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Determinants of Open Government and Transparency Reforms: An Exploratory Study of Provincial Governments in Argentina

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Abstract

Open government initiatives and transparency reforms have become increasingly popular around the world in recent years. Transparency and accountability are now central pillars of the evolving concept of good governance. Although much research has been devoted to analysing this phenomenon, evaluations tend to focus on the factors that drive transparency at the national level and the role of central governments. Less is known about the determinants of subnational government transparency, especially in a developing country context. Thus, this dissertation aims to fill this gap in the literature by analysing the drivers of subnational transparency in Argentina.

Prior studies reveal that transparency practices in Argentina vary substantially from one province to another. Using a novel dataset and conducting a multiple linear regression analysis, this study aims to answer the following research question: *What explains the variation in the level of provincial government transparency in Argentina?* This dissertation examines two policy areas – fiscal transparency and Right to Information (RTI) – and tests five hypotheses related to democracy (electoral competition and turnover), government digital capacity, citizens' internet access and press visibility.

The findings suggest that political and socioeconomic factors best explain the variation in the level of provincial government transparency in Argentina. Fiscal transparency is positively associated with electoral competition and population size; RTI law strength appears to be positively associated with gubernatorial turnover and development. However, government digital capacity, citizens' internet access and press visibility do not appear to significantly influence transparency levels.

Keywords: Argentina; Open Government; Fiscal Transparency; Right to Information; Subnational Democracy

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Introduction

'Open government' encompasses a wide variety of practices and principles, including transparency, accountability and participation (Wirtz & Birkmeyer, 2015). The Obama administration visibly championed open government initiatives – most notably the Public Law 113-101 Digital Accountability and Transparency (DATA) Act of 2014. Similarly, the Labour government led by Tony Blair introduced the Freedom of Information Act in 2000, which legislated access to public information. Similar initiatives have become increasingly popular around the world in recent years. The emergence of the open data movement and the rise of Information and Communication Technologies (ICTs) further contributed to this momentum (Council of Europe, 2018).

In September 2011, the UN General Assembly launched the global Open Government Partnership (OGP) as a voluntary, multi-stakeholder international initiative (OGP, 2020). The OGP started with a membership of eight governments and now includes 78 countries, a growing number of local governments and thousands of civil society organisations. Transparency and openness have since become important principles of the 'good governance' agenda and open government reforms are now a central feature of contemporary policy research.

This upsurge of commitments to open government and transparency has been studied primarily at the national level – to a higher degree in developing countries, where it is usually central governments that commit to OGP national action plans (Canares & Shekhar, 2015; Araujo & Tejedo-Romero, 2016). However, this seems to disregard the political, economic and social differences that exist within a single country. At the subnational level, transparency practices may vary

substantially from one state to another, yet the current literature does not definitely shed light on the reasons behind these fluctuations.

In addition, local governments are increasingly playing a larger role in delivering key public services and, thus, should be the topic of further research. It is at the subnational level where citizens and the government interact most regularly (CIPPEC, 2019). Still, systematic subnational studies are comparatively rare (Piotrowski, 2011). This dissertation aims to fill this gap in the literature.

In this regard, the World Bank recently published the first subnational index measuring the strength of current Right to Information (RTI) laws in Argentine provinces. In addition, the Centre for the Implementation of Public Policies Promoting Equity and Growth (CIPPEC) constructed an index to gauge the level of online fiscal disclosure of provincial governments. These represent pioneering efforts to measure and rank the implementation of transparency initiatives at the subnational level. In both cases, the results reveal major differences between provinces: for instance, while some display robust RTI legal frameworks, others have no formal laws or decrees regulating access to public information. Similarly, some governments display a higher degree of online fiscal transparency than others. Thus, this dissertation seeks to explore the factors that potentially account for this variation.

This study uses this novel data to answer the following research question: *What explains the variation in the level of provincial government transparency in Argentina?* Following Tavares and da Cruz (2017), I apply a political market framework in order to answer this question. According to this framework, policy outcomes are shaped by both supply and demand factors. It has mostly been applied to study climate protection policies (Feiock et al., 2014) and land use

regulation (Lubell et al., 2009). To the best of my knowledge, it is the first time this framework is used to analyse provincial government transparency.

I explore two groups of hypotheses: 'supply-side' factors – electoral competition, gubernatorial turnover and government digital capacity – and 'demand-side' determinants: citizens' internet access and press visibility. The results suggest that each policy area is associated with different factors: on the one hand, online fiscal disclosure seems to be associated primarily with electoral competition and population size. On the other hand, a stronger RTI legal framework seems to be associated with gubernatorial turnover and level of development. In this way, provincial government transparency appears to be primarily associated to supply-side determinants rather than demand-side factors.

As a decentralised and heterogeneous country, Argentina is a particularly interesting case for studying transparency at the subnational level. In terms of population size and income, the difference across provinces is very large: for instance, the City of Buenos Aires (CABA) accounts for seven per cent of the total population and has a GDP per capita of USD 37,804, whereas Formosa has a GDP per capita of USD 4,816 and accounts for less than one per cent (INDEC, 2010; World Bank, 2018). In this sense, this study represents an opportunity to examine the effect of these factors on transparency while holding national-level factors constant.

Prior research shows that the timely disclosure of public information brings many benefits. In this sense, empirical studies suggest that transparency can reduce levels of corruption (Reinikka & Svensson, 2005), enhance fiscal performance (Alt & Lassen, 2006) and improve governance (Islam, 2003). Thus, it is

important to explore the factors that may influence transparency in order to better understand how to design effective transparency initiatives.

Following this introduction, this dissertation is structured as follows: the first section presents a review of the recent literature on transparency. It defines core concepts, such as fiscal transparency and Right to Information, and introduces three theories commonly used by scholars to explain the adoption of transparency reforms: agency, legitimacy and neo-institutional. Next, it applies these theoretical approaches and prior empirical findings to develop the main research hypotheses and briefly reviews the Argentine provincial government context. The second section presents the research design and develops the method, variables and research models selected to test the main hypotheses. The subsequent sections present the results and discussion of the findings. The last section presents the main conclusions and suggestions for future research.

Literature review and hypotheses

Core concepts: fiscal transparency and Right to Information

Transparency represents one of the key principles of open government (Council of Europe, 2018). Although transparency remains a contested concept, for the purposes of this study it can be understood as 'the disclosure of information by an organisation that enables external actors to monitor and assess its internal workings and performance' (Grimmelikhuijsen & Welch, 2012, p. 563). This study focuses on two policy areas: fiscal transparency and Right to Information (RTI).

Fiscal transparency has been described as 'one of the mainstays of the open government movement' (OGP, 2020, para. 3). While different standards and best practices exist, there is no unequivocal definition (Stanić, 2018). Thus, this study interprets fiscal transparency as the 'full disclosure of all relevant fiscal information in a timely and systematic manner' (OECD, 2002, p. 7). It specifically examines the online disclosure of financial information.

RTI laws (also called Freedom of Information or Access to Information laws) provide 'the right to access documents held by the government without being obliged to demonstrate any legal interest' (Ackerman & Sandoval-Ballesteros, 2006, p. 93). These seek to guarantee transparency by allowing any interested parties to request public information and requiring bureaucrats to respond (Berliner, 2014).

Theoretical framework

There is currently no single theoretical framework to explain why some governments embrace transparency initiatives and others do not (Bearfield & Bowman, 2017). Nonetheless, scholars generally base their studies on three principal – and often

complementary – theories to explain the adoption of transparency reforms: agency, legitimacy and neo-institutional (Zimmerman, 1977; Laswad et al., 2005; Cárcaba García & García-García, 2010; Pina et al., 2020; Rodríguez Bolívar et al., 2013).

In a principal-agent relationship, a 'principal' (for example, voters) delegates authority to an 'agent' (elected officials) (Zimmerman, 1977). Agency theory assumes that the principal and agent do not share the same interests, and that agents have more information than the principals (thereby leading to an information asymmetry). An inherent challenge of delegation is agency loss, whereby agents might shirk, abuse their privileges of perquisite consumption or even engage in illicit acts. Thus, principals have incentives to monitor their agents and hold them accountable for their actions. In this context, governments are encouraged to adopt transparency practices that will reduce this information asymmetry and enable accountability (Cárcaba García & García-García, 2010).

