

Breuer, Anita

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From polarisation to autocratisation: The role of information pollution in Brazil's democratic erosion

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From Polarisation to Autocratisation

The Role of Information Pollution in Brazil's Democratic Erosion

Anita Breuer



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Anita Breuer

Dr Anita Breuer is a senior researcher in the research department “Transformation of Political (Dis-)order” at the German Institute of Development and Sustainability (IDOS).

Email: anita.breuer@idos-research.de

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Email: publications@idos-research.de

<https://www.idos-research.de>



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Abbreviations

ACLED	Armed Conflict Location & Event Data
AGU	Attorney General of the Union / <i>Advocacia-Geral da União</i>
ATI	Access to information
ANATEL	National Telecommunications Agency / <i>Agência Nacional de Telecomunicações</i>
ANPD	National Data Protection Authority / <i>Autoridade Nacional de Proteção de Dados</i>
BTI	Bertelsmann Transformation Index
CADE	Administrative Council for Economic Defence / <i>Conselho Administrativo de Defesa Econômica</i>
CBL	Câmara Brasileira do Livro
CSO	Civil Society Organisation
CTICC	Council for Transparency, Integrity and Combating Corruption / <i>Conselho de Transparência, Integridade e Combate à Corrupção</i>
DSA	Digital Services Act
EBC	Brazil's Public Communication Agency / <i>Empresa Brasil de Comunicação</i>
ECLAC	Economic Commission for Latin America and the Caribbean
EU	European Union
FBSP	Brazilian Forum of Public Security / <i>Fórum Brasileiro de Segurança Pública</i>
FGV EGAPE	Brazilian School of Public and Business Administration of the Getulio Vargas Foundation / <i>Escola Brasileira de Administração Pública e de Empresas</i>
FGV IBRE	Brazilian Institute of Economics of the Getulio Vargas Foundation/ <i>Instituto Brasileiro de Economia da Fundação Getulio Vargas</i>
IIK	Heidelberg Institute for International Conflict Research
IBGE	Brazilian Institute for Statistics and Geography / <i>Instituto Brasileiro de Geografia e Estatística</i>
LGPD	General Data Protection Law / <i>Lei Geral de Proteção de Dados</i>
LGBTQ+	Lesbian, Gay, Bisexual, Transgender, Queer (and others)
LGBTQIA+	Lesbian, Gay, Bisexual, Transgender, Queer (or Questioning), Intersex, and Asexual (and others)
MERCOSUR	Southern Common Market / <i>Mercado Común del Sur</i>
MoU	Memoranda of Understanding
MP	Public Prosecutor's Office / <i>Ministério Público</i>
OAS	Organization of American States
OGD	Open government data
OECD	Organisation for Economic Co-operation and Development
PL2630	Law Project 2630 (commonly referred to as the “Fake News Bill”) / <i>Projeto de Lei 2630</i>
PNDD	National Prosecutor's Office for the Defence of Democracy / <i>Procuradoria Nacional da Defesa de Democracia</i>
PPED	Electoral Justice <i>Permanent Program</i> on Countering Disinformation/ <i>Programa Permanente de Enfrentamento à Desinformação da Justiça Eleitoral</i>

PT	Workers' Party / <i>Partido dos Trabalhadores</i>
SDG	Sustainable Development Goal
STF	Supremo Tribunal Federal / Supreme Court
TCU	Federal Court of Accounts / <i>Tribunal de Contas da União</i>
TSE	Supreme Electoral Court / <i>Tribunal Superior Eleitoral</i>
UN	United Nations
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNDP	United Nations Development Programme
UNISDR	United Nations International Strategy for Disaster Reduction

Executive Summary

This study explores the complex relationship between information pollution, polarisation, and democracy in Brazil, a country that has recently experienced both democratic erosion and a pivotal democratic “U-turn”. Information pollution – the dissemination of false, misleading or harmful information – has become a global challenge, undermining societal peace and democratic stability. In Brazil, these dynamics have been particularly pronounced, reflecting deep-seated socioeconomic inequalities and the impact of disinformation in an increasingly polarised political landscape.

Grounded in a holistic analytical framework, this study moves beyond the narrow conception of countering disinformation as a challenge confined to the digital space. By incorporating socio-economic, media, legislative and political contexts into the analysis, it provides a comprehensive understanding of the factors that facilitate the emergence of information pollution. By doing so, the framework also enables the formulation of tailored policy recommendations that consider the distinct characteristics of Brazil’s context, while offering lessons relevant to other countries facing similar challenges.

The analysis of the socioeconomic and social context highlights how in Brazil, persisting poverty and inequalities and the digital divide restrict access to diverse information sources, leaving marginalised groups disproportionately vulnerable to disinformation and hate speech. In this environment, hate speech targeting black women and members of the Lesbian, Gay, Bisexual, Transgender, Queer (and others) (LGBTQ+) community has been a prominent driver of polarisation, which exacerbates the discrimination and marginalisation of individuals at the intersection of race, gender and sexual orientation.

The characteristics of the Brazilian media landscape and information ecosystem further fuelled these dynamics. Highly concentrated media ownership and declining traditional journalism have undermined information diversity and opinion plurality. At the same time, digital platforms have become fertile ground for the spread of polarising narratives, driven by the rise of politainment and political messaging disguised as religious truth by influential evangelical leaders.

Within Brazil’s regulatory and institutional context, outdated legislation on internet governance has left significant gaps in the oversight of digital platforms. The implementation of existing transparency legislation is deficient and fragmented. Political interference and the misuse of secrecy laws have further undermined transparency mechanisms. Against this backdrop, state transparency offerings provide an inadequate counterweight to disinformation circulating on digital platforms.

The political context has exacerbated these challenges, with cultural and ideological divides exploited by political actors to erode trust in democratic institutions. Disinformation played a central role during the administration of Jair Bolsonaro who pursued a grievance-based mobilisation strategy, amplifying societal divisions by exploiting narratives around corruption, inequality and moral values. This approach triggered a process of affective polarisation, with religious rhetoric playing a significant role in framing political opponents as existential threats to traditional and conservative values.

Across all these contexts, vulnerabilities, such as low digital literacy, concentrated media consumption, and societal cleavages, amplify the impact of information pollution. This study finds that information pollution has fuelled affective polarisation, fostering mistrust, hostility, and violence, which in turn has jeopardised key elements of democratic quality, including respect for counterarguments, electoral integrity, institutional checks and balances, and public accountability and lastly support for democracy itself.

The findings of this study point to critical entry points for addressing information pollution. At the national level, strengthening Brazil's transparency regime emerges as a key priority, particularly by making access to public information more inclusive and enhancing the autonomy of institutions tasked with upholding transparency. The modernisation of Brazil's internet governance framework is equally important, requiring broad based publication consultations and robust mechanisms for platform accountability. To ensure impartiality, authorities tasked with overseeing internet governance must maintain sufficient independence from the executive branch and should feature a cross-sectoral, multi-stakeholder composition, incorporating voices from civil society, academia, technical experts, and the private sector.

At the international level, enhancing cross-border collaboration is paramount. The Global Digital Compact adopted in 2024 offers an important foundation for promoting shared technological solutions and fostering multilateral cooperation. Regional organisations in Latin America, such as the Organization of American States (OAS) and the Southern Common Market (MERCOSUR), also have a critical role to play in harmonising regulations and strengthening digital governance.

Brazil's recent experience illustrates the complex interplay between structural enablers, digital dynamics, and political strategies that drive polarisation and democratic erosion. At the same time, its ability to reverse autocratisation at the ballot box provides valuable lessons for curbing information pollution and fostering democratic resilience worldwide.

1 Introduction

1.1 The interrelation between information pollution, polarisation and autocratisation: challenges to global democratic stability

Access to public information (ATI) is considered crucial for individuals to make informed decisions and actively participate in democratic processes (e.g., Yannoukakou & Araka, 2014). At the same time, information integrity (i.e., the accuracy and reliability of public information) is vital for government transparency, accountability (Breuer & Leininger, 2021) and fostering citizen trust in state institutions.

The rise of the Internet in the early 1990s followed by the emergence of social media fundamentally transformed how information is created, shared and consumed (e.g., Ardèvol-Abreu et al., 2018). These developments enabled citizens to bypass traditional media gatekeepers, discuss public issues, monitor officials and participate in new forms of collective action (Breuer et al., 2014; González-Bailón & Lelkes, 2022). For governments, digital technologies offered new ways to engage with their citizenries, increase transparency and enhance public administration through e-government initiatives (Doran et al., 2023; Matheus & Janssen, 2019).

However, digital media have also introduced significant challenges to information integrity. Nowadays, large amounts of information are distributed without quality control and much of it appears on platforms that prioritise sensational content aimed at capturing users' emotional attention over accurate, editorially vetted material (e.g., Lischka & Garz, 2023). Various actors exploit this model to spread disinformation for economic, political or ideological purposes, leading to widespread "information pollution" (UNDP [United Nations Development Programme], 2022), whereby false, misleading or manipulated content circulates more rapidly and reaches a wider audience than information from reliable sources (Vosoughi et al., 2018). As borders between digital and analogue realities are dissolving and information technologies increasingly contribute to social change, information pollution does not remain confined to the digital domain, but instead transcends into the wider media ecology (Gill, 2021; Ruotsalainen & Heinonen, 2015).

Evidence indicates that digital disinformation, toxic levels of polarisation and autocratisation are global trends that reinforce each other (Coppedge, 2023; Kubin & von Sikorski, 2021; Tucker et al., 2018). In their comprehensive review of the literature on the connection between social media and social cohesion, González-Bailón and Lelkes (2022) find powerful observational evidence of destructive dynamics, including the fast diffusion of disinformation, manipulation campaigns, ideological segregation and extremism. In a similar vein, an exhaustive review of the literature on the relationship between social media, political disinformation and polarisation by Tucker et al. (2018) observes a rise in affective polarisation, which has led to significant hostility of social media users towards those who identify with opposing political parties. High levels of affective polarisation come at the expense of core normative features of democracy, such as compromise, consensus, deliberation and tolerance, and may, over time, lead to the erosion of democracy (Iyengar et al., 2019; Iyengar et al., 2012; McCoy & Somer, 2021; Somer et al., 2021, 2023). Social media can reinforce affective polarisation by consistently exposing citizens to highly biased and often deceptive political content, which aims to demonise opponents or undermine trust in government institutions (Settle, 2018; Yu et al., 2024). In extreme cases, people may become trapped in antagonistic social media bubbles, which prevent them from developing awareness of the existence of alternative perspectives and information sources (Persily & Tucker, 2020; Vaidhyathan, 2018).

As the above illustrates, over the past two decades a considerable body of literature has been generated regarding the impacts of digitalisation – and especially social media – on the quality

of information and ultimately on the quality of democracy. However, several research gaps persist. First, the majority of studies on this topic is based on research in English-speaking, high-income states, most of which are digitally advanced and considered fully established democracies (Valenzuela et al., 2024). Although some studies have ventured beyond these confines (e.g., Gainous et al., 2021; Gamboa et al., 2024; Pan & Siegel, 2020; Sarsfield & Abuchanab, 2024), more research is needed on non-English-speaking, poorer and digitally less advanced states as well as on contexts where democracy is seriously challenged. Second, studies on the impacts of digital media on democracy are largely based on correlational data (for comprehensive reviews, see Boulianne, 2020; Lorenz-Spreen et al., 2023) and are thus unable to make strong claims about causality. Further, such studies frequently focus on the impact of specific social media content on individual political attitudes and behaviour, paying less attention to the explications and implications of the wider media ecology. Third, very little research has been dedicated to the contextual factors that make societies vulnerable to information pollution, and even less to understanding the factors that strengthen resilience against information pollution and, ultimately, the resilience of democracy itself. Methods to systematically capture root causes and effects of information pollution have been slow to emerge and well-tested analytical frameworks do not yet exist (UNDP, 2022).

Against the background, this study focuses on three research questions:

1. What factors contribute to the emergence and spread of information pollution?
2. How is information pollution related to polarisation and the quality of democracy?
3. What factors increase societal resilience against information pollution and related negative impacts on the quality of democracy?

In answering these three questions, this study seeks to address analytical challenges and evidence gaps in several ways. First, the study presents a holistic analytical framework to investigate the complex causes and effects of information pollution. Second, by applying the framework to empirical data from Brazil collected during field research in early 2024, this study adds to the literature that investigates the interrelation between information pollution, polarisation, and democracy in non-English speaking states in which democracy has come under strain during the ongoing global wave of autocratisation (Lührmann & Lindberg, 2019). Third, Brazil has been characterised as a U-turn case, which recently defeated autocratisation and turned it around at the ballot box (Nord et. al, 2024). Over the past years, the concept of democratic resilience has become increasingly prominent in the study of political science. Democratic resilience refers to the capacity of democratic systems to withstand and recover from challenges that threaten their institutions, norms and processes. These challenges can include autocratisation, polarisation, populism and disinformation (Diamond, 2020; Levitsky & Ziblatt, 2018; Carothers & O'Donohue, 2019). As a democratic U-turn case, Brazil has the potential to generate valuable insights regarding societal resilience against information pollution and democratic erosion. The collection of data during the precise period in which the country transitioned back from an episode of autocratisation sheds light on important lessons learnt and the policy implications that actors and key experts derived from this experience.

1.2 Conceptual framework

To ensure clarity, this section will provide definitions of key concepts and terms, and formulate expectations regarding the relationship between the phenomena described by these concepts.

1.2.1 Digital media, social media and media ecology

This paper uses the term **digital media** to refer to all computer-mediated information flowing through media devices, including **social media**. It adopts a comprehensive conceptualisation

of social media, encompassing social networking sites (such as Facebook), microblogs (e.g., X, formerly Twitter), photo- and video-sharing platforms (e.g., Instagram, TikTok and YouTube), as well as messaging apps with end-to-end encryption (e.g., WhatsApp, Telegram, Signal and Viber) (Ellison & Vitak, 2015). The term **media ecology** describes the phenomenon whereby media, particularly social media, create an information-ecosystem that affects social and political dynamics (Ruotsalainen & Heinonen, 2015). Rapid decentralised communication increasingly blurs the lines between public and private spheres. As the digital sphere becomes increasingly intertwined with the analogue world, it may catalyse positive structural social changes, such as democratic engagement through networked mobilisation (Casero-Ripollés & Micó-Sanz, 2022; Jungherr et al., 2019). However, it may also contribute to negative trends like polarisation and democratic erosion (Tucker et al., 2018; Schroeder, 2018). This process is not unidirectional. The digital sphere is also shaped by existing social, cultural and economic structures rooted in the analogue world. Respective pre-existing cleavages can be mirrored, exacerbated or even transformed online, as digital platforms often amplify societal divisions through algorithmic curation (Karatzogianni et al., 2016; Schrape, 2019).

