciary.
- H8B: The illiteracy rate negatively impacts actual access to the judiciary.

Another strand of studies applied to access to justice focuses on determining the relationship between income and access to justice. Thus, in the Brazilian context, which is re-democratized and marked by profound socioeconomic inequalities, it is customary to emphasize the essential need for access to health care, education, and security.⁵¹ However, despite the importance of these areas, access to justice, especially in sectors with greater social vulnerability, is urgently needed.⁵²

Distance between individuals and judicial institutions is also a barrier, alongside economic, social, and cultural factors.⁵³ According to Santos (1986), this phenomenon is mainly explained by three factors: (i) citizens with fewer financial resources tend to have less knowledge of their rights and are therefore less likely to recognize a given problem as a legal issue; (ii) even when they recognize a problem as legal, they must be willing to file a lawsuit, and the data show that individuals with fewer resources are more hesitant than others to go to court; and (iii) even after recognizing the legal nature of the problem and being willing to resort to the courts, they may still face additional obstacles. The lower the citizens' socioeconomic status, the less likely they are to know a lawyer or have friends who do. They are also less likely to know how and when to contact a lawyer. Moreover, geographical distance may further hinder access, particularly when law offices and courts are located far from where these individuals live.

They are also less likely to know how and when to contact a lawyer. Moreover, geographical distance may further hinder access to justice, especially when law offices and courts are located far from where these individuals live. It is also argued that the formulation of legal policies should more carefully consider the experiences of vulnerable litigants.⁵⁴ In this regard, the following hypotheses are proposed:

- H9: Population income positively impacts potential access to the judiciary.
- H9B: Population income positively impacts actual access to the judiciary.

3 METHODS

Guided by the research question – “What are the quantitative determinants of potential and actual access to justice when all Brazilian courts are considered?” –

51 Wendy Hunter and Natasha Borges Sugiyama, “Democracy and Social Policy in Brazil: Advancing Basic Needs, Preserving Privileged Interests,” *Latin American Politics and Society* 51, no. 2 (January 2009): 29–58, <https://doi.org/10.1111/j.1548-2456.2009.00047.x>; Laryssa Saraiva Queiroz, “The Prelude of Access to Justice to the Vulnerable People in Brazil,” *Revista da Defensoria Pública da União*, no. 15 (June 2021): 87–114, <https://doi.org/10.46901/revistadadpu.i15.p87-114>.

52 Queiroz, “The Prelude of Access to Justice to the Vulnerable People in Brazil.”

53 Boaventura Sousa Santos, “Introdução à Sociologia da Administração da Justiça,” *Revista Crítica de Ciências Sociais*, no. 21 (November 1986): 11–44, <https://hdl.handle.net/10316/10797>.

54 Nick Gill et al., “The Tribunal Atmosphere: On Qualitative Barriers to Access to Justice,” *Geoforum* 119 (February 2021): 61–71, <https://doi.org/10.1016/j.geoforum.2020.11.002>.

this study employed multiple linear regression (MLR).⁵⁵ In this model, a dependent variable is expressed as a linear function of one or more explanatory variables.⁵⁶ In this sense, the proposed model represents the relationship between the variables in the real world, constituting the mathematical device for verifying the relationship between the proposed variables⁵⁷, and serving as a subsidy for the construction of conclusions about the hypotheses proposed in the “Theoretical Framework” section.

Secondary data were obtained from the Justice in Numbers Report, organized and published annually by the CNJ.⁵⁸ The Justice in Numbers report has been published annually since 2003 and is the main source of data and statistics regarding the Judiciary in Brazil.⁵⁹ The report above presents approximately 1,200 variables across the various specializations of the judiciary, including factors such as processes, people, and indicators for multiple subjects.⁶⁰ Thus, “Justice in Numbers” has been used in several quantitative studies focusing on the judiciary’s performance in the Brazilian context, and has also served as a basis for actions developed by the CNJ to quantify, measure, and analyze various aspects of the Brazilian Judiciary.⁶¹

The study comprises a sample of 89 Brazilian courts, arranged as follows: 27 state courts of justice (*Tribunais de Justiça – TJs*), 27 electoral courts (*Tribunais Regionais Eleitorais – TREs*), 24 labor courts (*Tribunais Regionais do Trabalho – TRTs*), five federal courts (*Tribunais Regionais Federais – TRFs*), three military courts (*Tribunais de Justiça Militar – TJMs*); and three superior courts: military (*Superior Tribunal Militar – STM*), labor (*Tribunal Superior do Trabalho – TST*) and, the superior court (*Superior Tribunal de Justiça – STJ*).⁶² Data on the Access to Justice Index, published by the CNJ in 2021, were also used.⁶³ The database contains 50 variables, including demographic and performance issues for each court covered. The 89 courts of Brazil’s five types of justice (state, federal, labor, electoral, and military) were considered.

The variables incorporated are presented in the analysis, which briefly describes the operationalized proxies used to build the proposed analysis (Table 1). The variables are divided into three categories based on their roles in the analysis: predictive, explanatory, and control variables.

55 Luiz Paulo Lopes Fávero et al., *Análise de Dados: Modelagem Multivariada Para Tomada de Decisões*, (Rio de Janeiro: Elsevier, 2009): 1–646; Luiz Paulo Lopes Fávero and Patrícia Prado Belfiore, *Manual de Análise de Dados: Estatística e Modelagem Multivariada Com Excel, SPSS e Stata*, (Rio de Janeiro: Elsevier, 2017): 1–1187.

56 Damodar N. Gujarati and Dawn C. Porter, *Basic Econometrics*, 6th ed. (New York: McGraw-Hill/Irwin, 2009): 1–992.

57 George Edward Pelham Box and David Roxbee Cox, “An Analysis of Transformations,” *Journal of the Royal Statistical Society. Series B (Methodological)* 26, no. 2 (April 1964): 211–52, <https://www.jstor.org/stable/2984418>.