Voters are not the only societal actors with incentives to monitor incumbent governments. Another important source of control of political behaviour are political challengers (Zimmerman, 1977). In this sense, political competition can reduce agency costs by encouraging candidates to act in the voters' interests – or risk losing the next election. Similarly, the press is also involved in the agency relationship and can pressure governments to supply information in order to demonstrate that they are honouring transparency commitments (Laswad et al., 2005).

According to the legitimacy theory, governments may adopt transparency reforms as a way to appear more legitimate to their stakeholders (Serrano-Cinca et al., 2009). Legitimacy represents 'a generalised perception or assumption that the actions of any entity are desirable, proper, or appropriate within some socially

constructed system of norms, values, beliefs and definitions' (Suchman, 1995, p. 574). Thus, governments may implement transparency initiatives to gain citizens' trust and change negative perceptions (Curtin & Meijer, 2006; Araujo & Tejedo-Romero, 2016).

In recent years, the neo-institutional theory has also been applied to explain the adoption of transparency reforms (Pina et al., 2010; Rodríguez Bolívar et al., 2013; Tejedo-Romero & Araujo, 2020). According to this theory, organisations respond to external pressures by adopting socially acceptable practices (DiMaggio & Powell, 1983). In this sense, transparency initiatives represent trust, modernity and good governance. Thus, governments may use reform as an organisational strategy to respond to external demands, such as pressure from media or citizens (Pina et al., 2010). Ultimately, this leads to homogeneity among organisations, as they tend to conform to predominant norms and structures.

Determinants of government transparency

This section reviews the relevant literature on the determinants of both national and subnational government transparency. Taking into account prior empirical research, I proceed to apply these findings to develop my own research hypotheses.

Following Tavares and da Cruz (2017), I apply a political market framework to study the determinants of subnational government transparency. This framework conceptualises public sector reform as the result of a dynamic process between policy suppliers and demanders of change (Kim & Lim, 2018). Thus, I divide my hypotheses into two groups: supply-side and demand-side. On the one hand, supply-side determinants refer to the political environment and the government's

technical resources. On the other hand, demand-side determinants relate to the influence that citizens and the media may have to foster change. Lastly, I also consider the effect of socioeconomic factors such as income level, education and development. Table 1 presents the various hypotheses and expected signs.

Supply-side determinants

Subnational democracy

In earlier studies, democratisation was mainly examined at the national level. In recent years more research has been devoted to studying and explaining the persistence of less democratic subnational units within democratic countries (Behrend, 2011; Benton, 2012, 2016; Gervasoni, 2010, 2018). This phenomenon seems fairly common in large and heterogeneous federations, such as Brazil, Mexico, Russia and Argentina. While some authors describe these local regimes as 'authoritarian enclaves' and 'subnational authoritarianisms' (Cornelius, 1999; Gibson, 2005; Benton, 2012), it would be misleading to classify less democratic Argentine provinces as authoritarian. Even the least democratic provinces – such as Formosa, where the current governor, Gildo Insfrán, has been in power since 1995 – do not meet the accepted criteria: some authoritarian elements certainly persist, yet elections are reasonably free, there are real opposition parties and citizens can exercise their right to free speech (Gervasoni, 2018). Instead, they may be characterised as 'hybrid regimes' (Karl, 1995) or simply 'less democratic'.

While acknowledging the complexity and multidimensionality of a contested concept such as democracy, this dissertation adopts a minimalist definition in order to examine whether the level of subnational democracy across Argentine provinces

affects transparency (Schumpeter, 1942; Przeworski, 1999). Thus, democracy is defined as 'a system in which parties lose elections' (Przeworski, 1999, p. 10). Based on this conception, I identify two dimensions of subnational democracy: electoral competition and gubernatorial turnover. These reflect the notion that provinces with a competitive political environment and alternation in power are likely to be more democratic than provinces controlled by the same party over two decades.

Two theoretical mechanisms – 're-election' and 'insurance' – help explain the positive relationship between democracy and transparency (Wehner & de Renzio, 2013; Berliner, 2014, 2017; Berliner & Erlich, 2015). First, a higher level of electoral competition and turnover means that the incumbent faces a real chance of losing power in the next electoral cycle. Incumbents seeking re-election in this context will have the incentive to secure as much support as possible and appeal to voters who favour transparency, competence and sound financial management (Cuadrado-Ballesteros, 2014). As agency and legitimacy theories predict, implementing transparency initiatives – such as strengthening RTI laws or disclosing financial information – reduces the information asymmetry between citizens and governments and can demonstrate a credible commitment to principles of good governance. In this way, a highly competitive environment can increase the incentives for incumbents to introduce changes in the status quo, thereby leading to greater transparency.

Second, if the ruling party thinks they are likely to lose the next election, they may have incentives to 'tie their own hands in order to tie the hands of future parties in power' (Berliner & Erlich, 2015, p. 117). By promoting transparency reforms, incumbents can ensure their own access to government information (particularly if

they are voted out of office) and secure the tools to monitor opposition parties and make them accountable for their actions. This means that future ruling parties will find it harder to use state resources for patronage and clientelism – and shut other parties out of government (Nyblade & Reed, 2008). Lastly, if incumbents do lose power, it is likely that their successors will have to bear the brunt of strong RTI laws and financial disclosure (Berliner & Erlich, 2015).

Most of the previous empirical studies show a significant and positive association between the degree of political competition and transparency (Alt et al., 2006; Gandía & Archidona, 2008; Hollyer et al., 2011; Esteller-Moré & Polo Otero, 2012; Wehner & de Renzio, 2013; Berliner, 2014, 2017; Berliner & Erlich, 2015; Tavares & da Cruz, 2017; Bearfield & Bowman, 2017; Chen & Han, 2019; Krah & Mertens, 2020). For instance, Alt et al. (2006) used unique panel data on the evolution of budget transparency in US states between 1972 and 2002. They found that more equal political competition and power sharing are associated with greater levels of transparency. In terms of the adoption of RTI laws, Berliner (2014) and Berliner and Erlich (2015) found that the passage of RTI laws is more likely – in both national governments and Mexican state governments – when the political environment is more competitive.

Still, some local government studies contradict these findings. Tejedo-Romero and Araujo (2020) find that political competition and political strength are not relevant determinants of e-government-enabled transparency in Portuguese municipalities. Similarly, Zuccolotto and Teixeira (2014) find no relationship between the level of competition in Brazilian gubernatorial elections and the level of transparency of subnational states.

Considering the positive association found by the majority previous empirical studies, the research hypotheses for subnational democracy are as follows:

- **Hypothesis 1 (H1): A higher level of electoral competition is positively associated with the level of transparency.**
- **Hypothesis 2 (H2): A higher turnover is positively associated with the level of transparency.**

Government digital capacity

Technology can be an important driver of open government and transparency reforms (Wirtz & Birkmeyer, 2015). A large digital capacity is associated with better financial and technical resources, which are necessary to improve online transparency (Tavares & da Cruz, 2014). As García-Tabuyo et al. (2015) observe: 'the online disclosure of public information requires not only political will but also technological resources' (p. 1203). In this sense, a local government with a higher digital capacity will find it easier to disclose financial information through its website.

Moreover, the lack of a proper technological infrastructure may inhibit transparency efforts. For instance, Dodd (2019) concludes that one of the factors hindering the advancement and effectiveness of RTI programmes in the US is outdated technology. Similarly, Roberts and Roberts (2010) examined some of the RTI's challenges in India – these included insufficient human and infrastructural capacity. As Michener (2011) notes, technological trends show promise for transparency advocates by 'speeding the acceptance of the right to access public

information and helping to encourage stronger measures and greater compliance' (p. 158).

Results from prior research indicate a positive relationship between the overall development of digital government and online fiscal transparency (Chen et al., 2019). For instance, Xiao et al. (2004) suggest that an organisation's familiarity with technology can promote internet-based disclosure. Likewise, Serrano-Cinca et al. (2009) find a positive association between a local government's technological infrastructure and levels of transparency. On the other hand, previous studies by Justice and McNutt (2013) and Tavares and da Cruz (2017) do not find a statistically significant relationship.