1.2.2 Disinformation and information pollution

So far, a standardised terminology related to the issue of false or low-quality information disseminated on the Internet or other media has not yet evolved. The popular term “fake news” may be too narrow and, at the same time, too value-laden, given that it has also been co-opted by political actors who use it to delegitimise critical media reporting. Drawing on the United Nations Development Programme (UNDP, 2022), this paper therefore uses the more neutral and broader term “information pollution” to refer to the presence of a broad spectrum of various types of low-quality information that are present in the information ecosystem. Information pollution encompasses various categories of content that differ regarding their intention and practices for dissemination, including:

- **misinformation**, which refers to content that is false or inaccurate, but shared without the intention to cause harm (Wardle & Derakhshan, 2017);
- **malinformation**, which refers to a situation in which genuine information is shared to inflict harm on a person, organisation or country by detaching information from its original meaningful context (Wardle & Derakhshan, 2017); and
- **disinformation**, which refers to fabricated information (sometimes blended with facts) that is disseminated with practices that go well beyond news reporting (e.g., automated accounts, targeted advertising, organised online trolling and internet memes) with the intention to harm a person, social group, organisation or country (Horowitz, 2018).

1.2.3 Polarisation

Polarisation typically refers to a form of distance or distancing between actors. It is usually conceived of as a bimodal distribution of observations on a continuous scale, for example a left-right ideological spectrum, an economic poor-to-rich scale or a demographic urban-rural divide. Polarisation can be conceptualised both as a state (i.e., the level of extremity in this distribution) and as a process (i.e., the growing distance between groups over time) (Fiorina & Abrams, 2008).

A further distinction is made between elite ideological polarisation on a single left-right spectrum, often measured by legislative behaviour (Borbáth et al., 2023; Fiorina & Abrams, 2008; Iyengar et al., 2012) and mass polarisation. The latter encompasses a variety of societal and political divides. Traditional economic and ideological cleavages are increasingly cross cut by newly emerging societal and political divides. Alternative labels for these emerging cleavages include “religion vs. secularism”, “cosmopolitanism vs. communitarianism”, “liberal pluralism vs.

authoritarian populism” and “cosmopolitanism-parochialism” (Borbáth et al., 2023). Scholars who have tried to structure these new “isms” sustain that they can be grouped along two dimensions: One end supports traditional values and defends the existing social order, while the other challenges existing social hierarchies and prioritises values of self-expression (Sarsfield et al., 2024; World Value Survey, 2023).

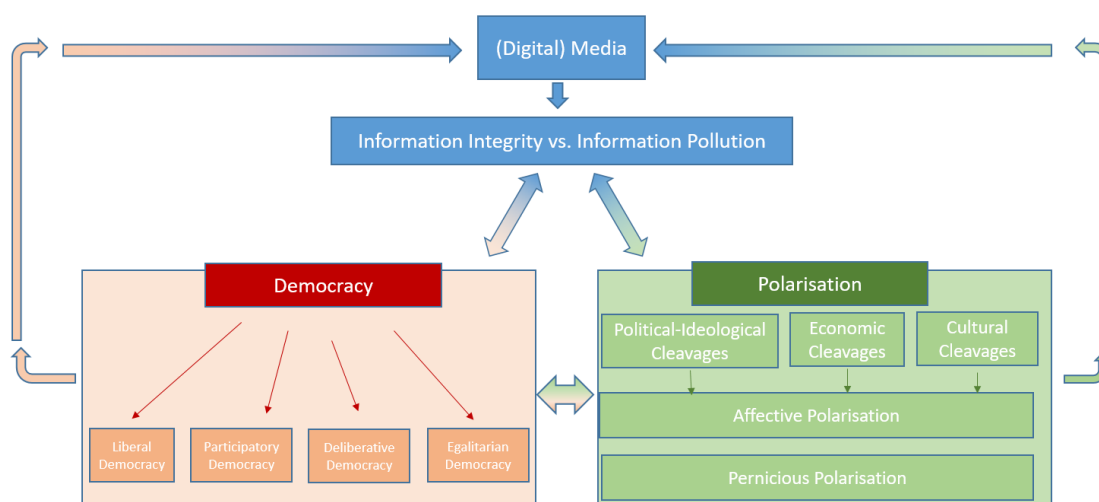
In recent years, the terms affective polarisation and pernicious polarisation have gained significant traction. **Affective polarisation** emphasises two features: 1) a process in which societal divisions increasingly align along a single dimension (McCoy et al., 2018; McCoy & Somer, 2021) and 2) an emotional component, whereby group identities lead to strong positive feelings towards in-group members (e.g., liking, sympathy) and negative feelings towards out-groups (e.g., rejection, hostility) (Iyengar et al., 2012; Lauka et al., 2018; Levendusky, 2018). **Pernicious polarisation** represents an aggravated form of affective polarisation, with society becoming involved in a Manichean struggle between “friends” and “enemies”. The ensuing division of society into two mutually distrustful “Us vs. Them” camps can hinder cooperation, fuel antagonism, and create a propensity to stereotype and dehumanise the “other” group, thus providing the starting point for democratic erosion or even breakdown (McCoy et al., 2018; Schedler, 2023).

1.2.4 Democracy

This paper adopts the encompassing conceptualisation of democracy of the Varieties of Democracy (V-Dem) project that builds on Robert Dahl’s (1971) concept of polyarchy (Coppedge, 2023). Following V-Dem, it conceives of democracy as a complex aggregate of multiple continuous dimensions. These dimensions include liberal democracy, participatory democracy, deliberative democracy and egalitarian democracy, each of which can be measured by assessing the stronger or weaker presence (or the absence) of certain components and sub-components. While this conceptualisation recognises different varieties of democracy, it considers electoral democracy (i.e., the selection of government in free and fair elections, essential to any kind of democracy) (Coppedge, 2023).

Figure 1 visualises the key elements of the conceptual framework. It is important to note that the conceptual framework used here does not assume that there is an invariable sequential order or singular direction of effect ($x \rightarrow y$) between individual elements. Instead, the relationships between the elements may be bi-directional and/or contribute to a mutually reinforcing cycle including positive and negative feedback loops.

Figure 1: Visualisation of the conceptual framework



Source: Author

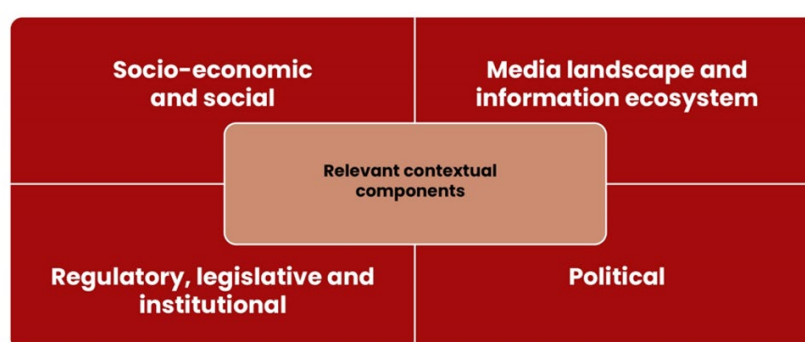
In essence, the conceptual framework employed in this study highlights the complexity of interdependent relationships between information pollution, polarisation and democratic erosion. It underscores the possibility of circular causality, where each element can both influence and be influenced by other elements. For example, information pollution may contribute to the intensification of affective polarisation by fostering antagonistic identities and deepening societal divisions. In turn, heightened polarisation can erode trust in democratic institutions, creating an environment where disinformation can proliferate even more effectively. This mutually reinforcing cycle can generate both positive and negative feedback loops, perpetuating a dynamic of democratic weakening or, conversely, creating opportunities for democratic renewal when critical interventions disrupt this cycle. This perspective allows for a more nuanced understanding of the challenges and entry points for fostering democratic resilience, which are further elaborated in the subsequent chapters of this paper.

1.3 Analytical framework

The concept of media ecology (see Section 3.2) postulates that information pollution does not remain confined to the digital sphere, but instead originates from and transcends into broader societal, political and economic contexts (Ruotsalainen & Heinonen, 2015). The enablers, drivers and consequences of information pollution are inherently intertwined with other factors in the political, media, social and legislative environments. Consequently, to gain an understanding of the complex causes and consequences of information pollution, a holistic analytical approach is needed that accounts for both digital and non-digital factors. The analytical framework in this study adapts and further develops a proposal originally made by UNDP (2022). This framework assumes that the presence of certain factors may enable or drive information pollution. Information pollution, in turn, may cause adverse impacts at the level of individuals or society as a whole, making them vulnerable towards polarisation and democratic erosion. Enablers are understood here as structural conditions that indirectly facilitate information pollution, whereas drivers are actions that directly contribute to information pollution.

The framework posits that detecting the enablers and drivers of information pollution and understanding how they interact to create vulnerability requires paying special attention to four contextual components: 1) the socioeconomic and social context; 2) the context of the media landscape and information ecosystem; 3) the regulatory, legislative and institutional context; and 4) the political context. By identifying which drivers and enablers are relevant and prioritising the most influential ones, it is possible to identify points of entry which address the root causes of information pollution and are therefore more impactful programmatically. Figure 2 below visualises the analytical framework.

Figure 2: Analytical framework that identifies enablers and drivers of information pollution and assesses the resulting vulnerabilities and impacts



Source: Author

The selection of the four contexts, namely socioeconomic and social, media landscape, regulatory and institutional, and political, reflects their critical influence on the dynamics of information pollution. Each context captures structural conditions and systemic factors that facilitate the emergence and spread of information pollution. Socioeconomic inequalities and digital divides, for instance, foster environments susceptible to disinformation, while weaknesses in media ecosystems and institutional and regulatory frameworks create gaps that allow unchecked dissemination of harmful content, which different actors may exploit. The political context, marked by power dynamics, may further amplify these effects. Together, these contexts provide a comprehensive lens for analysing the complex origins and impacts of information pollution. Two exemplary illustrations of such potential interactions and their consequences in different environmental contexts are provided in Table 1 below.

Table 1: Illustrative example of potential enablers, drivers and impacts of information pollution in social and political contexts

Context	Enablers (indirect structural conditions)	Drivers (direct actions)	Impact of information pollution
Socioeconomic and social context	Existence of inter-group tensions	Divisive narratives around vulnerable groups (e.g., LGBTQ+ communities)	Reinforcement of stereotypes and prejudices/increasing social polarisation
Political context	Prevalence of identity-based politics	Dissemination of disinformation by state actors to vilify opposition party members	Increased hostility towards out-party members/affective polarisation

Notes: Table A2 in the Appendix, provides the full list of potential enablers, drivers and adverse impacts contained in the framework.¹

Source: Author

2 Context: Brazil as a case

Over the past several years, political science literature has become increasingly concerned with democratic regression. In their reports, leading democracy research initiatives, such as V-Dem, Freedom House, and the Bertelsmann Transformation Index (BTI), state that a third wave of autocratisation is underway. These reports also point out that in many countries, autocratisation is accompanied by rising levels of polarisation and the spread of “misinformation” and “disinformation” (BTI, 2024; Freedom House, 2024; Nord et al., 2024; Papada et al., 2023). However, while there is growing consensus that autocratisation, polarisation and disinformation are interconnected and potentially mutually reinforcing phenomena, the precise nature of their interrelationship is not yet fully understood. This gap highlights the value of qualitative case studies, which can provide the necessary “thick descriptions” of such interrelations in different cultural and political contexts, thereby helping to unpack and understand underlying causal pathways (Creswell, 2013; Geertz, 1973; Klenke, 2008; Seawright & Gerring, 2008). Against this backdrop, Brazil emerges as a particularly compelling case for the purpose of this study, given the country’s recent experience with rising levels of polarisation and information pollution, and challenges to its democratic stability.

¹ The framework’s first empirical application was undertaken in Mexico in 2023 and results published are in Breuer (2024). Based on this experience, suggestions for the refinement of the framework were discussed with UNDP staff and included in the framework for this study. These include the addition of criteria regarding enabling and driving factors related to national ATI and open government data (OGD) legislation.

While the victory of Jair Messiah Bolsonaro – a former paratrooper, congressional backbencher and far-right candidate with nostalgia for military dictatorship – in the presidential elections of 2018 came as a surprise to some political observers, others viewed it as the culmination of a longer-term process of democratic decline. Starting from the mid-2010s, Brazil's democratic quality experienced a noticeable deterioration. Data from key democracy indices indicate that this decline predates Bolsonaro's presidency (2019-2022). The BTI, for example, reported a decrease in Brazil's political transformation score from 8.3 in 2010 to 7.8 in 2018 (BTI, 2024). Concurrently, data from Latinobarómetro reveal a significant drop in public trust towards political institutions during this period. This development is largely attributed to a combination of economic crisis, pervasive corruption and growing political disenchantment.