58 CNJ, *Justice in Numbers 2017: Year-Base 2016* (Brasília: Conselho Nacional de Justiça, 2017): 1–189, <https://www.cnj.jus.br/wp-content/uploads/2019/08/b60a659e5d5cb79337945c1dd137496c.pdf>.

59 Sátiro and Sousa, “Quantitative Determinants of Judicial Performance: Factors Associated with the Productivity of the Courts.”

60 CNJ, *Justice in Numbers 2017: Year-Base 2016*.

61 Sátiro and Sousa, “Quantitative Determinants of Judicial Performance: Factors Associated with the Productivity of the Courts.”

62 CNJ, *Índice de Acesso à Justiça* (Brasília: Conselho Nacional de Justiça, 2021): 1–61, https://bibliotecadigital.cnj.jus.br/jspui/bitstream/123456789/487/1/Relatorio_Indice-de-Acesso-a-Justica_LIODS_29-4-2021.pdf.

63 Ibid.

VARIABLES TYPE	DESCRIPTION – VARIABLE	CODE OF JUSTICE IN NUMBERS**
Predictor variables		
Actual access to the judiciary	• New cases (per 100 thousand inhabitants) – (Y_1)	casos_novos
Potential access to the judiciary	• Number of magistrates working in the court (per 100 thousand inhabitants) – (Y_2)	mag_por_pop
Explanatory variables		
People	• Number of magistrates working in the Court (per 100 thousand inhabitants) – J/POP	mag_por_pop
	• Number of civil servants working in the Court (per 100 thousand inhabitants) – <i>Staff</i>	f4a
	• Number of outsourced workers in the Court* – <i>OW</i>	tfautx
Administrative structure		varas_por_pop
ICTs	• Expenses with the acquisition of ICTs* – ICT_1	dinf1
	• Cost of ICTs* – ICT_2	dinf2
Education	• The educational attainment rate – <i>EDU</i>	escolarizacao
	• Illiteracy rate – <i>ILLT</i>	analfabetismo
Income	• Gross Domestic Product* – <i>GDP</i>	gdp
Control variables	• Population (per 100 thousand inhabitants) – <i>POP</i>	h2
	• Workload – <i>W</i>	k
	• Total Court Expenses – <i>TCE</i>	gt
	• Rate of households with piped water – <i>RHP</i>	agua_canalizada
	• Rate of live births – <i>LB</i>	nasc_vivos
	• Height-for-age deficit – <i>HAD</i>	DAÍ
	• Weight Deficit for Age – <i>WAD</i>	DPI
	• Gini coefficient – <i>Gini</i>	coef_gini
	• Rate of women in the population – <i>RW</i>	taxa_mulher
	• Rate of people over 50 years of age – <i>MA</i>	idade_50
	• Rate of nonwhite people in the population – <i>NWP</i>	cor_raca_nao_branca
	• Average processing time until decision – <i>APT</i>	tempo_medio_decisao
	• Number of judges – <i>J</i>	f2

One of the dependent variables of the present analysis concerns the number of new cases per 100,000 inhabitants. This variable was used as a proxy for actual access to the judiciary because it indicates judicial activity in a given location by measuring the number of lawsuits in that territory, weighted by population. Regarding the second model, given that the number of judges is a fundamental variable for the functioning of the judiciary, the dependent variable of the proposed second model concerns the

Table 1 Variables used in the study.

* Variables transformed through logarithmic transformation (Box & Cox, 1964), ** (CNJ, 2021).

number of judges relative to the population of a given location.⁶⁴ This variable serves as a proxy for potential access to the judiciary, as it indicates the judicial structure available to the citizen in a given location, including the administrative organization that configures the existing structure of the justice system in a given location. It is also observed that control variables were added to the model to situate the analysis within a geographical, historical, and cultural context, thereby describing the relationships between the judicial units and operational/contextual issues inherent in the real world that the model seeks to represent.

The variable representing the number of judges per 100,000 inhabitants was calculated by dividing the total number of active magistrates in each court by the population under that court's jurisdiction, then multiplying by 100,000. This standardization allows for comparison across courts of different sizes and regions, considering Brazil's territorial and demographic heterogeneity. This variable was used as a proxy for potential access to justice, as it reflects the institutional capacity made available to the population, independent of actual demand or usage.

Similarly, the variable concerning the number of public servants refers exclusively to permanent civil servants formally assigned to each court. It does not include outsourced workers, interns, conciliators, or volunteers. Like the other indicators, this variable was standardized per 100,000 inhabitants of the population served. This approach aims to account for disparities in population size across jurisdictions and to enable proportional analysis of human resources allocated to the judicial system. The inclusion of this variable seeks to capture the internal organizational capacity of courts, which the literature has highlighted as a central factor in explaining judicial performance and accessibility.

In addition to these core institutional variables, the study incorporated a set of explanatory and control variables that reflect both the courts' internal characteristics and external socio-demographic conditions. Variables such as Gross Domestic Product (GDP) per capita, literacy and schooling rates, and technological expenditures were associated with the geographical and economic context of each court's jurisdiction. All data were aggregated at the court level, using the most recent available figures from the Justice in Numbers Report (2019 base year).⁶⁵

Ultimately, the R software was used for the statistical analysis.⁶⁶

4 RESULTS

Concerning the predictive variables, the data show considerable variability, with a court at one extreme recording 0.46 cases per 100,000 inhabitants and, at the other extreme, 15,919.37 cases per 100,000 inhabitants in 2019. Similarly, for the variable "judges per 100,000 inhabitants," the data range from 0.00 to 0.000120, with a mean of 0.000028 and a coefficient of variation of 119.2704. In this sense, it seems

64 Adalmir Oliveira Gomes and Maria Eduarda Mendonça Freitas, "Correlation between Caseload, Number of Judges and Judicial Performance in Brazilian Federal Courts," *Revista Direito GV* 13, no. 2 (August 2017): 567–85, <https://doi.org/10.1590/2317-6172201722>.