Based on the above discussion, I propose the following hypothesis:

- **Hypothesis 3 (H3): Government digital capacity is positively associated with the level of transparency.**

Demand-side determinants

Citizens' internet access

The increasing level of internet pervasiveness may be driving transparency levels in local governments. The effect of internet penetration is twofold: on the one hand, it creates domestic stakeholders that demand for more government information to be published online (Debreceny et al., 2002). Ma and Wu (2011) suggest that internet users are more politically engaged and more likely to push for the release of information due to the 'anonymity, interactivity and convenience of the internet' (p. 13). Similarly, previous studies find a positive association between internet use and the public's interest in government information: those who gather information

through the internet – rather than through newspapers or television – are more likely to support transparency and the right to request public records (Cuillier & Piotrowski, 2009; Jaeger & Bertot, 2010).

Moreover, as internet access increases and more industries adopt new technologies, citizens will come to expect digital services similar to those offered by private firms (Pina et al., 2007). Neo-institutional theory suggests that this expectation will lead to more 'bottom-up' pressure for disclosure and stronger RTI laws (Tejedo-Romero & Araujo, 2020). On the other hand, from the government's perspective, the internet makes public information more accessible, visible and easier to disseminate, thereby fostering transparency (Debreceny et al., 2002).

The empirical evidence suggests a positive and significant relationship between citizens' access to internet and transparency (Debreceny et al., 2002; Gandía & Archidona, 2008; Caba Pérez et al., 2008; García-Tabuyo et al., 2015; Ortiz-Rodríguez et al., 2018; Tejedo-Romero & Araujo, 2020; Shin et al., 2020). For instance, Caba Pérez et al. (2008) studied the relationship between access to the internet in households and online fiscal transparency in Spanish municipalities. They found that internet penetration was a determining factor: councils were more likely to introduce financial information in regions with higher rates of internet use. Still, some authors do not find a significant relationship (Pina et al., 2007; Pina et al., 2010). Based on prior research, I present the following hypothesis:

- **Hypothesis 4 (H4): Citizens' internet access is positively associated with the level of transparency.**

Press visibility

According to prior research, the demand for financial disclosure and robust RTI laws may be partly driven by local media (Laswad et al., 2005; Michener, 2010; Worthy, 2015; Bearfield & Bowman, 2017). Press visibility refers to the level of media attention on government activities (Cuadrado-Ballesteros et al., 2017). A high number of news items that mention the government represent a high press visibility.

Media plays an agenda-setting role: the press can highlight certain topics while excluding others, thereby determining the importance that people assign to them. The literature finds a strong relationship between the issues covered by the media and the issues citizens think are important (Cobb & Elder, 1971; McCombs & Shaw, 1972; Kingdon, 1984). In this way, the media can put transparency on the public agenda through sustained (positive) news coverage. We naturally expect the press to support stronger RTI laws: after all, many journalists use them to access public information in a timely, reliable and cost-effective way (Worthy, 2010). This support has been used to explain the adoption of robust RTI laws in advanced democracies (Michener, 2010).

A strong, independent media can also play an intermediary role in the agency relationship between governments and citizens. Local newspapers, television and digital media provide information to citizens and can familiarise them with various aspects of local government (Bearfield & Bowman, 2017). Agency and legitimacy theories suggest that highly visible governments will disclose more information in response to the pressure exerted by the media and general public (Serrano-Cinca et al., 2009). Governments may also publish information as a defensive mechanism to control the data that the press will eventually use and publish (Cárcaba García & García-García, 2010).

Previous empirical studies carried out in New Zealand, Spain and the Netherlands suggest a positive association between press visibility and local transparency. For instance, Laswad et al. (2005) analysed the websites of 61 New Zealand local authorities and found that only 49% provided online financial information. To explain this variation, the authors examined the number of news items in which the local authorities appeared, and concluded that highly visible governments were more likely to proactively disclose financial information on their websites. Gandía and Archidona (2008) observed a similar pattern in large Spanish city councils. They found a positive association between voluntary disclosure and the frequency of local government references in digital and print media. Other studies carried out by Serrano-Cinca et al. (2009) and Cuadrado-Ballesteros et al. (2017) in Spain and Grimmelikhuijsen and Welch (2012) in Dutch municipalities corroborate these results.

However, media pressure can have a negative effect on transparency. According to Cuadrado-Ballesteros et al. (2017), 'media coverage has risen from healthy skepticism to automatic negativity about governments' (p. 25). Local media stories increasingly feature negative or controversial aspects of government, such as corruption scandals, in order to grab the reader's attention. In this way, some UK government officials feel that the media sometimes 'distorts' public information or overemphasises policy failures (Worthy, 2010). Governments might decide that the risks outweigh the benefits; they may face a backlash or risk losing their reputation if they disclose too much information (Grimmelikhuijsen & Welch, 2012). Thus, as Ingram (1984) and Cárcaba García and García-García (2010) have found empirically, high press visibility may be negatively associated with disclosure. Taking into consideration the mixed empirical evidence, I propose the following hypothesis:

- **Hypothesis 5 (H5): Higher press visibility is associated with the level of transparency.**

Table 1. Hypotheses

Category	Hypothesis	Description	Expected sign
Supply-side	H1	A higher level of electoral competition is positively associated with the level of transparency	–
	H2	A higher turnover is positively associated with the level of transparency	+
	H3	Government digital capacity is positively associated with the level of transparency	+
Demand-side	H4	Citizens' internet access is positively associated with the level of transparency	+
	H5	Higher press visibility is associated with the level of transparency	?

Source: own elaboration.

Socioeconomic factors

Other empirical studies suggest a relationship between transparency and socioeconomic factors, such as population size, per capita income, education levels and development. These will be examined in turn in the following section.

Population size is expected to drive levels of local transparency. On the one hand, open government reforms can be costly and, thus, we expect larger governments to have a comparative advantage over smaller jurisdictions in terms of tools, budget and human resources to carry out these changes. Neo-institutional theory can also help explain this relation: larger jurisdictions may be subject to

pressure from various stakeholders, and thus may be compelled to enhance their reputation through open government reforms (Pina et al., 2010). In addition, agency theory suggests that information asymmetry between citizens and their government is higher in larger jurisdictions (Baldissera et al., 2020). In these contexts, citizens will demand more information to monitor government activity. Thus, transparency becomes a tool to reduce agency costs and information asymmetry.

While some studies do not find a relationship between population size and transparency (see Laswad et al., 2005; Alt et al., 2006; Tavares & da Cruz, 2014), the empirical evidence demonstrates a positive and statistically significant association (Serrano-Cinca et al., 2009; Guillamón et al., 2011; Esteller-Moré & Polo Otero, 2012; Albalate del Sol, 2013; Baldissera et al., 2020). For instance, Serrano-Cinca et al. (2009) analysed the determinants of voluntary internet financial reporting ('e-disclosure') in a sample of 92 Spanish municipalities and found a positive association between size and e-disclosure. Thus, there is a strong theoretical and empirical rationale for controlling for population size.

In terms of income and economic development, Hameed (2006) notes that countries with higher levels of fiscal transparency tend to also have the most advanced economies. Similarly, Bastida and Benito (2007) assess a sample of 41 countries and find that transparency in budget practices is positively correlated with economic development. In this line, prior studies show that when the economic level increases, the population tends to call for better and more efficient public services and is able to mobilise and express this desire politically (Ingram, 1984). In this way, citizens will be more interested in monitoring how public finances are managed and push for more disclosure. However, Pina et al. (2010) tested various hypotheses to understand the drivers of financial reporting practices of 75 city

governments within the European Union. They did not find a statistically significant relationship between income level and transparency.