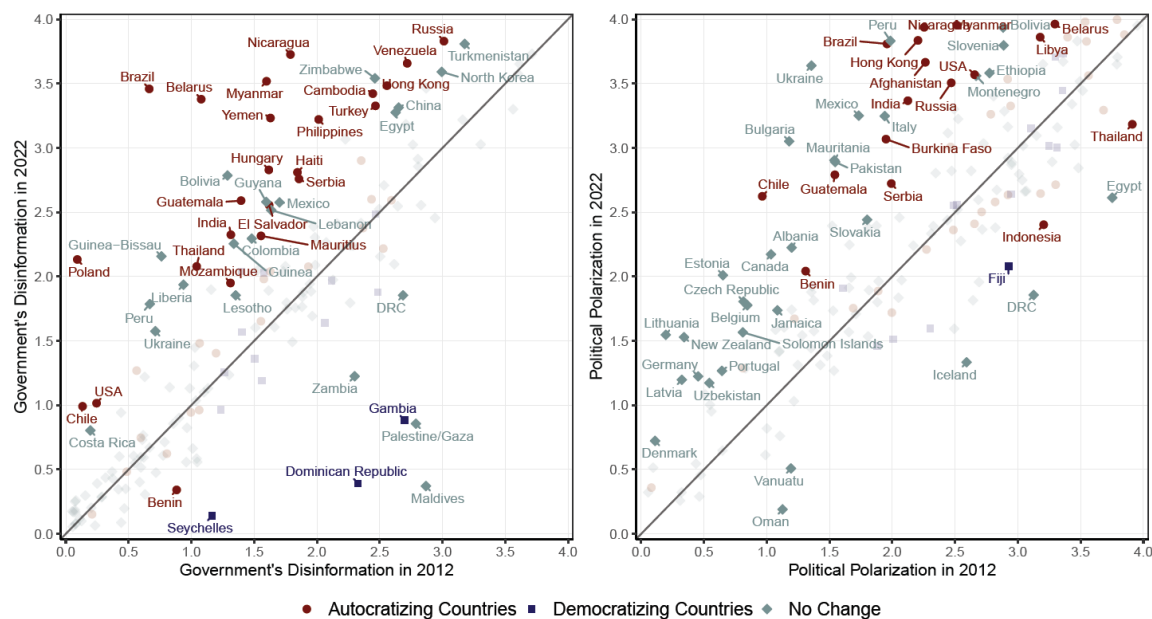
This erosion of democratic quality unfolded over a series of events. From 2003 to 2011, Luiz Inácio Lula da Silva (Lula) led the country as president, ushering in 14 years of uninterrupted Workers' Party (PT) rule. Although Lula's presidency was marked by significant social progress, it was also tainted by corruption. The most prominent corruption scandal, commonly known as *Operação Lava Jato* (Operation Car Wash), involved billions of dollars in illicit payments through the state-controlled oil company Petrobras and implicated numerous high-level politicians and business elites. Lula was succeeded by Dilma Rousseff (2011-2016), whose presidency faced growing economic challenges and increasing political polarisation. In 2016, Rousseff was impeached on charges of breaking budget laws, a move that critics argued was politically motivated. Her removal paved the way for interim president Michel Temer, who, widely perceived as an uncharismatic caretaker leader, remained in office until the 2018 elections. The political crisis was aggravated by an economic downturn and further intensified by the financial strain caused by hosting two consecutive high-profile sports events: the International Federation of Association Football (FIFA) World Cup in 2014 and the Rio Olympics in 2016.

By the 2018 elections, the PT had faced a significant decline in public trust. In April 2018, Lula – still a central figure in the party – was sentenced to prison by the Federal Criminal Court, a decision upheld by higher courts. Fernando Haddad, who replaced Lula as the PT's presidential candidate, lacked his predecessor's widespread popularity and established political track record. This created an opportunity for Jair Bolsonaro's campaign to gain momentum by appealing to public dissatisfaction with corruption, economic stagnation and political disillusionment.

Scores from various democratic indices show an accelerated decline of democratic quality during Bolsonaro's presidency (2019-2022). On the V-Dem Liberal Democracy Index, Brazil dropped from 0.60 in 2018 to 0.51 in 2022. Similarly, on the BTI index Brazil's democracy status score dropped from 7.8 in 2018 to 6.9 in 2022 (BTI, 2022), resulting in the country's reclassification from a "consolidating democracy" to a "defective democracy". The country also saw spikes in polarisation, specifically in 2018 during the run-up to the election of Jair Bolsonaro as President (e.g., see Mignozzetti & Spektor, 2019). Data from V-Dem's Digital Society Project also registered an increase in several indicators relating to information pollution as defined in this study.²

2 Particularly for the V-Dem indicators "government dissemination of false information, domestic", "party dissemination of false information, domestic", "political parties hate speech" and "use of social media to incite offline violence".

Figure 3: Democratic decline and polarisation in comparative global perspective 2013-2023



Source: Papada et al. (2023).

In 2021, the *Supremo Tribunal Federal* (Supreme Court, STF) annulled Lula's conviction, citing jurisdictional issues in the original trial. This decision paved the way for his candidacy in the 2022 presidential election. Lula's return to politics led to a highly polarised electoral race against Bolsonaro, who sought re-election amidst accusations of authoritarian tendencies and disinformation campaigns. In a closely contested vote, Lula defeated Bolsonaro in the 2022 presidential election.

Bolsonaro's refused to accept his defeat, claiming electoral fraud and on 8 January 2023 approximately 4,000 of his supporters, incited and mobilised via social networks, stormed the capital Brasilia, vandalised federal government buildings and demanded the overthrow of the newly elected government through a military coup. At this point, affective polarisation in Brazil must be considered to have reached a pernicious state, posing a real threat to the country's democratic stability.

Yet, following the defeat of Bolsonaro, Brazil has been referred to as having "turned auto-ocratisation around at the ballot box" (Nord et al., 2024). However, V-Dem data also reveal that key democratic indicators, such as civil liberties and freedom of expression, have not fully recovered to pre-Bolsonaro levels. As of writing this paper, Brazil remains one of the countries most affected by autocratic backsliding (Nord et al., 2024). Ongoing media restrictions, a weakened civil society and continued polarisation both at the mass and elite level indicate that the autocratic tendencies cultivated during Bolsonaro's presidency continue to pose challenges to the country's democratic recovery.

In light of these dynamics, Brazil offers a valuable case for exploring the interrelation between information pollution, polarisation and auto-ocratisation. The country's recent political history allows for an investigation of how information pollution evolved and contributed to polarisation and democratic erosion, and how these factors continue to shape the political landscape despite changes in leadership. Such an explorative study can help generate hypotheses about the causal mechanisms that link these phenomena, thus offering insights for other democracies undergoing similar challenges. Additionally, studying Brazil as a "democratic U-turn" case can

reveal important insights regarding factors that contribute to democratic resilience and offer entry points for measures to protect democracy.

3 Methods of data collection and analysis

The data collection instrument was developed based on the analytical framework presented above. Four different guidelines for semi-structured interviews were prepared for experts from or knowledgeable about each of the four analytical contexts. Interview questionnaires were designed to enquire experts about the presence or absence of enabling and driving factors of information pollution, as well as adverse impacts. In cases where interviewees indicated that such factors were present, they were asked to provide concrete empirical examples of their interactions and consequences.

During a five-week field research stay in Brazil in February and March 2024, interviews were conducted with 33 Brazilian experts in Rio de Janeiro, Sao Paulo and Brasilia. Interview partners included academics from legal, political and communication sciences (12), media professionals (2), members of civil society organisations (CSOs) engaged in rights to information and freedom of expression (8), civil servants working in the fields of media and transparency (5) and practitioners in international development cooperation (6). Interviews lasted between one and two hours and were generally conducted in person at the workplace offices of the interviewees to ensure a private and comfortable environment for candid discussions. Two interviews were conducted online. All interviewees were given the option to conduct the interview in either Portuguese or English. The majority (30 out of 33) opted for Portuguese, citing a preference for expressing themselves more effortlessly and with greater precision in their native language. Interview recordings were anonymised to protect participants' identities and processed using f4x, an AI-assisted transcription tool. Verbatim citations included in this study were translated into English by the author. To ensure anonymity, interviews were anonymised and numbered consecutively. Statements based on the interviews are referenced with the corresponding interview number in brackets. A summary overview of the interviews by actor category is provided in Table A1 in the Appendix.

In addition to individual interviews, a three-hour webinar titled “To Inform and Misinform: The Current Situation of Brazil’s Information Ecosystem” was organised as part of the data collection strategy.³ The webinar featured four sessions aligned with the study’s analytical framework, each led by a Brazilian expert and followed by a question-and-answer segment. The interactive nature of the webinar facilitated real-time discussions, allowing for the collection of diverse perspectives and in-depth insights pertinent to the research objectives. Utilising webinars as a qualitative data collection method offers several advantages, including the ability to reach a broader audience and the flexibility to engage participants across different locations (Tiong & Sim, 2020). Insights gained from the webinar significantly informed the study, complementing the data obtained from individual interviews.

While efforts were made to ensure diversity in terms of age, gender and area of expertise within the respondent sample, several limitations should be acknowledged.

First, **sample bias inherent to expert interviews** presents a challenge. As is common with this method, participants were predominantly well-educated individuals with advanced degrees, which may have excluded perspectives from poorer or less-educated segments of Brazilian society. This limitation highlights a potential gap in capturing the lived experiences and perspectives of marginalised groups most affected by information pollution.

3 A recording of the webinar is available under: <https://www.youtube.com/watch?v=h4LJxZjt6Mg&t=577s>

Second, **the positionality of the researcher and the recruitment method** may have influenced the composition of the sample. Interviewees were primarily identified through snowball sampling, leveraging collaboration networks and alumni from the author's institutes' international training programs. As the institute adheres to democratic norms, this naturally resulted in a sample in which most participants were highly critical of, or explicitly opposed to, the administration of Jair Bolsonaro. This may have limited the diversity of political viewpoints represented in the study.

Finally, **the timing of the data collection** could have introduced further bias. Conducted just a year after the autocratisation period under Bolsonaro, which culminated in the 9 January 2023 riots targeting key democratic institutions, the societal polarisation in Brazil remained acute. Although the election of Lula as president was interpreted as a democratic "turnaround", many interviewees appeared reluctant to openly critique the incumbent government, even when explicitly probed. Informal conversations during the research stay suggested that this reluctance stemmed from fears of being labelled as a far-right sympathiser or of facing social ostracisation. This contextual dynamic likely influenced the willingness of interviewees to discuss potential shortcomings of Lula's administration, thereby affecting the breadth of perspectives captured in this study.

For data analysis, anonymised interview transcripts were carefully coded by pre-sorting them into four categories, with each corresponding to one of the contexts outlined in the analytical framework. Within these documents, statements were further categorised as either enabling or driving factors of the emergence of information pollution or as adverse impacts resulting from it. This categorisation process was guided by the framework presented in Table A2 in the Appendix, which provides a detailed coding scheme for fine-grained analysis. This systematic approach allowed for the structured organisation and interpretation of the qualitative data, ensuring that insights were directly linked to the theoretical underpinnings of the study.

In addition to interviews, this study relied on the analysis of primary and secondary sources to complement and contextualise the findings. Primary data included laws and regulations relevant to the study's focus, such as those on access to information (ATI), transparency, internet governance, and civil rights, including freedom of expression and the right to information. Secondary sources, including academic literature and newspaper articles, were utilised to fact-check interview statements and deepen the understanding of issues raised by interview partners.

4 Causes and consequences of information pollution in Brazil: findings and discussion

This chapter presents the findings and discussion. While Section 5.1 provides empirical insights on the root causes of information pollution in Brazil, Section 5.2 discusses the implications of these findings for democracy.

4.1 Information pollution in Brazil: enablers, drivers and vulnerabilities

The following presentation of empirical findings is structured according to the four contextual components proposed by the analytical framework (see Section 2.2). For each component, a distinction will be made between enabling factors, driving factors and the resulting societal vulnerabilities towards information pollution.

4.1.1 Socioeconomic and social context

This section will elaborate how socioeconomic inequalities and socio-cultural features specific to Brazil shape the dynamics of information pollution. Socioeconomic inequalities translate into digital divides, with disadvantaged groups having restricted news diets, lower digital skills and greater susceptibility to online manipulation disseminated for political and criminal purposes. Criminal networks exploit these divides to disseminate violent content and expand influence, while evangelical leaders amplify political disinformation framed as moral or religious truths, deepening societal divisions. These targeted actions exacerbate exclusion of vulnerable groups and social polarisation, generating adverse impacts on societal cohesion.

Enablers

While the World Bank classifies Brazil as an upper middle-income country, vast social disparities continue to persist. In 2023, 31.6 per cent of the population was living in conditions of multi-dimensional poverty and 7.6 per cent in extreme poverty (FGV IBRE [Brazilian Institute of Economics of the Getulio Vargas Foundation], 2024). Development disparities clearly run along geographical lines. Poverty rates in the northern and northeastern regions of the country are considerably higher than in the southern region. This geographic divide overlaps with the ethnic distribution of the population, with the northern and northeastern regions showing a higher concentration of Afro-Brazilian and Indigenous populations. In contrast, the southern region, where a larger proportion of the population identifies as white, fares better in terms of both income and access to public services including education (Observatório Brasileiro das Desigualdades, 2024).

These entrenched socioeconomic disparities have directly contributed to unequal access to digital resources. In 2023, 84 per cent of Brazilian households had access to the Internet. However, while 97 per cent of wealthier households had internet access, only 67 per cent of households in the lowest income group were connected (Development Data Partnership, 2024). Out of the latter, 87 per cent rely solely on smartphones for internet access. These groups, often residing in poorer or peripheral areas, face additional barriers to connectivity since internet connection is slower and less unreliable (Development Data Partnership, 2024). As pointed out by interviewees, a large share of individuals from lower income groups relies on so-called “zero rating” for internet access (#3, #6, #9). This term refers to the practice whereby mobile network providers offer basic package deals that include certain internet services (particularly the use of social media like Facebook or WhatsApp) free of charge, while the broader internet remains restricted to subscribers who pay for mobile data plans. There is also a clear discrepancy between internet access in urban areas (94.1 per cent) and rural areas (81 per cent) (IBGE [Brazilian Institute for Statistics and Geography], 2024). In addition, an ethnicity gap in internet access persists, but has been narrowing over the past years. In 2023, 89.5 per cent of individuals identifying as white used the Internet (2016: 72.6 per cent), compared with 87.6 per cent of those identifying as black (2016: 63.9%) and 86.8 per cent of those identifying as mixed-race (2016: 60.3 per cent) (IBGE, 2023). Gaps also exist in terms of digital literacy. As interviewees pointed out, not only socioeconomically disadvantaged individuals, but also those belonging to higher age groups face difficulties to critically assess information they encounter online (#1, #5, #6, #8, #9).