65 CNJ, *Justice in Numbers 2020: Year-Base 2019* (Brasília: Conselho Nacional de Justiça, 2020): 1–341, <https://www.cnj.jus.br/wp-content/uploads/2021/08/rel-justica-em-numeros2020.pdf>.

66 R Core Team, "The R Project for Statistical Computing," *R Foundation for Statistical Computing*, (Vienna, 2023): n.p., <https://www.r-project.org/>.

reasonable to suppose that some characteristics may differ in this disparity regarding the distribution of access to justice in Brazil. Regarding the number of judges, the data distribution seems to contain some disparity, a fact observed through the histogram (Figure 1).

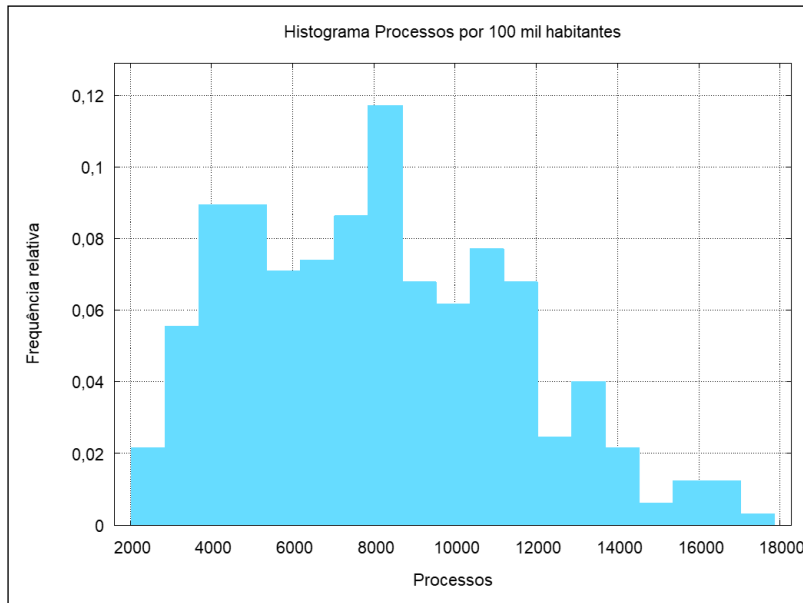


Figure 1 Histogram of the dependent variable (processes per 100 thousand inhabitants).

A similar conclusion can be inferred from the histogram representative of the distribution of the judges per capita variable (Figure 2).

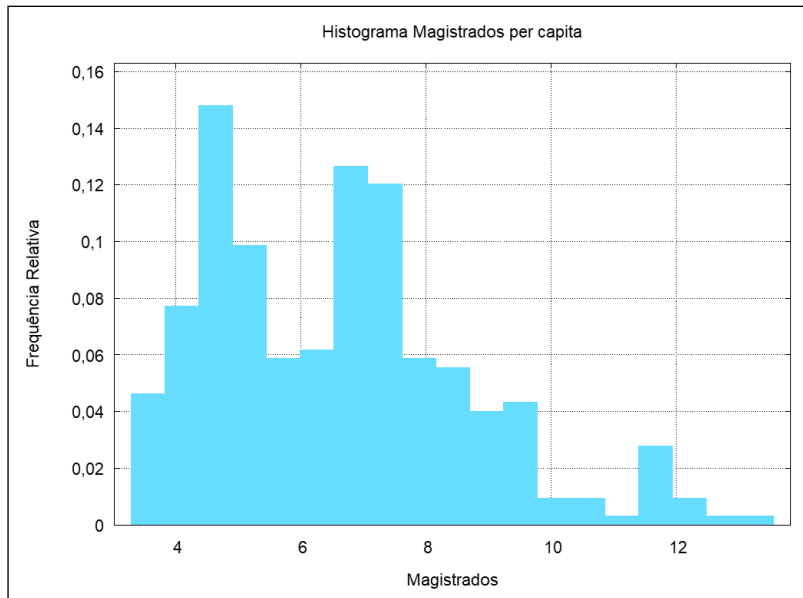


Figure 2 Histogram of the dependent variable (magistrates per capita).

Among the explanatory variables, the greatest variability was observed in those related to investment in technology (coefficient of variation of 173.25) and state GDP (coefficient of variation of 223.60). This result indicates that both the internal

characteristics of the courts and the broader context in which they operate exhibit substantial variation across the country. The external explanatory variables, such as the state’s schooling and illiteracy rates, also showed variability, with coefficients of variation of 9.94 and 60.02, respectively, highlighting the differing contexts in which the courts included in the sample are located.

Given the sample’s heterogeneity, with several specialty courts and instances, the descriptive analysis is expected to yield limited insights into the sample’s characteristics. Owing to differences in size, structure, and processes among the various courts in the sample, a descriptive analysis was conducted here as a preliminary step to provide insights for analyzing the regression proposed in the present study.

An overview of the pairwise crossings of the variables is presented, showing their distributions, scatter plots, correlation values, and respective statistical significance (Figure 3).

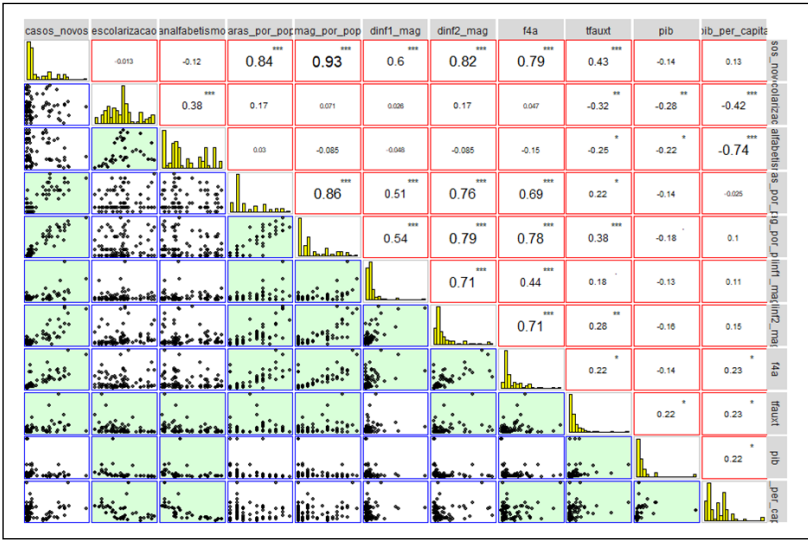


Figure 3 Distribution of correlations and bivariate analyses.