Regarding education levels, agency theory predicts that, as the middle class expands and citizens become more prosperous and educated, the demand for transparency and accountability will go up. For instance, Piotrowski and Van Ryzin (2007) suggest that a university degree may give citizens the skills and confidence to navigate through a bureaucratic system and request public information. In this sense, a Pew Research Center survey carried out in the United States shows that individuals with higher levels of income and education are more likely to access government websites to obtain information (Smith, 2010). Nonetheless, in other cases the empirical evidence is still mixed: while some studies confirm a positive and statistically significant association between education levels and information transparency (Chan & Rubin, 1987; Piotrowski & Bertelli, 2010; Tehou & Sharaf, 2015, Saez-Martin et al., 2017), others have not found a significant influence (Caba Pérez et al., 2008; Deng et al., 2013).

Lastly, Kaufmann and Bellver (2005) find that transparency is associated with better socioeconomic and human development indicators. Countries with higher transparency index scores tend to display higher rates of female literacy, child immunisation and life expectancy, even after controlling for differences in per capita income. Zuccolotto and Teixeira (2014) analysed the determinants of fiscal transparency at the subnational level and confirmed this association: Brazilian states with better development indicators (such as health and employment) displayed greater transparency.

Context: provincial government in Argentina

Argentina is a federal country comprising 23 provinces and the autonomous City of Buenos Aires. There are three levels of government: national, provincial and municipal. The Argentine Constitution delegates significant power and autonomy to the provincial governments, which are composed of an elected governor, a legislative body and a locally designated judicial power (Benton, 2003). Moreover, provinces can write their own constitutions and establish their own electoral systems (Gervasoni, 2018).

Recent literature on Argentine federalism suggests that the governors are key players in both provincial and national politics (Ardanaz et al., 2012). For instance, Gervasoni and Nazareno (2017) carried out an empirical study and found that most governors exercise a considerable level of influence over legislators from their same party. Moreover, Argentine governors tend to display unusually high levels of success in moving their legislative agendas: over the period 1983–2015, governors reported an average legislative success rate of 76% (Barrientos, 2019). This means that for every 100 bills a governor introduces, 76 will pass. Conversely, provincial legislators display lower success rates. Lastly, all governors have total and partial veto power (González, 2013). Thus, provincial governments command considerable power and resources and the governor's support is crucial for the adoption of transparency initiatives.

Argentina has been a member of the OGP since 2012 and recently introduced its Fourth Action Plan (2019–2021). In fact, open government was a priority for the incoming Macri administration in 2016. These early efforts resulted in the publication of the 117/2016 Executive Decree establishing a government-wide open data policy (OECD, 2018). In 2016, Argentina also adopted Law 27.275 on the

Right of Access to Public Information. This represented an important milestone for the development of national transparency initiatives. Prior to this, access to public information was regulated through a decree (OECD, 2019).

Due to the country's federal structure, legislation passed at a national level does not apply directly to the provincial level. Nonetheless, the Constitution equips provinces with the tools to apply a federal law in their jurisdiction. To promote compliance at the subnational level, Article 29 of the national RTI law additionally created the Federal Council for Transparency, composed of high-level representatives of all 23 provinces and the City of Buenos Aires. This inter-jurisdictional body aimed to strengthen the RTI legal framework at the subnational level while increasing homogenisation (OECD, 2019). Despite these efforts, the development of transparency reforms has been unequal across jurisdictions.

Research design

This section presents the method, variables and research models selected to test the main hypotheses. This study aims to gauge the fiscal transparency and strength of the RTI legal framework of Argentine provinces and explain the variation.

I take provinces – rather than municipalities or central governments – as a unit of analysis for several reasons. First, subnational agencies are understudied, as compared to central governments (Albalate del Sol, 2013). Second, by analysing subnational data from provinces within a single country, it is possible to hold national-level factors constant. This is a problem often faced by cross-national studies (Berliner & Erlich, 2015).

Moreover, as discussed in previous sections, the provincial level in Argentina is very important – both substantively and politically. Provincial governments execute over 40% of total public spending and provide essential services, such as education, security and housing (CIPPEC, 2019). Argentine governors particularly hold a significant amount of power, thereby increasing the probability that they will uphold their transparency obligations, at least compared to other subunits, such as cities and municipalities. Lastly, studying transparency at the provincial level is particularly interesting because national transparency legislation is not binding. Therefore, why some governments would choose to promote transparency reforms (and some would not) represents an interesting puzzle worth exploring.

Method

In line with similar studies, I adopt a linear regression method (see Guillamón et al., 2011; Caamaño-Alegre et al., 2013; Tavares & da Cruz, 2014; Araujo & Tejedo-

Romero, 2016; Ribeiro et al., 2018; Baldissera et al., 2020). As a statistical technique, linear regression is typically used to explain the relationship between the expected value of a variable and the value of an explanatory variable (Ortiz-Rodríguez et al., 2018). The use of linear regression analysis provides several advantages: the method is robust, widely used in transparency studies and produces quantifiable models with easier to interpret coefficients.

The multiple linear regression model is applied by running the ordinary least squares method (OLS), given that various variables may explain different levels of transparency (Ribeiro et al., 2018). Before performing the regressions, I proceed to check the assumptions of normality, linearity and homoscedasticity. The results indicate that the residuals (error terms) are normally distributed and homoscedastic, and the relationship between dependent and independent variables is linear.

Including excessive terms in a regression model would decrease the degrees of freedom available, thereby reducing the precision of the estimates. Since my model will be limited to only 24 observations, I select five independent variables identified in prior research as potentially important for understanding provincial transparency in Argentina: electoral competition, gubernatorial turnover, government digital capacity, citizens' internet access and press visibility. In addition, empirical research suggests that population size and development may be associated with local transparency (Kaufman & Bellver, 2005; Serrano-Cinca et al., 2009; Albalate del Sol, 2013; Zuccolotto & Teixeira, 2014). Thus, I also control for these variables. Table 2 displays the variables and measurements used.

Due to the relatively small sample size, I adopt a ten per cent level of statistical significance, rather than the conventional five per cent significance level. This reduces the probability of making a Type II error (also known as a 'false

negative'): not detecting relevant associations between variables when they actually exist. Lastly, the data will be processed using the statistical software SPSS in order to test the hypotheses.

Operationalisation

Dependent variables

This study explores provincial transparency reforms through two dependent variables: fiscal transparency and RTI law strength. Breaking down the generic notion of transparency into distinct policy areas serves to better understand the drivers of different transparency reforms (Kaufmann & Bellver, 2005; Albalate del Sol, 2013).

Da Cruz et al. (2016) note that many indexes used in prior research suffer from two limitations. First, some are simple evaluation models that assign equal weights for all dimensions – which may be an unsound assumption. Second, many indexes are based on surveys, which may introduce bias into the dataset. The measures chosen for this study avoid these difficulties: on the one hand, the indexes assign different weights to each category; on the other hand, the measures do not rely on surveys, since the information used to construct them is collected from provincial websites, thereby removing response biases.

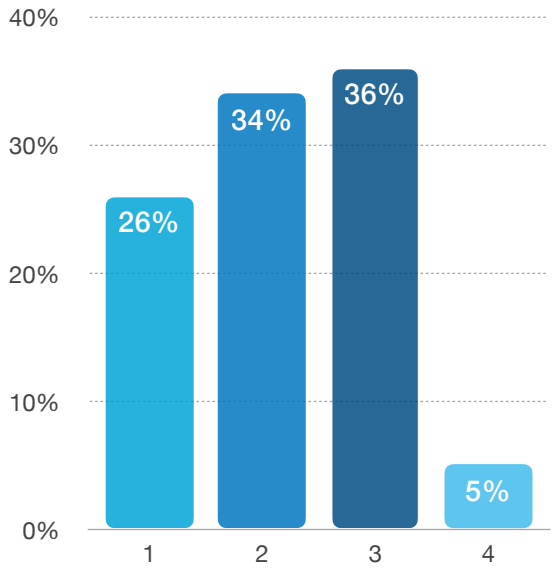
Fiscal transparency. CIPPEC[1] developed the Provincial Fiscal Transparency Index (ITPP, for its name in Spanish) to measure the level of online fiscal disclosure of provincial governments in Argentina. This index evaluates the public availability

[1] CIPPEC is an independent non-governmental organisation, which lends robustness to the analysis.

and timely online publication of government budget documents. The data was collected in November 2019. The index groups 18 indicators into four blocks or categories (see Figure 1). Scores are assigned based on the presence of the following items: (i) budget information for the last three years (2017, 2018 and 2019) and the budget proposal for the upcoming year (2020); (ii) draft budget dossier with relevant information; (iii) budget execution overview; (iv) tax expenditures; (v) government investment spending for previous fiscal year (2018); (vi) provincial public debt stock; (vii) provincial tax collection; (viii) information on transfers made to municipalities; (ix) regulations related to financial and budgetary management; (x) published citizen budget. The scores for each province range from 0 to 10 (with 0 meaning the lowest level of online financial disclosure and 10 the highest).