Brazil has long been struggling with structural problems of violent conflict, crime and corruption. The country’s conflict structure is predominantly shaped by organised crime and gang violence. Gangs have also infiltrated the political and judicial system, with instances of judges and local officials being implicated in corruption schemes (Décary-Secours, 2021). Criminal organisations compete for control of drug trafficking routes and illicit markets and are responsible for a significant proportion of homicides. In 2023, public sources recorded 40,429 intentional homicides, which included killings linked to organised crime (Federal Government of Brazil, 2024). Gang violence

severely undermines the Brazilian state's monopoly on the use of force. In the Heidelberg Conflict Barometer, the conflict between the Brazilian government and organised crime is classified as a "violent crisis" (HIIK [Heidelberg Institute for International Conflict Research], 2023).

Furthermore, the extent of gender-based violence in Brazil is alarming. In 2023, 1,902 women were victims of homicide, with 776 of these deaths classified as femicides. Over 60 per cent of femicide victims were black women, which highlights the intersecting effects of systemic racism and gender-based violence (Malta, 2024). The implementation of existing legal frameworks aimed at protecting women – especially those from marginalised communities – from gender-based violence remains insufficient. With 257 violent deaths registered among Lesbian, Gay, Bisexual, Transgender, Queer (or Questioning), Intersex, and Asexual (and others) (LGBTQIA+) individuals in 2023, Brazil also ranks among the most homotransphobic countries in the world (Amesty International, 2023; FBSP [Fórum Brasileiro de Segurança Pública], 2024; Observatório de Mortes e Violências contra LGBTI+ no Brasil, 2023).

Over the past years, the rise of evangelical churches in Brazil has played a significant role in increasing societal division. Evangelical churches, particularly Pentecostal and neo-Pentecostal denominations, have filled the space left by the declining influence of the Catholic Church (Zilla, 2020). These evangelical churches often adopt a more conservative stance on social issues, exhibiting less tolerance towards lifestyles alternative to traditional family models, including those of LGBTQ+ individuals. Some evangelical groups have been reported to engage in religious intolerance, particularly against Afro-Brazilian religions, which contrasts with the Catholic Church's generally more inclusive approach to diverse cultural practices (Py & Junior, 2024). The evangelical movement gained substantial influence under the presidency of Jair Bolsonaro, who was strongly supported by the evangelical community. The growing influence of evangelical churches has significant social implications. It is projected that by 2030, evangelicals may comprise nearly 50 per cent of Brazil's population, suggesting that their impact on societal divisions could continue to grow in the coming years (Londono, 2020).

Drivers

The structural conditions of organised crime and religious polarisation described above are also reflected in the digital space, where they directly drive information pollution and increased general polarisation in Brazilian society.

Criminal gangs have weaponised the digital space and utilise social media for various purposes. Social media are not only used for intimidating rivals and flaunting their illegal activities, but also for recruiting new members and selling drugs and arms. Gangs frequently share incriminating content, including videos on platforms like YouTube, where they showcase their exploits and even broadcast acts of violence as part of their broader strategy to instil fear and expand their control over territories and civilians (Almeida, 2024). Social media enables criminal groups to organise real-world violence and coordinate activities, such as assassinations and trafficking, while also managing public relations by portraying themselves as protectors of marginalised communities. This digital presence has created new challenges for law enforcement. Brazilian law enforcement and intelligence officials increasingly use – tactics – potentially rights-violating ones – to catch felons and dismantle criminal networks. Tools like WhatsApp are also routinely used by police to organise vigilante justice (Muggah, 2015).

Further, as the following interview statements illustrate, previously existing gender and ethnic cleavages are not merely perpetuated, but exacerbated in the digital realm, with black and Indigenous women being disproportionately targeted by disinformation campaigns, hate speech and online violence:

Groups that are historically marginalised are at the centre of [...] disinformation and hate speech [...] women, black people, Indigenous people are the most targeted and affected by these phenomena. (#25)

There are many online forums supporting extremists who are against the civil rights of historically marginalised populations [...] often in closed groups that aren't part of the mainstream social networks, [...] for example on Reddit's chat network, Sporting Discord was used a lot by boys who played video games, but nowadays there are also masculinist communities that organise themselves to intervene in women's rights issues. (#11)

Social media have brought people together who were [previously] dispersed. To give an example, [Brazil is] a deeply racist society [...]. With social networks, individuals who are racist, but previously felt ashamed to admit it, now realised that there are other people who feel the same way [...]. So all those people who have a politically incorrect position or one that was censored by the prevailing morals began to stand by their opinion. (#23)

Evangelicals have actively contributed to this development and leveraged their growing numbers to shape political discourse, particularly around conservative issues like family values, opposition to LGBTQ+ rights, and reproductive health (Londono, 2020; Zilla, 2020). According to interviewees, in rural areas and poorer urban neighbourhoods, religion often serves as a vehicle for political mobilisation, with religious leaders using their platforms to spread not only religious, but also political disinformation (#8, #11).

Adverse impacts of information pollution

The above enabling structural conditions and their online ramifications increase the likelihood of adverse impacts of information pollution in Brazil. The inability of democratically elected governments to significantly reduce poverty, inequalities, violence and corruption has led to an anti-elite sentiment that is widely shared across different social classes. Such grievances can easily be exploited politically. Interviewees shared the view that in Brazil, the politicisation of these grievances was actively promoted by religious actors:

There's a window of opportunity: an economic crisis, many people unemployed and there's a rise in conservatism, an increase in evangelical churches in the country [...] and suddenly a debate surges about more moral and ethically correct people and [the need to combat] corruption, which then moves towards very conservative moral values linked to the family (#5).

The chance that digital disinformation disseminated for such purposes will be taken at face value is greater in a situation in which significant parts of the population have low digital literacy and difficulties verifying information. Interviewees pointed out that many Brazilians, especially in poorer regions, are unable to distinguish between fact-checked news and disinformation (#1, #6). This makes these populations particularly susceptible to manipulation by external actors, especially during politically charged times such as elections (#5, #9). This susceptibility is further enhanced by the practice of zero rating, which limits the access of economically disadvantaged population groups to diverse viewpoints and credible media sources and instead reinforces echo chamber effects (#4, #9).

4.1.2 The context of the media landscape and information ecosystem

This section elaborates on how characteristics of Brazil's media landscape create conditions that increase the likelihood of adverse impacts from information pollution. Factors such as concentrated media ownership, a highly politicised media system, and economic pressures from

digital formats have diminished investigative capacity and pushed sensationalism. Political actors, including Jair Bolsonaro, have exploited these weaknesses by spreading disinformation to polarise public opinion and erode trust in traditional media, which is driving citizens towards social media – where disinformation abounds – as primary sources of news consumption. This has contributed to a degradation of the quality of public debate, making it increasingly confrontational and divisive.

Enablers

Media pluralism is an essential pillar of the rights to information and freedom of expression and is of paramount importance for informed democratic decisions. Yet, Brazil's media landscape is highly concentrated and dominated by a few powerful families and corporations, most notably the Marinho family (owners of Grupo Globo) who has exercised considerable influence on Brazilian politics and society in the past (#1, #3, #14). In the absence of an independent public broadcasting service that could offer news without commercial pressures, this creates an unbalanced media environment, where private interests overshadow the public's need for unbiased news (#5, #12).

Information plurality and media neutrality are further constrained by the entanglement between media, economic interests and politics. Due to the failure of Brazilian media laws to mandate clear disclosures of shareholder structure, levels of media ownership transparency are low (OECD [Organisation for Economic Co-operation and Development], 2020, #4, #9; Reporters Without Borders, 2022). Although Brazilian politicians are constitutionally prohibited from owning communication outlets, this legal gap enables political and business figures to hide their control over media outlets:

We often see the use of what we call *laranjas* [strawmen], individuals who are formally listed as the owners of a media outlet but serve only as front men for other entities that actually hold the power. This is very common, for example, with politicians (#9).

The objectivity of news reporting is further constrained by the high degree of politicisation of the media system. The politicisation of Brazilian media has increased substantially since 2016 following the *lava jato* judicial process that targeted political corruption and culminated in the impeachment of former President Dilma Rousseff of the PT. Many communication scholars have criticised the coverage of the process by mainstream media as unfair and biased against Rousseff and then ex-President Lula (e.g., Campello et al., 2020; Moritz & Rita, 2020). Some have gone as far as describing the impeachment of Rousseff as a media supported “coup of the economically dominant conservative oligarchy” against the leftist PT which had been in power since 2003 (van Dijk, 2017, p. 99). According to interviewees, this contributed to the development of a generalised *antipetismo* (resentment against the PT) in large segments of the Brazilian population (#4, #5, #23).

Another enabling factor of information pollution is the crisis of traditional journalism triggered by digitalisation. Print media in Brazil face financial difficulties as well as a declining readership loyalty and ability to attract advertising. This has weakened investigative journalism as traditional newspapers have either collapsed financially or downsized their investigative teams (#8, #12). Regional newspapers, which play a critical role in local accountability, have been disproportionately affected by these financial strains, leaving many areas without reliable news coverage (#8). Further, as elsewhere in the world, the quality of journalism in Brazil has been negatively affected by the sensationalist logic of the business model in internet publishing which forces publications to prioritise fast, low-cost news production over in-depth reporting (#12).

In addition, the proliferation of politainment has weakened the quality of the public debate. Interviewees pointed out that television networks, as a strategy to stay competitive, dedicate excessive airtime to political scandals and *fofoca* (celebrity gossip) at the expense of more

serious, issue-based journalism. Influential profiles on social media, such as CHOQUEI, engage heavily in politainment, thus reinforcing a shift in public debate away from substantive political discourse and towards sensationalism:

Fofoca is really bringing down journalism. A large portion of Brazilians increasingly consumes news from these entertainment outlets. Some of them have been involved in cases of misinformation that influenced people's political opinions. So, in Brazil, entertainment and politics are closely interconnected (#3).

Interviewees related the popularity of politainment to Brazil's reading culture which is relatively poor compared with other countries (#6, #9, #10). According to representative survey data, 84 per cent of the adult population did not purchase a book in 2023 (CBL [Câmara Brasileira do Livro], 2023). At the same time, Brazil enjoys a strong oral tradition, which is partly related to limited access to educational resources and the persisting ethno-linguistic discrimination of Indigenous and Afro-descendant Quilombola populations (Lajolo, 1994). This specific cultural characteristic is reflected in the enormous popularity of WhatsApp in Brazil (148 million users), which ranks second globally after India in terms of the number of users (Iqbal, 2024). The app's voice message function makes it especially apt for sharing spoken communication across communities that rely heavily on the transmission of oral information.

Drivers

Structural violence in Brazil poses a significant threat to press freedom. The situation of media professionals, particularly those reporting on gang crime and corruption is troubling. In 2023, there were 181 recorded attacks on journalists, including two murders (LatAm Journalism Review, 2024; Reporters Without Borders, n.d.).

Further, interviewees consistently stressed the high level of government hostility against the media during the term of President Jair Bolsonaro (#4, #6, #8, #16). In 2020 alone, Reporters Without Borders tallied 118 public attacks of the press by Bolsonaro and his sons, including judicial intimidation, such as threats to revoke licenses, or banning critical outlets from covering government press briefings. Bolsonaro's frequent verbal attacks on major outlets like *Globo* and *Folha de São Paulo* aimed to discourage critical reporting. This hostility forced the press into a defensive stance, impairing its ability to maintain independence and report objectively. Self-censorship was most evident in investigative reporting, where journalists avoided covering political corruption cases, especially those involving the Bolsonaro family, out of fear of retaliatory lawsuits (#5, #8, #9). Bolsonaro's public statements accusing the media of fearmongering during the COVID-19 pandemic further eroded trust in legitimate news sources.

An additional driver of information pollution is the strong influence of evangelical churches in the Brazilian media sector (Carranza & Rosado-Nunes, 2024). During the 2022 election campaign, evangelical leaders frequently used their media outlets to disseminate disinformation and malinformation about opposition candidates (#1, #3, #4, #5). Religious radio and TV networks, such as *Jovem Pan*, *Rede Vida* and *Record TV*, frequently attacked progressive social issues, including LGBTQ+ and women's reproductive rights (#10, #12). Their campaigns often framed disinformation as "religious truth", making it more difficult to challenge due to the perceived authority behind it.

Box 1: Muzzled but not defeated: defamation, lawfare and civil society strategies to defend press freedom in Brazil

Under the Bolsonaro government, Brazil's media environment grew increasingly hostile, with defamation campaigns and lawfare used to intimidate and silence journalists.

Defamation campaigns often targeted women journalists, leveraging sexist and misogynistic narratives to discredit their work. The case of Patrícia Campos Mello illustrates this approach. After investigating WhatsApp disinformation campaigns that supported Bolsonaro's 2018 election, the renowned journalist faced a coordinated smear campaign, falsely accusing her of exchanging sexual favours for information. The "Cabinet of Hate" (*gabinete de odio*), tied to Bolsonaro's allies played a key role in coordinating the campaign on social media.

"Lawfare" involving the strategic misuse of legal frameworks and institutions became another powerful tool to harass and silence critics. Bolsonaro's government weaponised the National Security Law more than any administration since Brazil's return to democracy in 1985, using it to target journalists under vague accusations. State institutions such as the Office of the Attorney General (AGU) and the Prosecutor General's Office (PGR) were also used to initiate investigations and lawsuits against journalists. This strategy aimed at discouraging open expression, leading to self-censorship among many media professionals.

However, faced with these challenges, Brazilian civil society also developed successful strategies to defend press freedom. Legal aid networks formed to support targeted journalists and provide pro bono legal representation. Collective data collection efforts documented attacks and international advocacy raised awareness at forums such as the Inter-American Court of Human Rights and the United Nations (UN). Patrícia Campos Mello successfully sued President Jair Bolsonaro for defamation. In 2020, the São Paulo Court of Justice ruled that Bolsonaro's remarks had damaged her honour and ordered him to pay 35,000 Brazilian reais (approximately USD 6,300) in compensation.

While these efforts were largely reactive, they underscore the resilience of Brazil's civil society under significant pressure to defend press freedom and democratic principles.

Adverse impacts of information pollution

The above-described enablers and drivers create specific conditions that increase the likelihood of adverse impacts of information pollution on Brazilian society. Attacks on journalists contribute to a climate of self-censorship that negatively affect the right to receive diverse and reliable information. The political discourse of the Bolsonaro government that discredited critical reporters further reduced trust in traditional news media.