The results of the MLR proposed in the present study show the significance of the variables chosen for the analysis, the *F*-statistics indicating model significance, the *t*-statistics for each parameter, and, finally, the magnitudes of the coefficient of determination and the adjusted coefficient of determination (Table 2).

Figure 3 presents the matrix of bivariate correlations among the variables selected for the model, including scatter plots, Pearson correlation coefficients, and indicators of statistical significance. The green shading highlights statistically significant correlations at the 5% level (*p* < 0.05). It is important to clarify that the significance shown in the figure refers exclusively to the bivariate correlations and not to the coefficients estimated in the multiple regression models. The statistical significance of the regression coefficients is reported separately in Table 2, which provides the full regression results, including *t*-tests and significance levels. This analytical distinction allows for a better understanding of both the direct associations between pairs of variables and the conditional effects estimated in the multivariate model.

Table 2 also shows two auxiliary models (Models 2 and 4) developed using the stepwise procedure to identify the best predictive model for the phenomenon under study. The

Table 2 Multiple linear regression results.

Notes: Y_1 and Y_2 are the first and second dependent variables, respectively. R^2 (coefficient of determination) represents the proportion of variance in the dependent variable explained by the model; values closer to 1 indicate greater explanatory power. Adjusted R^2 accounts for the number of predictors included, reducing the risk of overestimating model fit when irrelevant variables are added. RSE is an acronym for Residual Standard Error, which measures the average deviation of residuals from the regression line, with smaller values indicating better model fit. The F -statistics evaluate whether the model as a whole significantly explains variation in the dependent variable; higher values with statistical significance (***) suggest that the predictors jointly contribute to the model. (df) indicates degrees of freedom associated with the model. Significance levels: * $p < 0.1$; ** $p < 0.05$; *** $p < 0.01$.

	MODELS			
	Y_1		Y_2	
	(1)	(2)	(3)	(4)
<i>J/POP</i>	43,847,012.0000*** (8,979,453.0000)	45,585,121.0000*** (7,659,770.0000)	-12,400.0000 (13,099.4700)	
<i>Staff</i>	14.6482** (6.7953)	14.5351** (6.1299)	0.0443*** (0.0070)	0.0412*** (0.0057)
<i>OW</i>	0.0633 (0.1040)		-0.0002 (0.0001)	-0.0003*** (0.0001)
<i>Courtrooms</i>	553,252.2000 (10,763,276.0000)		-13,332.8000 (13,449.4100)	-22,784.0600** (11,109.5800)
<i>ICT₁</i>	0.0011 (0.0010)		0.0000 (0.000001)	
<i>ICT₂</i>	0.0027*** (0.0009)	0.0030*** (0.0006)	0.000001 (0.000001)	0.000001 (0.000001)
<i>EDU</i>	-499.8882** (202.3117)	-363.9731** (146.5130)	-0.2434 (0.2645)	
<i>ILLT</i>	65.3607 (63.8436)		0.1174 (0.0797)	
<i>GDP</i>	-0.0000** (0.0000)	-0.0000* (0.0000)	-0.0000* (0.0000)	-0.0000* (0.0000)
<i>POP</i>	4.0934* (2.3854)	3.1541 (2.1547)	0.0048 (0.0030)	0.0037 (0.0025)
<i>W</i>	0.0907** (0.0355)	0.0973*** (0.0338)	-0.00004 (0.00005)	
<i>TCE</i>	-0.0000*** (0.0000)	-0.0000*** (0.0000)	-0.0000*** (0.0000)	-0.0000*** (0.0000)
<i>RHP</i>	21,238.1100** (9,206.0110)	11,540.2800** (5,138.1140)	31.0433*** (11.4247)	19.4942*** (4.1361)
<i>LB</i>	16,492.2100* (9,447.0280)	16,066.5000* (8,514.2040)	-1.5280 (12.1620)	
<i>HAD</i>	177.3723 (114.1018)	179.3684* (105.4078)	-0.0693 (0.1460)	

(Contd.)

	MODELS			
	Y_1		Y_2	
	(1)	(2)	(3)	(4)
WAD	-518.1639* (260.3605)	-328.9689 (221.8510)	-0.1604 (0.3369)	
Gini	-8,722.1500 (9,518.4850)		-15.4828 (11.9064)	
RW	13,208.1000 (19,284.3400)		-30.8830 (24.0630)	
MA	-24,855.6500** (11,756.2100)	-13,261.4100 (8,243.2560)	-12.8704 (15.2095)	
NWP	-4,494.3790* (2,303.2390)	-1,765.5630 (1,312.6850)	-4.0666 (2.9395)	
APT	-0.3572 (0.6226)		0.0006 (0.0008)	
J	-161.6616* (95.7380)	-183.6477** (88.2937)		
New Cases			-0.0003* (0.0002)	-0.0004*** (0.0001)
Constant	-9,794.7120 (12,584.2000)	4,708.3700 (8,575.5490)	-5.9164 (15.8970)	-11.5679*** (3.8664)
Observation	89	89	89	89
R^2	0.9486	0.9448	0.8964	0.8855
Adjusted R^2	0.9315	0.9334	0.8619	0.8725
RSE	946.0964 (<i>df</i> = 66)	932.8215 (<i>df</i> = 73)	1.1910 (<i>df</i> = 66)	1.1443 (<i>df</i> = 79)
F-statistic	55.4003*** (<i>df</i> = 22; 66)	83.2423*** (<i>df</i> = 15; 73)	25.9567*** (<i>df</i> = 22; 66)	67.8899*** (<i>df</i> = 9; 79)

stepwise estimation method involves a variable selection process for inclusion in the regression model, starting with the selection of the best predictor of the dependent variable. Subsequently, additional explanatory variables are added based on the incremental explanatory power they provide to the proposed model, provided their partial correction coefficients are statistically significant. Independent variables can also be excluded from the analysis if their predictive power is not substantial when another variable is included in the model.⁶⁷