Figure 1. Provincial Fiscal Transparency Index (ITPP): scoring system and respective weights of four categories

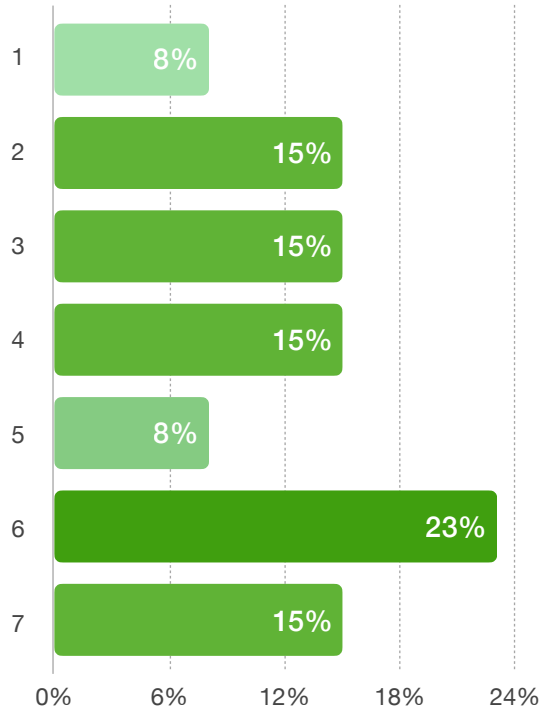
Category	Description	Score
1. Budget	1.a. Laws and budget plan	1.60
	1.b. Multi-year programme	0.50
	1.c. Budget presentation and approval	0.50
2. Execution & accountability	2.a. Budget execution reports	2.15
	2.b. Tax expenses	0.50
	2.c. Investment account	0.75
3. Resources	3.a. Provincial tax collection	1.25
	3.b. Public debt	1.50
	3.c. Transfers to municipalities	0.80
4. Disclosure	4.a. Regulations	0.20
	4.b. Citizen budget	0.25
Total		10



Source: own elaboration based on data compiled by Carciofi et al. (2020).

Figure 2. Public Access to Provincial Information Index (IAIPP): scoring system and respective weights of seven categories

Category	Description	Score
1. Right of access	1. Legal framework	1
2. Scope	2.a. Legal scope	1
	2.b. Institutional bodies covered	1
3. Procedures for requests	3.a. Time limits for compliance	1
	3.b. Fees	1
4. Exceptions & refusals	4.a. Exceptions	1
	4.b. Refusals	1
5. Appeals	5. Appeals	1
6. Promotional measures	6.a. Oversight body	1
	6.b. Budget	1
	6.c. Public authorities	1
7. Active transparency	7.a. Active transparency	1
	7.b. Minimum obligations	1
Total		13



Source: own elaboration based on study by World Bank (2019).

Note: percentages have been rounded to the nearest whole number and therefore do not add up to 100%.

RTI law strength. The World Bank constructed for the first time in 2019 a Public Access to Provincial Information Index (IAIPP, for its name in Spanish), which provides a snapshot of the strength of current RTI laws across provinces. The index was adapted from the Centre for Law and Democracy Global Right to Information Rating. It is composed of 13 indicators divided into seven categories, including the legal scope, requesting procedures and promotional measures (see Figure 2). The indicators were constructed through the collaboration of World Bank experts and

members of the Access to Public Information Agency. Scores are assigned based on how well current provincial laws and decrees enable access to public information. The scores for each province range from 0 to 13 (with 0 meaning that there is no regulatory framework and 13 indicating the strongest RTI legal framework).

Independent variables

Based on the literature review, I selected the following variables that could, potentially, account for the varying levels of transparency in Argentine provinces:

Electoral competition. This is a numeric variable that captures one dimension of subnational democracy. It represents the electoral margin of victory, measured by the difference between the percentage of votes cast for the winning candidate and the second-place candidate. Several studies employ margins of victory to determine the level of electoral competitiveness (Cuadrado-Ballesteros, 2014; Berliner & Erlich, 2015; Tavares & da Cruz, 2017; Tejedo-Romero & Araujo, 2020). In this case, the measure captures the average margins of victory in the last four gubernatorial elections, held between 2003 and 2017.[2] The sign of the regression coefficient is expected to be negative: a lower margin of victory indicates greater competition and, therefore, implies that the province is more democratic.

Some districts – like CABA, Corrientes, Chaco and Tierra del Fuego – conduct elections under a two-round voting system (ballotage), requiring candidates to win at least 50 per cent of the vote in order to avoid a second round (CIPPEC,

[2] Elections in Argentina are held every four years; most provinces held their last four elections in 2015, 2011, 2007 and 2003. Santiago del Estero and Corrientes represent the only exception with elections held in 2017, 2013, 2009 and 2005.

2015). Over the last two decades, eight out of 96 gubernatorial elections have been won in the second round. For these cases, I compile the margins of victory of the first round only. This better captures the logic of the mechanisms associated with political competition, discussed in the previous section: incumbents that face strong political competition (and might, therefore, lose in the first round) are more likely to enact transparency reform.

Gubernatorial turnover. This is a dummy variable representing the second dimension of subnational democracy. It is given the value of 1 if the party in government has changed at least once over the previous four election cycles and 0 otherwise (indicating no turnover). Unlike electoral competition, where lower values reflect greater competition, in this case a higher value (i.e. at least one turnover) indicates greater competition. Thus, the sign of the regression coefficient is expected to be positive.

The latter two independent variables (electoral competition and gubernatorial turnover) are calculated based on the results of gubernatorial elections only. Due to the previously discussed relevance and power of governors, it makes sense to leave out legislative elections and, instead, focus on competition in gubernatorial elections and gubernatorial turnover.

Governmental digital capacity. This is a numeric variable that represents provincial governments' technical capacity to enable and support digital services for their citizens. The measure ranges from 0 to 1 and is based on an index developed by Grimmelikhuijsen and Feeney (2017). They gauge technological capacity by analysing official website content, particularly in relation to the presence of e-services. These entail, for example, digital transactions (e.g. paying taxes or traffic fines) or online interactions, such as filling out electronic forms (Kvasnicova et al.,

2016). According to Grimmelikhuijsen and Feeney (2017), governments with higher technological capacity usually exhibit well-developed e-services.

In order to construct the dataset, I analysed the information published in each official provincial government website.[3] The final score represents the average of six items: (1) citizen access to an online reporting tool (such as police reports); (2) citizen access to any online transaction that involves the electronic transfer of money; (3) the ability to book online appointments for basic services (such as applying for social assistance programmes); (4) the ability to contact the government directly through the website; (5) access to personal user account for government digital services; (6) the ability to download official mobile application (if available). Each item was coded 1 if the feature was present and 0 otherwise. The sign of the regression coefficient of this variable is expected to be positive.

Citizens' internet access. This is a numeric variable calculated as the number of fixed internet access connections per 100 households in 2019. Data was collected from the National Communications Entity (ENACOM), Argentina's communications and media regulator. The sign of the regression coefficient is expected to be positive.

Press visibility. This is a numeric variable measured by counting the number of online articles, blog posts and press releases that refer to each provincial government. A high number of news items represents a high press visibility.

The past two decades have seen an upsurge in the number of people using the internet, giving rise to new digital news sources and changing traditional patterns of media consumption. Thus, most print publications now have an online edition. According to the Reuters Institute Digital News Report (2020), online and

[3] For more information, please refer to Appendix B.

social media are the most popular news sources in Argentina, while weekly print consumption has fallen from 45% to 23% over the last four years. For this reason, I measured online press visibility instead of print.