Combined with a general crisis of traditional journalism and a preference for audio-visual information consumption, which is partly culturally determined and partly due to an educational backlog, this has reinforced a trend whereby Brazilians increasingly rely on digital media for information. Nowadays, 75 per cent of Brazilians consume news online. While the use of social media (51 per cent) only slightly exceeds the use of television (50 per cent), it almost quintuples the use of print media (11 per cent) for news consumption. In addition, 42 per cent of Brazilians share news via messaging apps like WhatsApp or email (Carro, 2024).

These dynamics have fostered an environment in which information pollution is likely to thrive, as the reliance on digital media for news and the weakened state of traditional journalism create fertile grounds for the spread of disinformation.

4.1.3 Regulatory, legislative and institutional context

This section will elaborate on how a specific combination of enablers and drivers facilitated the emergence of information pollution with adverse effects for democracy, particularly the limiting

of the public's ability to observe and critically debate government actions. On the one hand, gaps persist in the enforcement of both transparency and internet governance legislation. The latter has become outdated due to significant transformations in the digital landscape. On the other hand, the Bolsonaro administration actively restricted ATI, weakening democratic oversight. In response, Brazil's judiciary intervened to counter disinformation. However, the lack of robust legislation on platform governance forced it to act on an ad hoc basis, creating tensions as it encroached on responsibilities typically incumbent to other government authorities.

Enablers

When discussing information pollution, it is important to examine its "flip side", namely the measures taken by governments to counter its emergence by ensuring the provision of high-quality, reliable information. Access to public information and information integrity crucially depend on states' efforts to ensure transparency, whether through reactive measures or proactive OGD initiatives (de Oliveira et al., 2023). Yet, while the Brazilian transparency regime is de jure progressive and internationally recognised for its comprehensive legal framework (OECD, 2022), it faces significant challenges in its de facto implementation, particularly in ensuring consistent compliance and accessibility across different levels of government (Michener et al., 2021; Michener & Nichter, 2022).

The Brazilian constitution guarantees the under Article 5 (33) (Brazil, 1988) and the country adopted a modern ATI law in 2011 (Brazil, 2011). As a result of several reforms, nowadays the country scores close (0.56) to the OECD average (0.48) on the OECD OURdata Index that benchmarks countries' open government policies (OECD, 2023). Some initiatives have inspired other countries and given Brazil international recognition for its transparency agenda. The National Transparency Portal (*Portal da Transparência*) launched in 2004 aims primarily at increasing fiscal transparency by making data on federal government spending, contracts and procurement available. Meanwhile, the Open Government Data Portal (*Portal Brasileiro de Dados Abertos*) launched in 2012 provides open datasets from various sectors of the federal public administration. Both initiatives are focused on proactive transparency and managed by the Office of the Comptroller General (*Controladoria-Geral da União*) (CGU), who reports directly to the Presidency of the Republic of Brazil and closely cooperates with the Federal Public Ministry in investigations on the misuse of decentralised public resources (Oliveira, 2021). In turn, the platform FalaBR (short for "Brazil speaks") launched in 2018 and also managed by the CGU focuses on reactive transparency. Designed as an interactive tool, the platform facilitates citizen information requests under the ATI law and allows citizens to submit feedback on public services and complaints. Despite these commendable initiatives, both the implementation of and compliance with ATI legislation have remained inconsistent and generally weak. Interviewees stated that the CGU's effective oversight of transparency is hindered by its lack of autonomy and its historic mandate for internal control, combined with limited capacities and resources (#6, #14, #20).

Further, the enforcement of national transparency legislation at state and municipal levels is extremely low, resulting in unequal ATI across different levels of government (Michener et al., 2021). According to interviewees, these challenges stem from both capacity deficits and political resistance. While many subnational governments lack the necessary technical infrastructure, financial resources and trained personnel to comply with transparency regulations, others resist compliance for political reasons, as local elites wish to retain control over information flows (#3, #6, #8).

Equal access to public information in Brazil is further constrained by the complexity of public information which is offered proactively. Interviewees highlighted that, on the one hand, the current transparency regime prioritises a reactive approach that places the burden on the public to undergo bureaucratic processes to request information. On the other hand, although the

national transparency portal provides extensive public data proactively, navigating and interpreting this information poses challenges. Many citizens lack the information literacy needed to connect disparate pieces of information, such as procurement details and resulting contracts. As a result, only individuals familiar with the administrative system, such as public officials, journalists or researchers, can effectively use the platform, leaving a significant portion of the population unable to benefit from these transparency efforts (#3, #11, #14). Experts consider making public information more accessible to larger segments of the population as one of the most critical tasks for improving Brazil's transparency regime. As one interviewee put it, "this requires simplifying public data so that everyone, regardless of education level, can understand the available information and access it directly without relying on intermediaries". ATI is additionally hampered by the gap between public and private sector transparency. Brazilian transparency legislation primarily focuses on public sector activities. Meanwhile, private companies can operate with minimal public scrutiny, even when working with taxpayers' money, for example in the execution of public infrastructure projects (#11, #20).

The enabling environment for information pollution created by the above-described shortcomings in ATI is reinforced by implementation gaps and reform backlog in the field of internet legislation. At the time of its adoption in 2014, Brazil's Civil Rights Framework for the Internet (*Marco Civil da Internet*, hereafter *Marco Civil*) was widely regarded as a global model for internet governance. Given its strong emphasis on protecting freedom of expression and internet user privacy, it was long seen as a robust safeguard for digital rights. A point that received international acclaim and recognition was the democratic approach to its creation, which included an extensive, participatory public consultation process involving civil society, academia and the private sector (Arnaudo, 2017; Hoskins, 2018; Segurado, 2019). The implementation and enforcement of *Marco* are overseen by multiple entities across different sectors depending on the specific aspects of regulation: the National Telecommunications Agency (ANATEL), for example, oversees matters related to telecommunications infrastructure; the Ministry of Justice ensures compliance with user rights; the Administrative Council for Economic Defence (CADE) handles competition issues to prevent monopolistic practices by service providers; and the Judiciary addresses disputes over data protection, and freedom of expression. The Attorney General of the Union (AGU), in turn, provides legal counsel to the government and defends its interests in courts when disputes related to the *Marco Civil* arise, such as whether the government should act on removing certain content.

Despite the merits of *Marco Civil*, interviewees concurred that its enforcement has been patchy and that it no longer provides a sufficient regulatory basis in light of the profound transformation of the digital landscape over the past decade (#14, #30). Rivalry between governmental bodies, particularly the CGU and AGU, has led to conflicts and fragmented approaches to the framework's enforcement as these agencies frequently act with overlapping authority and fail to coordinate effectively. Another problem relates to the historical origins of *Marco Civil*. Drafted against the backdrop of Brazil's military dictatorship (1964-1985), the framework places a strong emphasis on protecting freedom of expression. Specifically, Article 19 stipulates that internet service providers are not liable for third-party content unless a judicial order is issued. While crucial for safeguarding free speech, this non-liability clause has unintentionally hampered efforts to tackle disinformation. Combined with a lack of clear procedural guidelines on addressing false information, it has created a legal environment where profit-oriented operators of social media platforms have little incentive to implement robust content moderation policies.

To address the deficits outlined above in 2020, the *Projeto de Lei* 2630 (PL2630), also known as the "Fake News Bill", was introduced in the Brazilian Congress but has since stalled. A particularly contentious issue is determining which authority should be tasked with overseeing the implementation of the resulting law. Proposals range from assigning this mandate to ANATEL to establishing a broad-based multi-stakeholder body. As the bill underwent various stages of development, including a multi-stakeholder debate, additional provisions were

introduced that expanded the bill beyond its initial focus on disinformation and complicated its passage:

Things were added and it became a monstrous project [...] including provisions about journalist remuneration, hate speech, freedom of expression, platform responsibility – it just grew huge. When so many things are added [to a bill], obviously other sectors of society will step in to pressure against its approval because it affects their interests (#11).

Drivers

Evidence suggests that the Bolsonaro government deliberately took advantage of deficits in the transparency regime that result from regulatory fragmentation and weak institutional autonomy. A case in point is the overlap between the ATI law and the Brazilian General Data Protection Law (*Lei Geral de Proteção de Dados*, LGPD) (Brazil, 2018), which came into effect in 2020 and created the National Data Protection Authority (ANPD). Bolsonaro's government strategically exploited this overlap to limit access to key public information. Data protection provisions were frequently invoked to justify withholding critical information in cases involving public procurement contracts (#14, #20). Bolsonaro also used the LGPD to justify the classification of the visitor logs of his and his sons' meetings at the presidential palace as secret for 100 years. This raised considerable public concerns given the ongoing investigations into his sons for various crimes, including fake news dissemination and embezzlement (Michener, 2023). Further, on several occasions, political interference by the executive hampered the CGU's ability to hold government officials accountable and to fulfil its role as a "guardian of transparency":

The fact that the CGU is a ministerial body has proved to be problematic – especially during the Bolsonaro government, because the Minister of Transparency and the CGU, Wagner do Rosário, was an ally of Bolsonaro (#14).

During the Bolsonaro administration, the Public Prosecutor's Office (*Ministerio Público*, MP) also remained largely passive. According to interviewees, on various occasions the MP delayed investigations into allegations of misuse of public funds involving high-profile political figures close to the administration, thus violating its mandate to act as an independent enforcer of transparency laws (#6). Bolsonaro also actively opposed the establishment of a legal framework to combat disinformation, frequently criticising PL2630 as an attack on freedom of expression. Major tech companies like Facebook and Google supported his stance, lobbying against the bill by arguing that it would impose excessive regulatory burdens, increasing operational costs and stifling innovation (#12).

Adverse impacts of information pollution

The enablers and drivers in the regulatory, legislative and institutional context presented above provide a fertile ground for information pollution. In the absence of hard legal incentives, operators of digital platforms in Brazil lack incentives to curb information pollution through the adoption of robust content moderation policies. Consequently, there is a high risk that ill-intentioned actors use these platforms to spread disinformation for economic, political or ideological gains. This risk is further increased by the inconsistent and fragmented implementation of legislation on national transparency due to the weak autonomy of its institutional guardians. The resulting shortcomings in the proactive and reactive provision of public information make it difficult for journalists and ordinary citizens to identify and debunk disinformation by contrasting it with high-quality official data.

Further, in view of the stagnation of PL2630, over the past years the judiciary, particularly the Supreme Court and the Electoral Court, have taken an active and often “ad hoc” role in matters relating to content regulation, which has raised concerns about judicial overreach.

The Supreme Electoral Court (*Tribunal Superior Eleitoral*, TSE), for example, created new legal obligations for platforms, taking on the responsibility of regulating online content – something that was previously not part of their mandate. The STF, in turn, initiated its own investigations into disinformation incidents. While the courts justified these interventions as necessary acts of self-defence against disinformation attacks, legal scholars have criticised this “judicial activism” as weakening the role of the MP and federal police in initiating criminal proceedings (#12, #13).

4.1.4 Political context

While socioeconomic, media and legislative-institutional factors played an important role, under the Bolsonaro administration information pollution in Brazil was most critically enabled and driven by the political context. This section elucidates on how a combination of enablers and drivers in Brazil's political context facilitated the emergence of information pollution, undermining respect for democratic norms and processes. Corruption scandals under previous PT governments had created a baseline of political disenchantment, characterised by low levels of trust in institutions and waning support for democracy. At the same time, the growing influence of evangelical churches strengthened conservative movements within society, which added to the perception of the nation as being in moral decline, necessitating salvation. Bolsonaro actively exploited these dynamics to portray himself as a quasi-messianic figure. To reinforce this message, his administration orchestrated disinformation campaigns to attack political adversaries as morally corrupt. These campaigns also sought to further weaken public trust in democratic processes, particularly the electoral system. Together, these actions deepened polarisation and undermined respect for democratic norms and processes.

Enablers

Brazil's intersecting socioeconomic and geographical divisions (described in Section 3.1.1), have long shaped the country's political landscape. Whereas the poorer northeastern regions are traditionally strongholds for the left, the wealthier southern and central regions lean more towards the right. Despite these divisions, during the era of social democratic dominance by the PT, the party has largely focused on control of the political centre. However, since the mid-2010s, Brazil saw increasing levels of political fragmentation and polarisation. The economic crisis coupled with several high-profile corruption scandals caused widespread political disenchantment and led to a strong *anti-petismo* (anti-PT sentiment) across the country that peaked with the impeachment of Dilma Rousseff in 2016 and the incarceration of Lula in 2018 (#4, #5, #23). These events marked a significant shift in the democratic framework of Brazil's post-military “Sixth Republic” (#1, #8, #23).

Yet, Jair Bolsonaro's victory in the 2018 Brazilian presidential election took many observers by surprise. Common wisdom expected that a congressional backbencher with far-right leanings and a nostalgia for Brazil's military dictatorship would be unable to defeat moderate candidates from established democratic parties. However, survey data suggest that the political crisis surrounding Dilma's impeachment and Lula's arrest had not only damaged the PT's reputation, but also shook confidence in the institution of democracy per se. Between 2013 and 2018 satisfaction with democracy in Brazil declined from 26 to 9 per cent. By 2018, 52 per cent of Brazilians believed that democracy had problems and 17 per cent were even of the opinion that there was no democracy in Brazil (Latinobarómetro, 2013, 2018).

From this perspective, the rise of the far right under Bolsonaro's leadership was not entirely unexpected. Rather, it was crucially enabled by a populist discourse that framed Brazil as a

country in need of moral and political purification, positioning Bolsonaro and his supporters as the “decent people” tasked with eradicating corruption. This narrative was central to Bolsonaro’s populist appeal, which portrayed the Brazilian political system as controlled by elites who had lost touch with ordinary citizens. The support of evangelical churches was important in amplifying this message (Massuchin & Cervi, 2024). Using religious media outlets such as *Record TV* and *Jovem Pan*, evangelical leaders played a key role in reinforcing the idea that Bolsonaro represented a “clean” alternative to the corrupt political class and would restore moral order to Brazil. This narrative, which was also programmatic in the naming of Bolsonaro’s electoral alliance (*Brasil acima de tudo, Deus acima de todos*/Brazil above all, God above everyone), resonated deeply with conservative voters among Brazil’s growing evangelical population and was instrumental to his 2018 electoral victory (Leira, 2023; #2, #23).