Although this is not one of the objectives of the present study, the coefficient of determination of the proposed models is approximately 95% for Model 1 and 90% for Model 3. This means that, based on the explanatory variables included, the

67 Joseph F. Hair Jr. et al., *Multivariate Data Analysis*, 7th ed. (New York: Pearson, 2009): 1-816.

models explain 95% and 90% of the variation observed in the phenomenon under study, respectively. In this context, potential and actual access to the judiciary are measured by the number of lawsuits filed in the judiciary in a given year, adjusted for the number of inhabitants in a given location, as well as by the number of magistrates per 100,000 inhabitants.

Thus, considering the results obtained by the MLR models constructed in the present study, let us move on to the conclusions about the proposed and tested hypotheses (Table 3):

Table 3 Summary of hypotheses and their results (potential and effective access).

HYPOTHESIS	DESCRIPTION	RESULT
H1	The number of judges positively impacts actual access to the judiciary.	- Not rejected - Significant
H2	The number of public servants positively impacts the potential access to the Judiciary.	- Not rejected - Significant
H2B	The number of public servants positively impacts actual access to the judiciary.	- Not rejected - Significant
H3	The number of outsourced civil servants positively impacts the potential access to the Judiciary.	- Rejected - Not Significant
H3B	The number of outsourced civil servants positively impacts actual access to the judiciary.	- Rejected - Not Significant
H4	The number of judicial units positively impacts the potential access to the judiciary.	- Rejected - Not Significant
H4B	The number of judicial units positively impacts the actual access to the judiciary.	- Rejected - Not Significant
H5	Investment in technology positively impacts potential access to the judiciary.	- Rejected - Not Significant
H5B	Investment in technology positively impacts actual access to the Judiciary.	- Rejected - Not Significant
H6	The cost of technology positively impacts the potential access to the judiciary.	- Rejected - Not Significant
H6B	The cost of technology positively impacts actual access to the Judiciary.	- Not rejected - Significant
H7	The educational attainment rate positively impacts the potential access to the Judiciary.	- Rejected - Not Significant
H7B	The educational attainment rate positively impacts actual access to the judiciary.	- Rejected - Reverse the order of the relationship
H8	The illiteracy rate negatively impacts the potential access to the judiciary.	- Rejected - Not Significant
H8B	The illiteracy rate negatively impacts actual access to the judiciary.	- Rejected - Not Significant
H9	Population income positively impacts potential access to the judiciary.	- Rejected - Reverse the order of the relationship
H9B	Population income positively impacts actual access to the judiciary.	- Rejected - Reverse the order of the relationship

The analysis of the results obtained through multiple linear regression reveals that, although some hypotheses were confirmed, others were rejected without a thorough discussion of the underlying reasons. For instance, the confirmation of H1 – which indicates that the number of judges positively affects actual access to justice – reinforces the magistrate's central role in the judicial system. This finding can be explained not only by the physical presence of judges but also by their decisional authority, symbolic influence, and organizational role within judicial units. A higher number of judges is generally associated with shorter case processing times, increased procedural efficiency, and improved public perception of judicial responsiveness.

In contrast, the rejection of hypotheses related to investment in technology (H5 and H6) warrants a more critical reflection. Although the digitalization of court services and the implementation of management tools are often expected to improve access to justice, the results showed no statistical significance for investment, but significance for cost. This may reflect a gap between the volume of financial resources allocated to technology and their actual effectiveness in judicial operations. Courts with higher technological expenditures do not necessarily become more accessible, suggesting that investment alone is insufficient – the effectiveness of such investments depends on strategic planning, technical capacity, and organizational change. Poorly implemented technological solutions may even generate new barriers to access.

Additionally, the behavior of variables related to educational attainment (H7 and H7B) revealed contradictory results that merit further attention. Contrary to expectations, the schooling rate was not positively associated with access to justice and, in some models, showed a negative relationship. This may indicate that regions with lower levels of education tend to file more lawsuits, possibly due to the lack of alternative dispute resolution mechanisms, weaker social capital, and limited institutional mediation. In contrast, areas with higher educational attainment may rely more on extrajudicial solutions or possess greater autonomy in resolving disputes. While this interpretation requires caution, it highlights the importance of understanding access to justice not solely as an institutional issue but as one intrinsically linked to broader social inequalities and the prevailing legal culture within each region.

5 DISCUSSION

There are many studies on access to justice in Brazil, mainly in the field of law. However, only a few empirical studies identify where bottlenecks in access to justice occur.⁶⁸ Although the so-called “crisis of the judiciary” (in the words of Professor Maria Tereza Sadek) is widely acknowledged, merely identifying its causes is insufficient.⁶⁹ It is crucial to examine the context in which these issues have emerged and to explore potential solutions to address the weaknesses of the contemporary State, especially regarding its jurisdictional function. The judiciary requires a structure capable of promptly absorbing or responding to current demands; otherwise, the ineffectiveness of judicial provision in the Brazilian legal context becomes evident.⁷⁰

68 Torlig and Buta, “A Relação Entre Acesso Potencial e Efetivo na Justiça Brasileira.”

69 Maria Tereza Sadek, “A Crise do Judiciário Vista Pelos Juizes: Resultados de Uma Pesquisa Quantitativa,” in *Uma Introdução ao Estudo da Justiça*, ed. Maria Tereza Sadek (Rio de Janeiro: Centro Edelstein, 2010): 17–31, <https://doi.org/10.7476/9788579820328>.