To construct the dataset, I used the Google News search engine for the following keywords (in Spanish): 'government' + 'province' + '[province name]' + 'Argentina'.[4] I checked results for relevance and excluded certain words from my search in order to avoid bias. Lastly, I used both google.com and google.com.ar and obtained the same results, thereby confirming the validity of this measure. While this technique presents some limitations (for instance, not all news reports can be found online), it provides many advantages: it displays the visibility of provincial governments for any online newspaper or blog and can be easily replicated. Prior studies have also applied similar techniques (Laswad et al., 2005; Gandía & Archidona, 2008; Cárcaba García & García-García, 2010; Grimmelikhuijsen & Welch, 2012; Cuadrado-Ballesteros et al., 2017).

Control variables

I included two control variables – population size and development – capturing socioeconomic differences across Argentine provinces. The literature suggests that these factors may influence transparency levels. If not properly controlled, the effects of population size and development could be confounded with the effects of the independent variables, thereby compromising the internal validity of the study (Flannelly et al., 2018).

[4] For more information, please refer to Appendix C.

Population size. This is a numeric variable representing the logged number of inhabitants per province, based on the most recent census data (2010). Data was collected from the National Institute of Statistics and Censuses (INDEC), a decentralised public agency dependent on the National Ministry of Economy. The sign of the regression coefficient is expected to be positive.

Development. This is a numeric variable that ranges from 0 to 1, measured by the Provincial Sustainable Development Index (IDSP, for its name in Spanish). This index was developed in 2017 by the Argentine chapter of the United Nations Development Programme (UNDP). It captures three dimensions: (1) economic growth (human capital and per capita income), (2) social inclusion (formal and informal employment, health and level of education) and (3) environmental sustainability (greenhouse gas emissions and waste disposal) (UNDP, 2017). The sign of the coefficient is expected to be positive.

Table 2. Variables and measurements

Variable	Measurement	Data source
Dependent variables		
Fiscal transparency	Provincial Fiscal Transparency Index (ITPP)	Carciofi et al. (2020)
RTI law strength	Public Access to Provincial Information Index (IAIPP)	World Bank (2019)
Independent variables		
Electoral competition	Average margin of victory in the last four gubernatorial elections (2003-2017)	Provincial election commissions; media sources; Tow (2019)
Gubernatorial turnover	Coded as 1 if party in government has changed at least once; 0 otherwise (2003-2017)	Provincial election commissions; media sources; Tow (2019)

Government digital capacity	E-services index based on six items. Coded as 1 if feature is present on website; 0 otherwise	Provincial government websites
Citizens' internet access	Fixed internet access connections per 100 households	National Communications Entity (ENACOM)
Press visibility	Number of news items mentioning the provincial government	Google News search engine
Control variables		
Population size	Number of inhabitants (2010)	National Institute of Statistics and Censuses (INDEC)
Development	Provincial Sustainable Development Index (IDSP) (2017)	United Nations Development Programme (UNDP)

Source: own elaboration.

Note: all variables were measured in 2019, except where stated otherwise.

Research models

The econometric models for fiscal transparency and RTI law strength can be expressed by Equations (1) and (2) respectively. It is tested by cross-sectional analysis – since my dependent variables do not include a time variation, it would not be useful to apply panel data analysis.

$$\textbf{Fiscal transparency}_i = \alpha_1 + \beta_1 \text{Electoral competition}_i + \beta_2 \text{Gubernatorial turnover}_i + \beta_3 \text{Government digital capacity}_i + \beta_4 \text{Citizens' internet access}_i + \beta_5 \text{Press visibility}_i + \beta_6 \text{Population size}_i + \beta_7 \text{Development}_i + \varepsilon_1 \quad (1)$$

$$\textbf{RTI law strength}_i = \alpha_1 + \beta_1 \text{Electoral competition}_i + \beta_2 \text{Gubernatorial turnover}_i + \beta_3 \text{Government digital capacity}_i + \beta_4 \text{Citizens' internet access}_i + \beta_5 \text{Press visibility}_i + \beta_6 \text{Population size}_i + \beta_7 \text{Development}_i + \varepsilon_1 \quad (2)$$

Where fiscal transparency and RTI law strength depend on a linear combination of a number of explanatory variables (electoral competition, gubernatorial turnover, government digital capacity, citizens' internet access and press visibility) and the control variables (population size and development); α is the constant; β is the coefficient; i represents the province and ε represents the error (or disturbance) term.

Results

This section provides the main descriptive statistics for the variables and the results of the multivariate regression models.

Descriptive analysis

Table 3 summarises the main descriptive statistics for subnational fiscal transparency, measured by the Provincial Fiscal Transparency Index (ITPP):

Table 3. Descriptive statistics for fiscal transparency

Variable	N	Min.	Max.	Mean	SD
Fiscal transparency	24	3.70	10.00	7.827	1.662

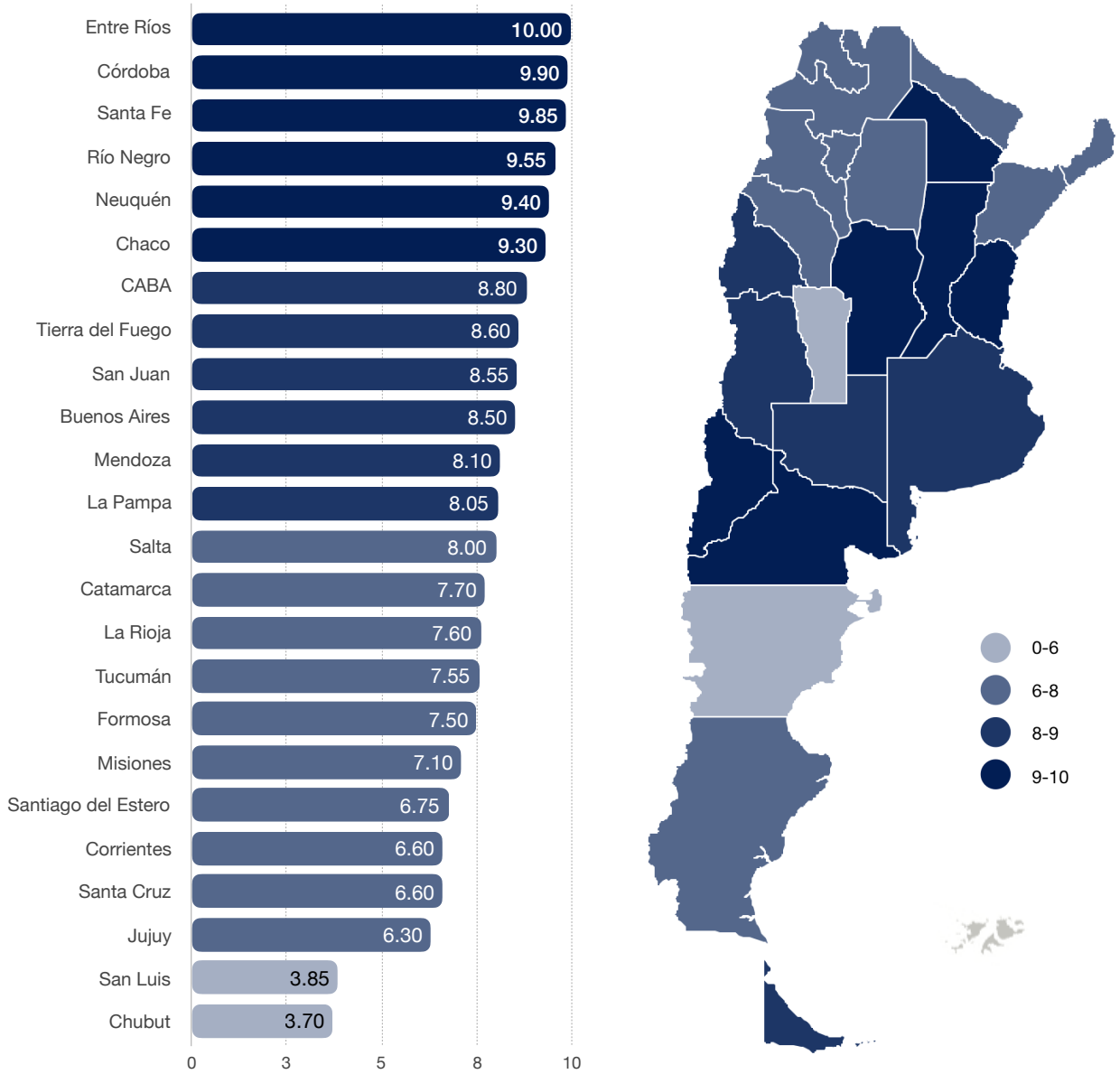
Source: own elaboration based on data compiled by Carciofi et al. (2020).