Drivers

Besides the enabling climate of increasing political and cultural-religious polarisation described above, information pollution in Brazil was directly driven by the innovative and strategic use of social media by Bolsonaro and his team during his 2018 electoral campaign (e.g., Ituassu & Matos, 2024) and the substantial restriction of ATI about important areas of public life during his term (e.g., Transparência Brasil, 2021).

Box 2: Stirring moral panic: absurd disinformation and opposition defamation in Brazil’s 2018 election

Social media disinformation incidents during Bolsonaro’s 2018 electoral campaign included the distorted representation of public-school sexual education efforts of the PT. A particular infamous piece of disinformation was the so-called *mamadeira de piroca* (literally “penis-shaped baby bottle”), which claimed that PT candidate Fernando Haddad, as former Minister of Education, had distributed penis-shaped baby bottles to pre-school children as part of a program to encourage “gender ideology” and indoctrinate children into LGBTQ+ lifestyles. Despite widespread fact-checking efforts, this and similar stories spread rapidly through WhatsApp and Twitter, helping the Bolsonaro campaign to galvanise conservative voter support and contributing to a polarisation of the electorate (Carvalho, 2020).

According to interviewees, the PT failed to quickly adapt to the changing media ecology and in 2018 still mostly relied on traditional media strategies and organic growth models of earlier campaigns. By contrast, Bolsonaro’s campaign used social media platforms to bypass traditional media and communicate with the public directly and aggressively. By exploiting social media search algorithms, his campaign managed to amplify divisive and emotionally charged content (dos Santos & Felitti, 2024; #9). The use of targeted disinformation allowed his campaign to make a larger impact with fewer resources, fundamentally reshaping the nature of political campaigning in Brazil (#27). Mass messaging via WhatsApp and Telegram blasts were particularly effective in disseminating viral political messages.

According to interviewees, throughout his presidency, Bolsonaro continued to use social media to attack minorities and mobilise previously existing social and cultural cleavages to bolster his political support:

The Bolsonaro government was extremely misogynistic. There were many attacks on gender diversity and the entire LGBTQ+ community [...]. Another community that was heavily stigmatised were artists. There was this supposedly Christian, fanatical, ideology that created “a moral panic” – the idea that homosexuals and artists work in tandem with the left and are out to plunge the country into disorder [...] (#8).

Other groups that were targeted a lot were Indigenous peoples and the Quilombola population. Bolsonaro attacked them specifically through official disinformation and hate speech [propagating] the idea that these traditional communities do not contribute to the country economically (#9).

Organised disinformation incidents linked to Bolsonaro were widely reported to have originated from the so-called “Cabinet of Hate” (*gabinete de odio*), an informal group of members of Bolsonaro’s inner circle led by his son Carlos Bolsonaro. The group’s strategy included the deployment of so-called “digital militias” on social media platforms, which utilised fake profiles and bots for the large-scale dissemination of disinformation pieces (Reuters, 2024). Disinformation fabricated and disseminated by the “Cabinet of Hate” was not only targeted at minorities, but also sought to undermine public trust in key state institutions such as the judiciary and the electoral process (#2, #23). Falsehoods targeting the latter primarily revolved around the alleged unreliability and manipulability of electronic voting machines and supposed illegal actions by the TSE. In a quantitative analysis, Cazzamatta et al. (2024) show that disinformation attacks on the STF and TSE surged from 15 per cent (2018) to 27 per cent (2022) during Bolsonaro’s term. Audios and videos retrieved from pro-Bolsonaro WhatsApp groups and Telegram channels also indicate that wealthy supporters of the president were actively involved in organising the 8 January 2023 riots in Brasília that followed Bolsonaro’s defeat in the 2022 general elections during which protesters vandalised the National Congress, Presidential Palace and TSE premises:

We knew this was going to happen because we were monitoring these extremists groups. There were, for example, people saying: ‘I can get a free bus for 40 people to go to Brasília’ [...] in this country, nothing is for free. So, we knew that some businessmen were financing the transport of these people (#11).

Further, during the pandemic, Bolsonaro’s administration played an active role in spreading disinformation, downplaying the dangers of the virus, questioning the efficacy of vaccines, and encouraging citizens to take a cocktail of unproven drugs and to expose themselves to the virus (Galhardi et al., 2020; #4). This led to considerable polarisation around health issues and a general decline of trust in public health institutions, as well as a drop in vaccination rates that lasted well beyond the pandemic (Carrilho et al., 2023; #20).

Further actively driving information pollution, during Bolsonaro’s term, ATI on important areas of public life was significantly restricted. Interviewees pointed out that his administration particularly limited transparency around issues of public spending, environmental data and public health (#6, #14). *Transparência Brasil* (2022) demonstrates that the government also made excessive use of classification. Between 2015 and 2022, Brazilian federal government issued 1,379 decrees to classify documents as “top secret” for 100 years. Out of these decrees, 80 per cent were issued by the Bolsonaro government. His administration also drastically cut the budget of the census-taking IBGE, thus preventing the presentation of the results of Brazil’s decennial census in 2021. Publication of the census data would have posed a threat to Bolsonaro’s re-election campaign in 2022, as they revealed the extent of the economic damage caused by his administration’s mismanagement of the pandemic.

Admittedly, neither the withholding of information that casts the government’s performance in a negative light nor the undermining of political opponents and state institutions are practices introduced by the Bolsonaro government. Previous PT governments had resorted to such tactics to gain political capital. However, interviewees emphasised that this approach reached unprecedented proportions under Bolsonaro:

Bolsonaro and the extreme right were not the first ones to use disinformation to erode trust in opponents and in public institutions. For instance, the Labour Party did that too by likening the impeachment of Dilma Rousseff in 2016 to a coup d’etat [...] but there is

a difference in how far you want to go in terms of the level of distortion of reality and certainly Bolsonaro feels comfortable going much farther (#12).

Adverse impacts of information pollution

The combination of a growing affective polarisation of society, fostered by a divisive populist-narrative and the weakening of transparency clearly increased the vulnerability of Brazilian society towards information pollution. By actively disseminating disinformation while at the same time restricting access to crucial public information, the government impeded the public's ability to hold it accountable, which allowed disinformation to flourish in the absence of reliable data.

4.2 Impacts of information pollution on polarisation and democratic backsliding

The findings presented in the previous sections suggest that information pollution has supported a process of affective polarisation with potentially pernicious impacts on the survival of democracy in Brazil. The evolution of digital media as primary sources of news content combined with their strategic use by the Bolsonaro administration have reshaped how Brazilians receive and interpret political information, reinforcing societal divides and antagonism towards democratic institutions. The following sections discuss the causal relationship between information pollution, polarisation and democratic backsliding in Brazil in more detail.

4.2.1 From information pollution to affective polarisation

The Brazilian case impressively illustrates the important role that elite agency and manipulation play in the emergence of affective polarisation. The former president, Jair Messias Bolsonaro, skilfully pursued a strategy to exploit existing grievances and political disenchantment through a divisive, populist discourse that pitted him and his supporters against an alleged establishment of morally corrupt socialists and communists embodied by the PT.

This strategy was substantially facilitated by two contextual factors that are specific to the Brazilian case. On the one hand, persistent poverty and inequalities have contributed to digital gaps. For many Brazilians, access to the Internet remains limited to social media, resulting in a restricted news diet. This has led to the development of a media ecology, which is strongly characterised by echo chambers that reinforce polarised viewpoints. As one interviewee noted, "Today, in Brazil people on the left and right live in separate worlds [...] receiving different news, interpreting events through entirely different lenses" (#11). On the other hand, the increasing influence of evangelical churches facilitated the mobilisation of existing social divisions around moral issues by the far right. Using social media but also traditional media outlets, religious leaders helped disseminate political disinformation and malinformation supportive of Bolsonaro and to frame these falsehoods as religious truths. Thanks to his evangelical backing, Bolsonaro succeeded in positioning himself as a quasi-messianic figure, promising to restore moral order amid perceived societal decay. This triggered a process of affective polarisation, whereby diverse social differences increasingly aligned along a singular, cultural-religious dimension, overshadowing previously cross-cutting identities. The particular Brazilian brand of affective polarisation is thus distinctly defined by its cultural-religious character. In the "Us-versus-Them" logic that is described as characteristic of affective polarisation (McCoy et al., 2018; McCoy & Somer, 2019), two antagonistic camps have emerged: A liberal-secular camp that is open to progressive values of self-expression and identity-based self-determination and a conservative-religious camp that firmly rejects these values.

Further, the emotional component of affective polarisation, whereby feelings of group membership elicit positive evaluations towards in-group members and negative evaluations towards out-group members (Iyengar & Wagner, 2024), is clearly recognisable in Brazil. Interviewees described political affiliations as becoming increasingly merged with personal identities and influencing social connections. With political divisions no longer being confined to ideology, they became deeply personal, leading to the transformation of political identity into a primary social identity:

In the elections of 2018, [...] a division of worlds occurred between those who supported Bolsonaro and those who did not. We see many families where people stopped talking to each other because of politics. We have seen polarised elections before. The run-off between Dilma [Rousseff] and Aécio [Neves] in 2014, for example. Personally, I voted for Dilma. But did I have friends who voted for Aécio? Of course I did! Just back then, it didn't become a personal issue, a problem of your everyday life that affected your friends, your colleagues [...] (#4).

Information pollution has also fuelled latent violence within Brazilian society. Social media platforms, especially WhatsApp and Telegram, have become breeding grounds for radical discourses that incite not only online hostility, but also offline actions. According to interviewees, polarisation has pushed people towards more aggressive forms of interaction and disputes that previously would have been resolved through conversation, are now increasingly escalating into physical confrontations (#23).

In the lead-up to the 2022 elections, violent political conflict increased sharply, including threats, intimidation and online and physical attacks. During the first half of 2022, the Observatory for Political and Electoral Violence at the Federal University of Rio de Janeiro recorded 214 cases of violence against prominent politicians, including 40 homicides, representing a more than fourfold increase since data collection began in 2019. Most victims were affiliated with the PT, and between July and October at least three PT supporters were killed by Bolsonaro supporters because of their political affiliation (ACLED [Armed Conflict Location & Event Data], 2022; Civicus, 2022).

Polarisation facilitated by information pollution has also heightened hostility towards vulnerable groups in Brazil. Racial minorities, LGBTQ+ communities and women are particularly affected by the intensified spread of prejudice within polarised online spaces. Digital platforms have allowed individuals with previously censored views, such as racism and misogyny, to find communities that reinforce these beliefs, leading to more open displays of hostility towards vulnerable and marginalised groups (#4).

In Brazil, in recent years we have seen many cases of online conflicts turning into conflicts in the offline world. [...] One example is the [feminist movement] *Marcha Mundial das Mulheres*, which is attacked online for the mere fact of organising women's marches. It often happens that groups of masculinist men organise themselves online to go to these marches to verbally attack [the women], for example, to shout sexist things at them (#4).

The above-described developments illustrate the risks that information pollution poses to societal peace, as the amplification of divisive rhetoric fosters an environment in which violence is a tangible consequence of digital polarisation.

Recent research also suggests a noticeable impact of information pollution on politics in Brazil. While Brazil's electoral arena has long been characterised as devoid of identity politics, recent analyses have uncovered an increasing electoral salience of identity. De Micheli (2023), for example, finds that over the past years, race has had a growing impact on electoral preferences. Smith (2019), in turn, identifies gender and sexuality as the most important issues driving the recent period of religiously motivated democratic conflict in Brazil. Conflicts about transgender

rights, public-school sex education, reproductive health and abortion rights have increasingly spilled into election processes with a growing evangelical voter bloc favouring co-religionist candidates.

4.2.2 The link between digitally supported affective polarisation and democratic backsliding

The causes of Brazil's recent autocratisation episode cannot be explained mono-causally. The decline in democratic quality is a longer-term process dating back prior to the Bolsonaro administration. Leading democracy indices such as BTI and V-Dem already registered a decline in democratic quality starting in the mid-2010s, which is mainly attributable to economic downturn, coupled with widespread corruption scandals and the resulting political disenchantment. Nevertheless, the same indices document a considerably more pronounced decline in democratic quality during the Bolsonaro administration (see Section 3.3). The findings presented in this study indicate that affective polarisation driven by information pollution represents an important piece in the puzzle of explaining this accelerated democratic erosion that affected two dimensions of democracy, in particular: the deliberative and liberal dimension of democracy.

The deliberative dimension of democracy critically depends on respect for opposition and counterarguments, as well as the pluralism of opinions. Limited information plurality and media neutrality have long posed challenges to impartial and unbiased political news reporting in Brazil.

Under the Bolsonaro administration, this situation was aggravated by an increasingly media-hostile political environment, in which journalists critical of the government were routinely verbally attacked, delegitimised and intimidated by “lawfare”. This strategy further damaged the traditional media, which were already financially weakened and affected by a declining number of readers and viewers due to competition from online platforms. As previous research has shown, a situation in which citizens increasingly turn to social media and messaging apps for news consumption holds potential for affective polarisation, as the disinformation circulating among like-minded members in digital echo chambers often appeals to identity-based grievances and has the potential to solidify negative viewpoints about out-groups (González-Bailón & Lelkes, 2022; Tucker et al., 2018). In a situation in which important segments of the population have inadequate means to verify and identify digital disinformation, this may jeopardise social cohesion and societal peace. Where disinformation is specifically designed to characterise the political opponent as so morally corrupt that he is no longer acceptable as a legitimate participant in the democratic process, as was the case in Brazil, it can also pose a major challenge to democracy (e.g., Schmid et al., 2023).

The liberal dimension of democracy, in turn, essentially relies on respect for civil liberties and the protection of human rights, as well as the existence of a system of checks on the executive power to ensure government transparency and accountability. Regarding the first aspect, the increasingly precarious situation of vulnerable groups and minorities in need of protection has already been discussed above. Regarding the latter aspect, the findings presented in this study have shown that structural challenges to transparency and ATI in Brazil predate Bolsonaro's administration.