70 Fernando Fortes Said Filho, “The Crisis of the Judiciary: Alternative Mechanisms for Resolving Disputes as a Condition of Possibility to Ensure Access to Justice,” *DIKE* 5, no. 1 (2016): 1–22, <https://periodicos.ufs.br/dike/article/view/7622>.

In this context, the effectiveness of the law and the jurisdictional function of the State must be understood as central dimensions of access to justice. The mere existence of norms, rights, and formal guarantees does not, by itself, ensure social transformation, since the law is only realized when it is capable of concretely intervening in the reality for which it was created.⁷¹ Thus, access to justice cannot be measured solely by the possibility of filing claims, but also by the judicial system's capacity to respond to these claims within a reasonable time, effectively and fairly. Without such an institutional response, the law remains confined to a formal level, incapable of effectively regulating social relations and producing the concrete outcomes that justify its existence.⁷²

According to the CNJ data, the judiciary received 25.8 million new cases throughout 2020. During the same period, 27.9 million cases were downloaded, mostly via virtual or remote channels. However, despite the productivity achieved in 2020, 75.4 million cases still await judgment in the Brazilian Judiciary.⁷³ Our study sought to identify internal and external factors that might influence jurisdictional provision and potential and actual access to justice by defendants. We recognize that access to justice is a complex, multifactorial issue influenced by the judiciary's organizational structure and the population and demographic characteristics of each region. Thus, this study's goal was to quantify the relationships between variables that could affect access to justice.

Initially, focusing on actual access to justice, it was observed that, concerning the number of civil servants (in-house staff, outsourced staff, and judges), only judges and civil servants in the staff were statistically significant in the present model. That is, courts with a greater number of magistrates and permanent public servants have the prerogative of being environments with greater accessibility to the jurisdiction. One reason for this finding may be the availability of a more extensive and better-structured court system, along with perhaps a more effective personnel structure.

The interpretation of the regression coefficients allows identification of which variables have the greatest impact on both actual and potential access to justice. In the case of actual access, measured by the number of new cases per 100,000 inhabitants, the number of judges and civil servants (staff) were among the most relevant and statistically significant factors. The magnitude of the coefficients indicates that courts with a higher density of magistrates and permanent personnel tend to present significantly greater judicial activity. This finding reinforces the hypothesis that internal human resources are directly associated with courts' ability to receive, process, and respond to citizens' demands. In contrast, outsourced personnel had no significant effect, suggesting that support staff without judicial training or institutional integration may not contribute equally to core judicial productivity.

The technology-related financial variables produced more nuanced results. In the present model, total ICT investment was not statistically significant, whereas ICT expenditure showed a positive and significant association with actual access to justice, as shown in Table 2. This suggests that not merely the volume of investment, but the cost profile (possibly associated with acquisition, maintenance, and implementation

71 Fernando Freire Vasconcelos et al., "Analysis of Judiciary Expenditure and Productivity Using Machine Learning Techniques," *Mathematics* 11, no. 14 (July 2023): 1–19, <https://doi.org/10.3390/math11143195>.

72 Ibid.

73 CNJ, *Justice in Numbers 2021: Year-Base 2020*.

of systems) is more closely linked to judicial responsiveness. However, its effect was modest when compared to the impact of human capital. These findings indicate that technological resources alone are not sufficient to expand access unless they are aligned with broader organizational, managerial, and legal strategies and adequately supported by qualified personnel.⁷⁴

Finally, among the contextual (external) variables, GDP per capita and education rate presented counterintuitive results. Higher education levels and income, instead of increasing judicial demand, were negatively associated with actual access to justice in the model. This may be explained by the hypothesis that populations with higher levels of education and income are more likely to resolve conflicts through extrajudicial means or possess greater legal literacy, thereby reducing reliance on the formal judiciary. These findings highlight the need for further disaggregated studies that explore how socioeconomic conditions influence legal behavior and access patterns. The results also underscore that access to justice is not merely a matter of institutional supply, but is shaped by cultural, economic, and informational dimensions that vary across territories.

This interpretation is consistent with the literature that frames education and legal information as central to the ability to recognize, understand, and claim rights. When individuals do not know their rights or the mechanisms available to enforce them, access to justice may remain limited even when formal judicial structures exist.⁷⁵ Likewise, litigation costs and the inconvenience of pursuing claims can create practical barriers to accessing the courts, especially for lower-income groups; consequently, judicial planning should consider not only institutional capacity but also the socioeconomic vulnerability of the population served.⁷⁶

According to data from the 2020 *Justice in Numbers Report*, the Brazilian judiciary comprised 17,988 magistrates across all branches of justice and 267,613 civil servants.⁷⁷ In addition, 147,974 individuals are working as contractors, interns, lay judges, conciliators, and volunteers.⁷⁸ Most of this workforce is concentrated in 14,853 first-instance judicial units, which serve as the main gateway to justice in Brazil. Among these, 1,803 units have full jurisdiction, with authority to process all types of cases, while more than 3,500 units have exclusive jurisdiction over either civil or criminal matters.⁷⁹

In this sense, a peculiarity of public management in Brazil lies in the coexistence of outsourced employees and permanent servers; therefore, it is essential to quantify the results related to the phenomenon of outsourcing labor relations,

74 Adalmir Oliveira Gomes, Simone Tiêssa Alves, and Jéssica Traguetto Silva, "Effects of Investment in Information and Communication Technologies on Productivity of Courts in Brazil," *Government Information Quarterly* 35, no. 3 (September 2018): 480–90, <https://doi.org/10.1016/j.giq.2018.06.002>; Procopiuck, "Information Technology and Time of Judgment in Specialized Courts: What Is the Impact of Changing from Physical to Electronic Processing?"