The data above suggests that most provinces tend to score fairly high, thereby indicating high levels of fiscal transparency. The mean score is 7.827 – a notable value, considering that the minimum score is 3.70 and the maximum is 10. In addition, the relatively low standard deviation (1.662) indicates that most scores are close to the mean.

Figure 3 shows the provincial ranking and geographical distribution of the Provincial Fiscal Transparency Index scores. The bar chart indicates that Entre Ríos (ITPP score of 10) and Córdoba (9.90) display the highest levels of fiscal transparency, whereas Chubut (3.70) and San Luis (3.85) represent the worst-performing provinces. It is also interesting to note that some clusters of neighbouring provinces tend to share similar scores. For instance, the central region of Argentina – Entre Ríos, Córdoba and Santa Fe – displays consistently high scores

(between 9.85 and 10). The northwest (including provinces like Salta, Catamarca, La Rioja and Tucumán) exhibits similar levels of fiscal transparency, ranging from a score of 7.55 to 8.

Figure 3. Ranking and geographical distribution from the Provincial Fiscal Transparency Index (2019)



Source: own elaboration based on data compiled by Carciofi et al. (2020).

Next, Table 4 summarises the main descriptive statistics for the second dependent variable: the strength of the provincial RTI legal framework, measured by the Public Access to Provincial Information Index (IAIPP):

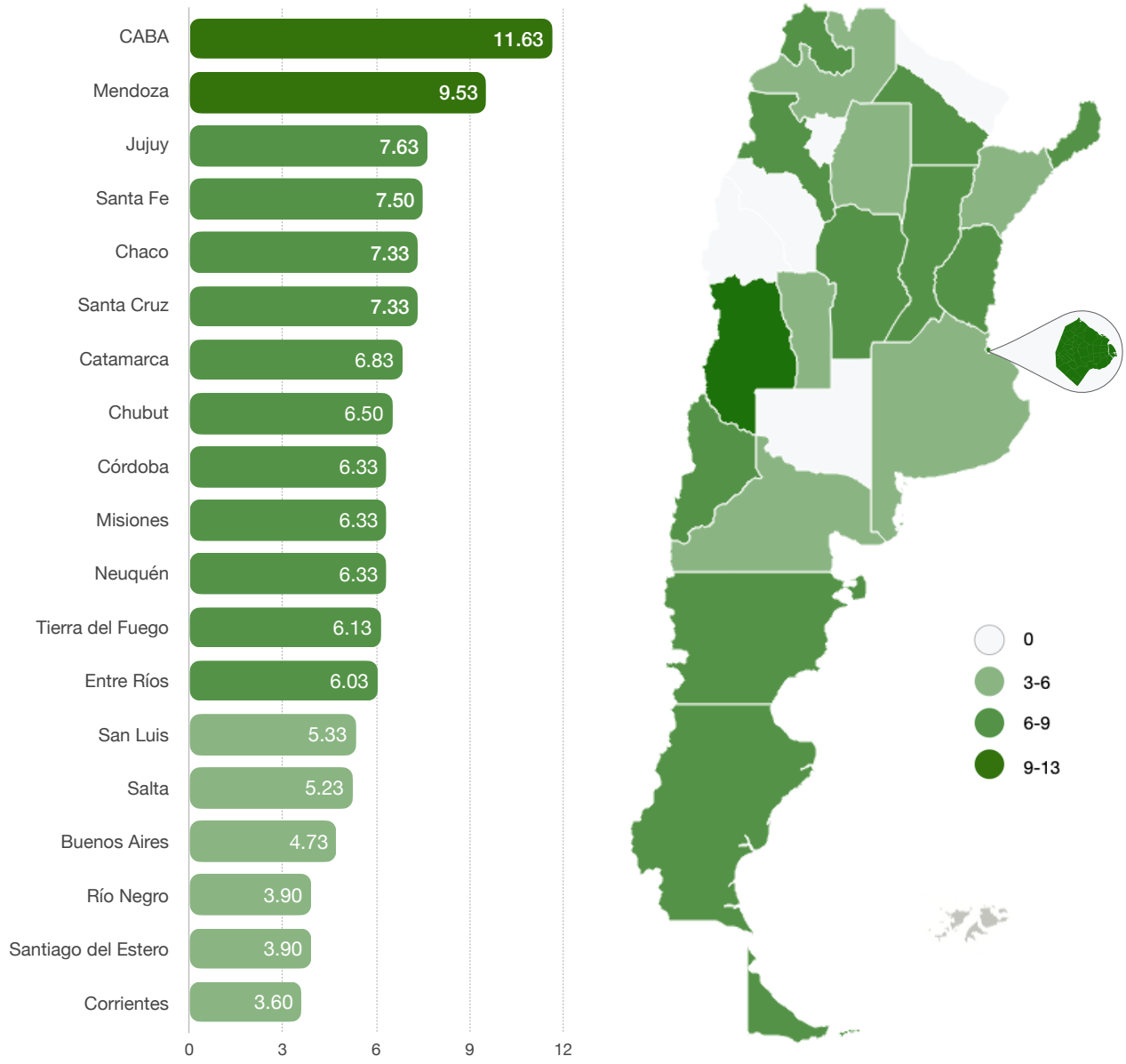
Table 4. Descriptive statistics for RTI law strength

Variable	N	Min.	Max.	Mean	SD
RTI law strength	24	0	11.63	5.088	3.170

Source: own elaboration based on data compiled by World Bank (2019).

Unlike fiscal transparency, the IAIPP scores are lower, overall. The average score is 5.088 out of 13. This means that subnational entities tend to have weaker RTI legal frameworks. In fact, five provinces scored 0 – the minimum – and only the City of Buenos Aires achieved a high score, of 11.63. Figure 4 further illustrates these differences by showing the ranking and geographical distribution of the Public Access to Provincial Information Index scores. The top-scoring provinces are CABA and Mendoza (IAIPP score of 9.53). Out of the 19 provinces that do have a regulatory framework for access to public information, Corrientes (3.60), Santiago del Estero (3.90) and Río Negro (3.90) display the lowest scores.

Figure 4. Ranking and geographical distribution from the Public Access to Provincial Information Index (2019)



Source: own elaboration based on data compiled by World Bank (2019).

Note: the following provinces lack a regulatory framework for access to public information (and therefore have a score of 0): Formosa, La Pampa, La Rioja, San Juan and Tucumán. These results have been omitted from the bar chart.

Based on the descriptive statistics presented thus far, there is reason to believe that fiscal transparency and RTI law strength are not correlated with each other. For example, even though the province of Río Negro has one of the weakest

regulatory frameworks, it has been ranked fourth in the Provincial Fiscal Transparency Index. I use a bivariate Pearson's correlation[5] to test whether there is a statistically significant association between the two dependent variables. The correlation coefficient is 0.073, suggesting a very weak positive linear relationship. This implies that RTI laws and fiscal transparency may be shaped by different dynamics.

Table 5 summarises the main descriptive statistics for the independent and control variables employed in the regression models. Some results deserve mention. In terms of electoral competition, the average margin of victory ranges from –3.34% to 56.89%. The negative sign for the minimum value is surprising; it corresponds to elections in Tierra del Fuego, where in three out of four elections, the winning candidate actually lost in the first round. The mean government digital capacity (0.431) reveals that, in general terms, provincial governments do not show high technological capabilities. Similarly, overall levels of development remain well below the theoretical maximum (1). Lastly, in most provinces (62.50%) there has been no turnover – in other words, the same party has remained in power over the last two decades.