Despite the existence of progressive ATI legislation, implementation has remained inconsistent, especially at subnational levels, where local government compliance with transparency requirements is often politically resisted and hindered by resource constraints. In addition, the prevailing legal focus on reactive transparency requires citizens to navigate complex platforms to file information requests. This limits ATI mainly to an educated elite, thereby constraining broad public oversight of government performance and results.

Further challenging information integrity, Brazil's outdated Civil Rights Framework for the Internet, while laudable for its emphasis on freedom of expression, includes clauses that limit the liability of platform operators and discourage content regulation. During Bolsonaro's presidency, these vulnerabilities to information pollution were exacerbated as his administration actively obstructed transparency and restricted information access in important areas of public life. Government bodies meant to uphold transparency were politically influenced, hampering their effectiveness. Simultaneously, Bolsonaro leveraged Brazil's permissive internet regulations to disseminate disinformation under the guise of protected free speech.

In essence, Bolsonaro followed a "grievance centred strategy" of autocratisation (see Carothers & Press, 2022), which consisted of mobilising corruption grievances and claiming that these grievances would be perpetuated under an opposition government. By doing so, he managed to mobilise support for the dismantling of democratic norms and institutions with the purported aim to restore moral political order. Disinformation disseminated to reinforce this strategy was specifically designed to undermine the legitimacy of key democratic institutions like the Electoral Court and Supreme Court.

The success of this strategy found its most visible expression in the events of 8 January 2023 when following Bolsonaro's refusal to accept his electoral defeat, thousands of supporters mobilised via social networks vandalised federal government buildings in the capital Brasilia and demanded the overthrow of the newly elected government through a military coup. At the latest, it is at this point that affective polarisation in Brazil must be considered to have reached a pernicious state, posing a real threat to the country's democratic stability.

5 Brazil's U-turn on Autocratisation: insights into democratic resilience, lessons learnt and policy measures to counter information pollution

The Brazilian presidential elections of 2022 were considered a pivotal moment for democracy by observers and political analysts worldwide (e.g., Hill, 2022; Natal & Schreiber, 2022). The electoral defeat of Bolsonaro has been perceived as case of an autocratisation process being turned around at the ballot box (Nord et al., 2024). As a democratic U-turn case, the study of Brazil thus offers important insights into factors that may have contributed to the country's democratic resilience in the face of information pollution and polarisation. This chapter synthesises perspectives from interviewees on factors that bolstered Brazil's democratic resilience. Further, it critically discusses initial steps undertaken by the re-elected Lula administration to restore transparency and information integrity.

Insights into Brazil's democratic resilience

Over the past years, the study of democratic resilience has gained increasing importance in political science. For example, Levitsky and Ziblatt (2018) explore how institutional norms and guardrails prevent democratic erosion and the conditions under which they fail. Carothers and O'Donohue (2019) discuss how civil society and civic engagement can act as buffers against polarisation and democratic decay, while Diamond (2020) highlights the role of international factors. This study contributes to these ongoing academic debates by offering insights from the Brazilian case, where key factors played a critical role in reversing autocratisation.

When asked about the factors that saved Brazil from further autocratisation, interviewees emphasised four in particular: 1) the role of **civil society**, 2) **multilateralism** and the related emergence of transnational norms, 3) the existence of a sizable and capable body of **career civil servants**, and 4) **horizontal control of the executive by independent institutions**.

Across the board, interviewees stressed that, against the backdrop of Brazil's military dictatorship, **CSOs** have historically played an important role in promoting freedom of expression, rights to information and information integrity (#11, #14, #18, #19, #23, #30, #31). As one interviewee put it: "If you look at the history of transparency in Brazil, it's a history of government trying to conceal information and civil society pushing for it to be revealed" (#11). Drawing on this legacy, CSOs took a leading role in shaping key legislative frameworks. Prominent examples are the ATI Law of 2011, created with involvement of the National Truth Commission, a transitional justice body to redress injustices of military rule. Another example is the *Marco Civil da Internet* of 2014, often described as Brazil's "Internet Constitution", which advanced essential principles of freedom of expression and set foundational guidelines for internet governance. Motivated by Bolsonaro's rise to power and the related surge in government-disseminated disinformation, the debate over the need for democratic internet regulation – previously largely confined to technical circles – became increasingly public. CSOs and online monitoring hubs actively mobilised to advocate for safeguards against disinformation, making these issues a prominent topic in public discourse: "It became a constant topic in the media, on the streets – everywhere" (#11). These discussions culminated in the introduction of PL2630, the so-called "Fake News Bill", into Congress in 2020.

Civil society's efforts to uphold information integrity were reinforced by transnational norms established through **multilateral cooperation**. Brazil's aspiration to join the OECD is deemed a significant factor in this context. The OECD, which formally initiated accession discussions with Brazil in January 2022 (OECD, 2022), emphasises the principles underlying the UN 2030 Agenda for Sustainable Development and its Sustainable Development Goals (SDGs), including SDG 16.10 on ensuring public ATI and protecting fundamental freedoms. Countries seeking OECD membership must demonstrate a commitment to these values in their domestic and international policies. As one interviewee noted, "Brazil wanted to ascend to the OECD which means you are being monitored regarding the SDGs. So, Brazil couldn't leave [the SDGs] aside because that would jeopardise its OECD membership" (#16). This external pressure compelled the government to uphold its international commitments, even if the Bolsonaro administration rejected the 2030 Agenda ideologically. The Federal Court of Accounts (*Tribunal de Contas da União*, TCU) played a pivotal role by issuing decisions to monitor and oversee the government's actions related to the SDGs, effectively mandating compliance. The interviewee highlighted, "The TCU issued a series of decisions. Those are actually like a recommendation, but they were understood as an obligation by executive bodies" (#16).

Further and closely related to the above, internationally trained **civil servants** have been instrumental in embedding transnational norms within Brazil's public institutions. The hiring procedures for public positions in Brazil are anchored in the Federal Constitution, which ensures fair, merit-based selection and safeguards the continuity and impartiality of public administration through job stability for civil servants in Articles 37 and 41 (Brazil, 1988). As a result, Brazil has a sizeable body of career civil servants, many of which have received training from prestigious institutions with strong international ties and are well-versed in and committed to transnational norms and democratic values. Unlike political appointees, these career civil servants retain their positions across government changes, helping to ensure that key democratic principles and norms survive within public institutions. As one interviewee explained, "[...] this is a major advantage, as staff in many ministries and secretaries have a perspective that places the vision of the state above that of any particular government" (#17). According to interviewees, during the Bolsonaro administration, the elite of the Brazilian bureaucracy promoted values rooted in international agreements to the survival of "at least a minimum of democracy", thus functioning as an "airbag against autocratisation" (#16, #17, #18). Brazilian courts, including the STF, have repeatedly ruled to protect public hiring laws, emphasising that excessive reliance on temporary hires or failing to hold public exams for permanent positions violates constitutional norms (Schiefler & Cota de Araújo, 2020). Through these efforts, the judiciary played a critical role in resisting attempts to erode institutional checks and centralise executive power.

Adding to the above efforts, during the Bolsonaro presidency, **horizontal control** by the judiciary played a proactive role in combating information pollution. With PL2630 stalled and robust legislation on content moderation and platform regulation lacking, the STF took action on several occasions to address government disinformation. Examples include measures to curb pandemic-related disinformation, such as ordering the removal from social networks of Bolsonaro's false claims about COVID-19 vaccine risks, as well as actions to protect election integrity. Throughout his tenure, Bolsonaro publicly questioned Brazil's electronic voting system, using social media to undermine public trust in the electoral process and advocate for a printed ballot system. As the 2022 election approached, Bolsonaro intensified his efforts to discredit the electoral process. In June 2022, he convened a meeting with foreign diplomats, where he repeated unsubstantiated claims about vulnerabilities in the electronic voting system. This event, broadcast live on public television, drew significant attention. Following this incident, the TSE launched an investigation and in June 2023 found Bolsonaro guilty of having acted with the intention to harm public confidence in the electoral process and barred him from holding public office for the next eight years.

It is worth noting that interviewees expressed differing perspectives on the role of the judiciary. Some regarded the proactive role of the STF and TSE as necessary democratic self-defence to protect the reputation of the Brazilian judiciary and the legitimacy of the electoral process. Others – particularly legal scholars – voiced concerns about judicial overreach, cautioning that the courts often acted in an “ad hoc” manner and that “judicial activism” risked undermining established procedures that ensure balance in the division of powers (#12, #13).

Box 3: Striking a difficult balance: judicial oversight, information integrity and freedom of speech in Brazil

In August 2024, Justice Alexandre de Moraes of Brazil's Supreme Federal Court – who also served as the president of the Superior Electoral Court during the 2022 elections – ordered the nationwide suspension of X (formerly Twitter), after the platform violated the country's Civil Rights Framework for the Internet (Marco Civil), which requires social media companies to have a legal representative in the country to handle regulatory compliance. X had also allowed the spread of harmful content, with supporters of former President Jair Bolsonaro using it to circulate false claims of electoral fraud during the 2022 elections and to incite the post-election riots of 8 January 2023.

While several civil society groups supported the ban as a move to protect democracy, X-owner Elon Musk condemned the decision as authoritarian, branding Justice de Moraes a “dictator”. Brazilian legal scholars argued that the STF's ruling overstepped judicial authority, effectively turning the court into a regulator of digital speech without the necessary legal framework. They warned that this could undermine Brazil's legal stability and international investment appeal, raising concerns about long-term effects on civil liberties and the rule of law.

In October 2024, the Supreme Federal Court lifted the suspension after X complied with its requirements, which included appointing a legal representative in Brazil and paying fines totalling 28 million reais (approximately USD 5.1 million). This episode underscores the judiciary's difficult role in addressing information pollution while navigating the delicate balance between protecting democracy and safeguarding fundamental freedoms in the digital era.

Efforts to restore information integrity: successes and challenges

To counter disinformation targeted at the electoral process, as early as 2019 the TSE established a programme to combat disinformation, which was made permanent in 2021 (*Programa Permanente de Enfrentamento à Desinformação da Justiça Eleitoral / Electoral Justice Permanent Program on Countering Disinformation*, PPED). In the context of the PPED, Memoranda of Understanding (MoU) were signed with major social media platforms (including Facebook, Instagram, WhatsApp, Twitter, Google, YouTube, Kwai and TikTok). These MoU sought to establish cooperative actions for countering disinformation through a multi-pronged approach, including: the dissemination of reliable information about elections; the provision of training on platform usage and election procedures; the removal of malicious content and support of fact-checking organisations; and efforts to increase transparency regarding platforms' actions during election periods. The TSE's measures reportedly yielded partial successes, particularly the dissemination of official information through platforms and training efforts on platform usage and media literacy with engagement from Google and YouTube (Carreiro et al., 2024). However, according to Brazilian experts, the challenges encountered outweighed these limited successes. A primary challenge reported was lack of transparency, given that despite the MoUs – and in absence of a comprehensive legal framework for platform regulation – platforms failed to consistently publish detailed reports on their actions against disinformation. Concerns also emerged regarding automated content labelling of election-related posts. These labels were intended to flag potential disinformation and direct users to official information by the TSE. However, research indicates that – similar to experiences in Germany and the US – the indiscriminate application of these labels reduced their impact and unintentionally fostered public distrust (Carreiro et al., 2024; Mozilla, 2021; Papakyriakopoulos & Goodman, 2022). Adding to these challenges, platforms were often slow or ineffective in removing content verified as false by fact-checking organisations (#12).

The newly elected Lula government itself also undertook several measures to improve ATI and information integrity in the aftermath of the recent autocratisation period. However, the **assessment of these executive initiatives has been mixed**. Across the board, **actions by the newly elected Lula administration to reverse transparency restrictions were received positively**. The government revoked several decrees issued by Bolsonaro, which had imposed 100-year secrecy clauses on sensitive government documents, including those related to the pandemic and activities of members of the ex-President's family. Additional steps were taken to close legal loopholes leveraged by Bolsonaro to classify data as secret (Freedom House, 2024). Furthermore, in 2023 the Lula government established a Council for Transparency, Integrity and Combating Corruption (*Conselho de Transparência, Integridade e Combate à Corrupção*, CTICC), linked to the Office of the Comptroller General. Set up as a multi-stakeholder body, the CTICC has been tasked with promoting policies and strategies to combat corruption, monitor public spending and support open government and ATI (ARTICLE 19, 2023; #8, #9). Lula's repeated **public commitments to restoring media independence and improving press freedom have also been noted as significant positive developments** by international observers (Freedom House, 2024; Reporters Without Borders, 2023). For example, Lula announced the restructuring of Brazil's Public Communication Agency (*Empresa Brasil de Comunicação*, EBC), which had been used as a propaganda tool during Bolsonaro's administration. According to Lula, the restructuration would increase the independence of the EBC and allow it to act in a similar way as the internationally renowned British Broadcasting Commission (Said, 2023). For another example, in January 2023 the federal government announced the creation of the National Observatory of Violence against Journalists (LatAm Journalism Review, 2024).

In comparison to the above measures to enhance transparency and media freedom, **Lula's approach towards addressing disinformation has been discussed more critically**. Immediately after taking office, he implemented his election campaign promise to establish a National Prosecutor's Office for the Defence of Democracy (*Procuradoria Nacional da Defesa*

de Democracia, PNDD). With PL2630 stalled and no clear authority designated to manage content moderation and platform regulation, the PNDD was created within the Attorney General's Office (*Advocacia-Geral da União*, AGU). Interviewees expressed mixed opinions about the creation of this authority. Supporters described the PNDD's mission as critical in a setting in which politically motivated misinformation jeopardises democratic values and deprives citizens of their right to be "authentically informed" (#31). Critics, in contrast, likened the institution to an Orwellian "Ministry of Truth" and pointed to potential for government censorship. This concern was mainly based on the PNDD's placement within the AGU, which makes it hierarchically bound to the executive branch. Moreover, the PNDD's mandate raised questions about overlapping competencies with established institutions, including the Public Prosecutor's Office and Federal Police, which traditionally handle investigations and prosecutions. Critics questioned the purpose of assigning government lawyers – whose primary role is to defend government interests in court – to investigate disinformation, a task already within the scope of Brazil's existing investigative bodies. In their opinion, this created redundancy and the potential for institutional conflict, rather than the reinforcement of democracy protection (#13, #14, #16).