75 Sadek, "Acesso à Justiça: Um Direito e Seus Obstáculos."

76 Carlos Antonio Ferreira Oliveira et al., "Legal Reforms and Outcomes of the Action of Police Institutions in Combating Violence against Women: A Systematic Review Protocol," *International Journal of Qualitative Methods* 24 (April 2025): 1–14, <https://doi.org/10.1177/16094069251339213>.

77 CNJ, *Justice in Numbers 2021: Year-Base 2020*.

78 Ibid.

79 Ibid.

an outsourcing process that has grown in both the private and public spheres in recent years.⁸⁰ Significant changes began to take shape in 2017, particularly with the introduction of the Outsourcing Law.⁸¹ Additionally, 2020 presented humanity with an unprecedented challenge – the coronavirus disease, which has caused the global health crisis known as the COVID-19 pandemic⁸² – affecting every aspect of life to varying degrees.⁸³ The courts also had to address this public health issue quickly.⁸⁴

Faced with the health challenges brought by the pandemic and the internal difficulties related to the efficiency of the Brazilian system, which ultimately affects access to the judiciary, one solution lies in developing innovations within the judicial system itself.⁸⁵ Despite the international context of sanitary restrictions, the Brazilian judiciary implemented reactive measures to ensure access to justice during the pandemic, such as the “Juízo 100% Digital” and “Balcão Virtual” initiatives.⁸⁶ Furthermore, the judiciary was able to plan and structure its digital transformation prospectively through strategic actions linked to the Justice 4.0 program.⁸⁷ This approach reflects both a short-term response to mitigate the pandemic’s effects and a long-term vision for shaping the future of Justice 4.0.⁸⁸ The project represents an ambitious national initiative to digitize judicial services across Brazil.⁸⁹

Given the current context, entering new cases electronically is also noteworthy. According to data from the Justice in Numbers Report 2021, only 3.1% of demands and conflicts were physically entered for analysis by justice in 2020. In all, 21.8

80 Sátiro and Sousa, “Quantitative Determinants of Judicial Performance: Factors Associated with the Productivity of the Courts.”

81 Brazil, “Law No. 13,429, of March 31, 2017: Provides for Amendments to Legal Provisions on Temporary Work in Urban Enterprises and on Labor Relations in Companies That Provide Services to Third Parties,” (Brasília: Presidency of the Republic, 2017): n.p., https://www.planalto.gov.br/ccivil_03/_ato2015-2018/2017/lei/l13429.htm.

82 Eduardo Dias et al., “Teachers’ Quality of Life Perception During the COVID-19 Pandemic: A Systematic Review Protocol,” *Journal of Human Growth and Development* 34, no. 2 (August 2024): 268–77, <https://doi.org/10.36311/jhgd.v34.15837>; Paula Christianne Gomes Gouveia Souto Maia et al., “Space-Temporal Analysis of the Incidence, Mortality and Case Fatality of COVID-19 in the State of Rio Grande do Norte, in the Period from 2020 to 2022, in the Northeast of Brazil,” *Journal of Human Growth and Development* 34, no. 1 (April 2024): 119–31, <https://doi.org/10.36311/jhgd.v34.15777>.

83 Josep Pont Vidal, “The COVID-19 Pandemic and the State: Is It Emerging a New Configuration of Public Administration,” *Cadernos EBAPE.BR* 18, no. 4 (October 2020): 924–35, <https://doi.org/10.1590/1679-395120200098x>.

84 Renato Máximo Sátiro, Jessica Vitorino Martins, and Marcos Moraes Sousa, “The Courts in the Face of the COVID-19 Crisis: An Analysis of the Measures Adopted by the Brazilian Judicial System,” *International Journal for Court Administration* 12, no. 2 (May 2021): 1–18, <https://doi.org/10.36745/ijca.388>.

85 Thiago Maia Sayão Moraes and Marcos Moraes Sousa, “History Matters: The Institutionalization and Innovation Paradox in the Judiciary,” *Social Sciences* 13, no. 5 (April 2024): 1–17, <https://doi.org/10.3390/socsci13050247>.

86 Paulo Cezar Dias and Heitor Moreira Oliveira, “The Impact of COVID-19 on Brazilian Judiciary: Reflections on a Justice 4.0 and a 100% Digital Judgment in the Post-Pandemic Context,” *Athens Journal of Law* 9, no. 1 (December 2022): 9–32, <https://doi.org/10.30958/ajl.9-1-1>.

87 Ibid.; CNJ, “Justice 4.0,” (Brasília: Conselho Nacional de Justiça, 2024): n.p., <https://www.cnj.jus.br/tecnologia-da-informacao-e-comunicacao/justica-4-0/>.

88 CNJ, *Justice in Numbers 2021: Year-Base 2020*.

89 Marcos Sousa, Daniel Kettiger, and Andreas Lienhard, “E-Justice in Switzerland and Brazil: Paths and Experiences,” *International Journal for Court Administration* 13, no. 2 (August 2022): 1–23, <https://doi.org/10.36745/ijca.368>.

million cases were received electronically. The increase was 6.6% compared with that in 2019, with 96.9% of new cases processed electronically in 2020. In 65 of the 90 courts, 100% of the cases are already filed electronically.⁹⁰

STRENGTHS AND LIMITATIONS

The findings regarding the model of potential access to the judiciary revealed that the only hypothesis not rejected relates to the number of public servants, which positively influences access. This result underscores the pivotal role of human resources in enhancing judicial accessibility. Thus, the study demonstrates that the availability of judicial structures does not follow a simple mathematical or statistical pattern, suggesting a more intricate and nuanced dynamic. These insights reveal the complexity of judicial unit structuring, indicating that the allocation of judges is not directly tied to the structural factors of the courts or external variables associated with the judiciary examined in this study. This complexity highlights the study's strength in uncovering the more profound, less apparent factors that shape judicial access.