Recent efforts to restore transparency and information integrity to protect democracy in the aftermath of Brazil's autocratisation period underscore critical challenges and opportunities. Based on these developments and in light of this study's broader findings, the final section below presents policy implications and recommendations.

6 Conclusions and policy recommendations

Brazil's recent political history exemplifies the profound impact of information pollution on societal polarisation and democracy. The empirical findings presented in this study underscore the complex interplay between structural vulnerabilities, digital media dynamics and political strategies that drive polarisation and weaken democratic norms. To a certain extent, Brazil's experience reflects some broader global trends in the interplay between information pollution, polarisation and democratic erosion, aligning with dynamics observed in countries like the US and parts of Europe (McCoy et al., 2018; Schmid et al., 2023; Simonovits et al., 2022; Touchton et al., 2023). Similar to these cases, social media platforms in Brazil were leveraged by a populist leader to exploit existing societal cleavages and grievances, driving affective polarisation and undermining trust in democratic institutions. As in the US, where hyper-partisanship and social media disinformation have eroded norms of democratic accountability, Bolsonaro's administration weaponised economic, moral and institutional crises to divide society and weaken public confidence in the electoral process. However, Brazil's case also reveals unique characteristics, such as the pronounced influence of evangelical churches in fostering a moralised, religious-secular dimension to polarisation and the systematic restriction of access to public information under Bolsonaro. These distinct features underscore the importance of context-specific strategies to address information pollution and safeguard democratic resilience, emphasising that solutions effective in one setting may require adaptation to be impactful elsewhere. At the same time, Brazil's ability to reverse autocratisation at the ballot box in 2022 highlights critical lessons for mitigating the impact of information pollution and fostering democratic resilience.

Drawing from these insights, this section presents policy recommendations – both for strengthening democratic resilience through policy initiatives and programming of development cooperation at country level as well as through multilateral cooperation – to address information pollution and its adverse effects on democracy. These recommendations are grounded in empirical evidence from Brazil, tailored to the country's unique context and relevant international frameworks, principles and guidelines (EU [European Union], 2022; OECD, 2023; UN, 2024a,

2024b; UNESCO [United Nations Educational, Scientific and Cultural Organization], 2023; UNDP, 2022).

6.1 National-level recommendations

6.1.1 Foster media literacy and address digital inequalities

Brazil's socioeconomic disparities significantly shape its susceptibility to information pollution. Limited internet access coupled with reliance on "zero rating" practices confines many Brazilians to a restricted digital news diet dominated by social media platforms. This environment fosters echo chambers and limits exposure to diverse information and opinions.

Recommendations:

- Implement targeted media literacy programs focusing on digital skills and critical thinking, especially in socioeconomically disadvantaged and rural areas.
- Advocate the strengthening of the principle of net neutrality. In particular, encourage a debate about the ban of zero-rating practices, following the examples of the EU, Canada, India, Chile and other countries.

6.1.2 Strengthen independent media and equitable access to information

Brazil's concentrated media landscape and the politicisation of journalism exacerbate information asymmetries and polarisation. Digitalisation has led to a decline of investigative and regional journalism, weakening the watchdog role of the media. Particularly in underserved areas, this development has exacerbated deficits in vertical accountability.

Recommendations:

- Enhance support for independent journalism, including regional and investigative outlets.
- Invest in initiatives that bridge the urban-rural divide in digital and media access, ensuring reliable information reaches all segments of society.

6.1.3 Combat targeted disinformation and protect vulnerable groups

This study highlights the disproportionate targeting of minorities and marginalised communities in Brazil's information ecosystem. Hate speech and gendered disinformation are widespread, often weaponised by political and ideological actors.

Recommendations:

- Encourage collaboration between CSOs and local governments to effectively monitor and address online harms.
- Prioritise initiatives that digitally empower marginalised groups, such as black, Indigenous and female populations, and assist them in the development of positive counter narratives.
- Support the enforcement of existing laws against racism (Brazil, 1989), defamation (Brazil, 1940) and crimes of misogyny (Brazil, 2018) in digital spaces by allocating resources for monitoring and prosecuting offenses, training law enforcement on digital hate speech, and ensuring that judicial processes are accessible to victims from marginalised communities.

6.1.4 Enhance legal and institutional frameworks of internet governance

Gaps in Brazil's regulatory frameworks, including outdated internet legislation and weak enforcement of transparency laws, have enabled disinformation to thrive. The stalled "Fake News Bill" and limited autonomy of oversight bodies further weaken institutional responses.

Recommendations:

- Support efforts to modernise Brazil's internet governance framework through a transparent, multi-phase process that includes broad-based consultation to identify key issues, iterative feedback and public debate to ensure legitimacy and inclusivity.
- Advocate for the creation of a multi-stakeholder oversight authority with representation from the public sector, civil society, technical experts, academia and the private sector, emphasising the importance of impartiality, accountability and alignment with democratic principles.

6.1.5 Strengthen the transparency regime

Despite significant progress in advancing ATI, Brazil's transparency regime faces challenges that limit its effectiveness and inclusivity. The current framework remains heavily reliant on reactive transparency, placing the burden on citizens to navigate bureaucratic processes to request information. At the same time, the proactive disclosure of public information often lacks accessibility, as it is presented in complex formats that require specialised knowledge for interpreting the information. Moreover, the political independence of key institutions tasked with upholding transparency remains a concern.

Recommendations:

- Foster proactive and inclusive transparency by simplifying and contextualising public data to make it accessible to all citizens, regardless of education or technical expertise.
- Encourage initiatives that prioritise inclusivity, such as developing user-friendly tools
- Strengthen the autonomy of transparency guardians by supporting efforts to depoliticise institutions like the Office of the Comptroller General (CGU). In doing so, build on promising initiatives, such as the establishment of the multi-stakeholder CTICC.

6.2 International, multi-lateral recommendations

6.2.1 Promote platform accountability and transparency

The Brazilian case demonstrates how platforms and messenger services that operate globally can amplify information pollution, causing harm to societal peace and undermining democratic stability. Without robust international standards, these corporations lack sufficient incentives to address misinformation effectively.

Recommendation:

- The international community must advocate for global standards to ensure platform accountability and transparency. It will be necessary to establish clearer content moderation policies and algorithmic transparency to safeguard public access to accurate information and protect fundamental freedoms.

6.2.2 Strengthen cross-border cooperation

Information pollution often transcends national borders, with disinformation campaigns undermining trust in democratic processes worldwide. Brazil's experience with electoral disinformation illustrates how such narratives can influence national contexts, emphasising the urgent need for coordinated international responses. Regional frameworks, such as the European Digital Services Act (DSA) (EU, 2022), illustrate how well-designed regulations can have spillover effects beyond their member states, as platform operators frequently adopt standardised compliance measures globally to minimise costs and complexity. Brazil's experience with electoral disinformation underscores the importance of addressing these challenges through coordinated international responses.

Recommendations:

- Building on the 2024 adoption of the Global Digital Compact (UN, 2024a), the international community must enhance cross-border collaboration to combat disinformation. Multilateral cooperation through existing mechanisms should promote the sharing of best practices and technological solutions, fostering collective resilience
- Regional organisations in Latin America, such as the OAS, Southern Common Market (MERCOSUR), Economic Commission for Latin America and the Caribbean (ECLAC) and the Pacific Alliance, should strive to make platform regulation and digital governance a priority in their agendas and negotiations, aiming to develop harmonised regional frameworks

6.2.3 Leverage research and context-specific solutions for addressing information pollution

The Brazilian experience underscores the need for a deeper understanding of the socio-political impacts of information pollution to establish an empirical basis for the development of effective interventions. This requires analysing how information travels between online and offline spaces and how local socio-political dynamics influence its spread. Effective strategies depend on a nuanced understanding of national and local media ecologies, as well as the recognition that there are no “one-size-fits-all” solutions to combating information pollution (Sinanoglu & Breuer, 2024).

Recommendation:

- The international community should support research efforts to deepen the understanding of national and local media ecologies and their interaction with global information flows. While context-specific solutions are paramount, scalable interventions, potentially leveraging artificial intelligence (AI) tools, could be considered as a next step to enhance resilience to information pollution.

6.3 Concluding remarks

Summing up, Brazil's ability to reverse autocratisation at the ballot box underscores the resilience of democratic institutions and civil society in the face of substantial challenges. However, the persistence of polarisation and structural vulnerabilities in Brazil indicates that the battle against information pollution, as well as the broader threats to democracy, are far from over.

The above recommendations aim to strengthen stakeholders in their efforts to foster societal peace, protect democratic institutions and promote information integrity in an increasingly polarised world. Yet, as Brazil's case demonstrates, information pollution is only one instrument

in the toolkit of illiberal minded leaders who pursue grievance-based strategies. As shown in this study, autocratisers may mobilise pre-existing grievances – about corruption, poverty, inequality and violence – through social media to deepen polarisation and undermine democratic norms and institutions. This highlights that action to counter polarisation and democratic erosion cannot stop at measures confined to or targeted at the digital space: It must also address the underlying socioeconomic and political root causes through sustained engagement.

Finally, the Brazilian case has shown that elite agency plays a critical role in shaping affective polarisation and democratic erosion. Leaders who exploit grievances and leverage information pollution to consolidate power pose a significant challenge to democratic resilience. In light of this, international efforts to counter information pollution and protect democracy should also bolster diplomatic and economic disincentives for leaders who engage in such harmful practices.

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Appendix

Table A1: Anonymised list of interviews by expert category

ID	Expert category
1	Academia
2	Academia
3	Academia
4	Academia
5	Academia/media
6	Civil society organisation (CSO)
7	CSO
8	CSO
9	CSO
10	CSO
11	Academia
12	Academia
13	Academia
14	CSO
15	Development cooperation
16	Development cooperation
17	Development cooperation
18	Development cooperation
19	Development cooperation
20	Civil servant
21	Civil servant
22	Civil servant
23	Academia
24	Academia
25	Academia
26	Academia
27	Media
28	CSO
29	CSO
30	Academia
31	Civil servant
32	Civil servant
33	Development cooperation

Source: Author

Table A2 below contains potential enabling and driving factors of information pollution, as well as the resulting societal vulnerabilities towards and impacts of information pollution. It has been adapted from an analytical framework originally developed by UNDP's Oslo Governance Centre (see UNDP, 2022) and expanded for the purpose of this study. The list was used as the basis for the development of guidelines for semi-structured interviews with experts from the four different contexts. Interviews were conducted during field research in Brazil from February to March 2024.

Table A2: Analytical framework of potential enablers, drivers, vulnerabilities and impacts of information pollution in four environmental components

Environment	Enablers	Drivers	Adverse impacts of information pollution
Socioeconomic and social environment	<ul style="list-style-type: none"> Existence of inter-group tensions Misogynistic or hyper-nationalist narratives Structural violence or conflict Low media and internet literacy levels Cultural characteristics that promote the spread of incorrect information Prevalence of digital echo chambers Low public awareness of disinformation and its risks Low public capacity to verify information 	<ul style="list-style-type: none"> Political actors engaging in discriminatory and stigmatising discourse around vulnerable groups Online/offline influencers (political, social, religious, etc.) creating or amplifying disinformation for political or ideological gain 	<ul style="list-style-type: none"> Reinforced stereotypes and prejudices Heightened political and social polarisation or radicalisation Increased risk of communal violence Increased gender-targeted trolling, harassment and cyberviolence Stifling of activists and opposition voices Degradation of horizontal social cohesion
Media landscape and information ecosystem	<ul style="list-style-type: none"> Certain populations not adequately served by news/media outlets No independent public service broadcaster Lack of transparency of media/website ownership Media closures or downsizing Lack of media plurality or neutrality Poor-quality journalism Increased use of alternative information sources Spread of junk news stories on and offline 	<ul style="list-style-type: none"> Limited press freedom due to government or self-censorship Hyper-partisan or highly politicised media Mainstream media amplifies information pollution Prevalence of junk news sites Targeting of mainstream media by disinformation actors Increased reliance on closed messaging apps, groups and platforms for news and information Prevalence of coordinated disinformation campaigns 	<ul style="list-style-type: none"> Reduced trust in mainstream news and information Reduced public access to accurate and reliable news Increased use of alternative information sources Reduced quality of information and news

Environment	Enablers	Drivers	Adverse impacts of information pollution
Regulatory, legislative and institutional context	<p>Ineffective or repressive disinformation legislation</p> <p>Lack of transparency and accountability of online platform operators</p> <p>Lack of robust legislation on access to public information</p> <p>Lack of open data culture in the public sector</p> <p>Unclear competences of administrative authorities regarding internet governance</p> <p>No independent body tasked with online content oversight</p> <p>Slow, ineffective moderation of content</p>	<p>Social media algorithms promoting sensational content (“click bait”) creating financial incentives</p> <p>Weakening of accountability and transparency mechanisms and institutions</p>	<p>Shrinking civic spaces and the disappearance of dissenting voices</p> <p>Growth of “disinformation industry”</p> <p>Limited ability of the public to oversee government action</p> <p>Limited ability of public to critically debate government performance</p>
Political context	<p>Low public trust in state institutions and political actors</p> <p>Exclusionary political discourse</p> <p>Prevalence of identity-based groups/politics</p> <p>Political crises (e.g., disputed elections, unconstitutional power transfer)</p>	<p>State or political actors engaged in influence operations or actively disseminating disinformation</p> <p>Government restricting access to information (ATI)</p> <p>Government interference in online space (e.g., internet shutdowns, surveillance)</p> <p>Government attempts at curtailing right to expression through online censorship</p>	<p>Reduced public trust in official information sources</p> <p>Reduced public trust in political actors and institutions</p> <p>Degradation of the public debate</p> <p>Reduced citizen participation</p> <p>Reduced women’s participation in politics and public office</p> <p>Decreased government accountability and transparency</p> <p>Delegitimised democratic processes</p> <p>Long-term damage to social contracts and vertical social cohesion</p> <p>Reduced buy-in for public policies</p>

Source: Author, based on UNDP (2022)