One limitation concerns the number of observations available for analysis. The sample comprised 89 courts, and although this represents the total universe of Brazilian courts across different branches and jurisdictions, the relatively small sample size limits the number of explanatory and control variables that can be included without compromising the statistical power of the models. While the inclusion of contextual controls aims to account for territorial and institutional heterogeneity, it may increase the risk of model overfitting. To address this, a stepwise regression approach was employed in complementary models to enhance parsimony. Nonetheless, future studies using disaggregated data at the regional or unit level could enable more granular analyses with greater statistical robustness. Another limitation of the proposed model is that the data are treated in aggregate form. As a result, the effects of income inequality, a defining feature of Brazil, may be diluted, making it difficult to capture the nuances associated with this variable. This limitation also points to a promising avenue for future research.

A further limitation relates to the availability of disaggregated data on access to justice in Brazil. Although judicial statistics in the country have improved in recent years, some critical factors remain excluded from official datasets. For instance, indicators related to legal aid expenditures, which the academic literature highlights as essential for access to justice, were not available in the datasets examined in this study. The lack of historical information on this and other key factors limits the ability to fully explore their influence on access to justice across different regions. This data gap underscores a broader issue in the ongoing efforts to comprehensively assess access to the judiciary in Brazil.

6 CONCLUSIONS

Overall, the findings address the study's objective by showing that potential and actual access to justice are influenced by distinct sets of factors. Actual access was more strongly associated with internal court resources, especially the number of judges and permanent civil servants, whereas potential access was mainly related to the availability of public servants. These results indicate that access to justice depends

90 CNJ, *Justice in Numbers 2021: Year-Base 2020*.

not only on the existence of judicial structures but also on the organizational capacity of courts to process and respond to citizens' demands.

The managerial and technological strategies that directly impact legal proceedings capture only part of the complexity of the legal process and cannot be used in isolation to explain such phenomena. Other elements must also be considered, such as legislation that defines procedural deadlines and the volume of admissible appeals. In this sense, the present study revealed that only the cost of technology impacts effective access to the judiciary. In contrast, investment in technology does not, according to the construction and statistical interpretation of the proposed model, affect the access-to-justice metric proposed here.

It is observed that characteristics external to the judiciary can affect access to justice. Social, cultural, geographical, and educational factors are considered barriers to citizens' access to the judiciary. However, the present study did not find statistical evidence that the educational attainment rate positively impacts actual access to justice. Among the external factors analyzed, education level had a negative effect on the number of cases filed in the Brazilian justice system. This result suggests that the relationship between education and judicial demand is more complex than initially expected and should not be interpreted only as a direct increase in formal access to the courts.

Moreover, the study revealed that aggregate income does not significantly affect the number of cases brought to the judiciary. Taken together, these findings indicate that access to justice is shaped not only by the institutional structure of the courts but also by contextual factors that require further investigation through more disaggregated data. Therefore, future studies should examine how educational, socioeconomic, and territorial differences influence citizens' actual experiences with the justice system.

FUTURE RESEARCH AGENDA

We suggest studies with disaggregated data and differentiated sampling so that these data reflect individual differences that are not captured by this model using aggregated data. Such studies are of great value, as identifying the social characteristics and peculiarities of each region allows us to understand how access to justice operates in that region, which could help formulate strategies that are coherent with the peculiarities and needs observed in each region of the country.⁹¹ For example, in regions with higher education rates, the focus could be on establishing legal frameworks that enable citizens to bring their cases to the judiciary. The issue is even more prevalent in regions with lower schooling rates; it is a structural problem that can be mitigated with long-term investment in basic education. We also suggest analyzing other aspects of the administration of justice, such as interorganizational collaboration within the justice system.⁹²

Another relevant path for future research is the integration of socioeconomic indicators (such as income distribution, employment rates, and urban versus rural dynamics) into models of judicial access. These variables may reveal hidden inequalities in how justice is sought or granted, helping policymakers tailor interventions not only by

91 Torlig and Buta, "A Relação Entre Efetivo na Justiça Brasileira."

92 Oliveira et al., "Legal Reforms and Outcomes of the Action of Police Institutions in Combating Violence against Women: A Systematic Review Protocol."

region but also by social group. Incorporating such multidimensional perspectives would enhance the explanatory power of studies and create a stronger foundation for evidence-based policy.

In addition, comparative studies across countries or federative units could enrich the debate, offering lessons on institutional design and governance that have successfully expanded access to justice elsewhere. Benchmarking against international experiences, while considering Brazil's unique institutional and cultural context, could highlight innovative practices adaptable to local realities. This type of comparative approach would not only strengthen theoretical contributions but also provide practical insights for justice system reform.

DATA ACCESSIBILITY STATEMENT

All statistical routines, analysis scripts, and data used in the present study are available in a publicly shared folder in the GitHub repository, available at: https://github.com/remaximo/Renato_Maximo_Satiro_Tese_PPGADM-UFG.git.

ETHICS AND CONSENT

This study did not require ethical approval, as it was based on previously published data (i.e., secondary data). The results will be published in a peer-reviewed journal.

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COMPETING INTERESTS

The authors have no competing interests to declare.

AUTHOR CONTRIBUTIONS

Conceptualization, RMS and MMS; Methodology, RMS and MMS; Software, RMS and MMS; Validation, RMS, PMARC, and MMS; Formal analysis, RMS and MMS; Investigation, RMS and MMS; Resources, RMS and MMS; Data curation, RMS and MMS; Writing – original draft preparation, RMS, WPC, PMARC, and MMS; Writing – review and editing, RMS, WPC, PMARC, and MMS; Visualization, RMS, WPC, PMARC, and MMS; Supervision, MMS; Project administration, RMS; Funding acquisition, RMS and MMS. All authors have read and agreed to the published version of the manuscript.

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