[5] Pearson's correlation coefficient (r) is commonly used to determine the strength and direction of the association between two continuous variables. It can assume any value between –1 (indicating a perfect negative linear association) and +1 (indicating a perfect positive linear association).

Table 5. Descriptive statistics for the independent and control variables

Continuous variables					
Variable	**N**	**Min.**	**Max.**	**Mean**	**SD**
Electoral competition	24	–3.34	56.89	21.270	14.743
Government digital capacity	24	0	1	0.431	0.333
Citizens' internet access	24	30.17	109.66	53.669	20.506
Press visibility	24	56,000	7,760,000	1,515,033.333	2,710,753.652
Population (log)	24	11.75	16.56	13.688	1.011
Development	24	0.31	0.79	0.537	0.082

Binary variable			
Variable	**N**	**Turnover**	**No turnover**
Turnover (%)	24	37.50	62.50

Source: own elaboration.

I proceed to test whether any variables are affected by multicollinearity. Multicollinearity occurs when independent variables in a regression model are highly correlated with each other. This can potentially weaken the statistical power of my models. Thus, I construct a correlation matrix to visualise Pearson's correlation coefficients (r). Predictor variables that display coefficients with magnitudes of 0.80 or higher are strongly correlated and, therefore, can be considered multicollinear (Gujarati, 1995). I additionally test for multicollinearity through the variance inflation factor (VIF). As a rule of thumb, VIF values between 1 and 5 suggest a moderate correlation. Values greater than 10 represent critical levels of multicollinearity,

thereby affecting the coefficients and p-values in my regression models (Myers, 1990).

The correlations displayed in Table 6 behave in theoretically expected ways. Government digital capacity, citizens' internet access and press visibility are correlated and strongly significant, as these variables are all related to technology. The same pattern of correlation between development and technology variables is observed and consistent with prior research (Fagerberg & Srholec, 2009). As expected, electoral competition and turnover are also strongly correlated, since they represent dimensions of subnational democracy. The coefficients display magnitudes below 0.80 and the average VIF value is 1.95. Therefore, it is unlikely that multicollinearity is affecting the regression models.

Table 6. Correlation matrix (Pearson's correlation coefficients between independent and control variables)

	1	2	3	4	5	6	7	VIF
1. Electoral competition	1							1.804
2. Turnover	–0.505*	1						1.595
3. Government digital capacity	–0.128	0.034	1					2.151
4. Citizens' internet access	–0.216	0.268	0.518**	1				1.885
5. Press visibility	0.148	0.041	0.664**	0.528**	1			2.996
6. Population (log)	0.000	0.245	0.299	0.147	0.437*	1		1.393
7. Development	–0.313	0.270	0.413*	0.553**	0.484*	0.159	1	1.794

Source: own elaboration.

Note: + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$. VIF = variance inflation factor.

Multivariate regression analysis

Six different models were run for each dependent variable: Model 1 corresponds to Equations (1) and (2), presented in the previous section. In line with Tavares and da Cruz (2017), Model 2 includes only the demand-side variables (electoral competition, turnover and government digital capacity) and Model 3 the supply-side variables (citizens' internet access and press visibility). Models 4 and 5 each use one dimension of subnational democracy to further explore its effect on transparency. Finally, Model 6 presents only the most statistically significant variables, thereby improving the model's precision. All models (except Model 6) control for population size and development.

Table 7 shows the results of the regression models for fiscal transparency. Most of the coefficients display the expected signs, except for development: the results seem to indicate a negative association between the level of development and financial disclosure. Still, the coefficient for development is not statistically significant in any of the models. Next, a demand-side perspective (Model 2) would suggest that there is an association between subnational democracy (electoral competition and turnover), government digital capacity and fiscal transparency. Nonetheless, the results of both Model 1 and Model 2 show that only the coefficient for electoral competition is statistically significant at a ten per cent level. The sign of the coefficient is negative, as expected: the larger the margin of victory (and the less competitive elections are), the higher the score on the Provincial Financial Transparency Index. The coefficients for turnover and government digital capacity are not statistically significant. Thus far, the results do not confirm **H3**: there appears to be no association between technological capacity and transparency.

A supply-side perspective (Model 3) proposes that citizens' internet access and high press visibility can influence fiscal transparency levels. However, there is no significant relationship between the explanatory variables and financial disclosure. The coefficient for citizens' internet access, while positive, is not statistically significant (β_4 = 0.026). Thus, the results do not confirm **H4**: there appears to be no association between citizens' internet access and fiscal transparency. Interestingly, the sign of the coefficient for press visibility is negative – although the effect of press visibility on transparency, while holding the other variables constant, is negligible (β_5 = –2.110E-7). Therefore, the results do not support **H5**: there appears to be no association between press visibility and fiscal transparency. Regarding the control variables, only population size has a significant positive relationship with transparency at a ninety per cent confidence level (β_6 = 0.743). In general, the empirical evidence suggests that supply-side factors (R^2 = 0.239) are more important than demand-side determinants (R^2 = 0.053).

Model 4 shows that the coefficients for electoral competition (β_1 = –0.061) and population (β_6 = 0.612) are statistically significant at a one and five per cent level respectively. In contrast, the coefficient for turnover in Model 5 is not significant; thus, there is no evidence to support **H2**. In other words, there seems to be no association between turnover and fiscal transparency. Finally, Model 6 suggests that the most important (and significant) independent variable is electoral competition, thereby supporting **H1**: more competitive provinces are more likely to score higher in the Provincial Fiscal Transparency Index. In addition, there is a positive association between population size and fiscal transparency. The adjusted

R^2 in Model 6 shows that the model explains 31 per cent of the variability in the Provincial Fiscal Transparency Index scores. While this value might not appear high, many empirical models that study the determinants of local transparency display similar results: 21.4% for Ribeiro et al. (2018); 29% for Guillamón et al. (2011); 25% for Tavares and da Cruz (2014).

Table 7. Multivariate regression results for fiscal transparency

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	1.746 (5.948)	3.522 (4.791)	–3.411 (5.722)	2.339 (4.241)	1.385 (4.955)	1.164 (3.932)
Electoral competition	–0.054+ (0.029)	–0.059* (0.025)		–0.061** (0.021)		–0.056** (0.020)
Turnover	0.036 (0.805)	0.116 (0.755)			0.907 (0.720)	
Government digital capacity	0.826 (1.389)	0.725 (1.050)				
Citizens' internet access	0.013 (0.021)		0.026 (0.021)			
Press visibility	–1.036E-7 (0.000)		–2.110E-7 (0.000)			
Population (log)	0.624 (0.368)	0.542 (0.330)	0.743+ (0.373)	0.612* (0.292)	0.474 (0.344)	0.574* (0.285)
Development	–4.193 (5.131)	–4.109 (4.269)	–0.057 (5.109)	–2.962 (3.769)	–0.730 (4.248)	
R^2	0.424	0.404	0.217	0.389	0.187	0.370
Adjusted R^2	0.172	0.239	0.053	0.297	0.065	0.310
N	24					

Source: own elaboration.

Dependent variable: fiscal transparency (based on Provincial Fiscal Transparency Index).

Note: + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$. Standard errors shown in parentheses.

Next, Table 8 shows the results of the regression models for RTI law strength. In this case, most of the coefficients display the expected signs, except for the negative but not statistically significant coefficient of citizens' internet access in

Model 1 (β_4 = –0.010). Nonetheless, this time, the coefficient for development is positive, as the literature originally predicted (β_7 = 12.166). As with fiscal transparency, supply-side factors (R^2 = 0.273) seem more relevant than demand-side determinants (R^2 = 0.053). Model 2 shows that the coefficient for turnover is positive and significant at a ninety per cent confidence level (β_2 = 2.474): a change in the ruling party seems to be associated with stronger RTI laws. In contrast, the coefficient for government digital capacity is not statistically significant (β_3 = 1.445) and, thus, does not confirm **H3**.

None of the coefficients for the variables in Model 3 and Model 4 are statistically significant. In this way, the results do not support **H4, H5** and **H1**. Nonetheless, in Model 5, the coefficients for turnover and development are positive and significant at a ninety-five and ninety per cent confidence level, respectively. Model 6 confirms these results. In other words, turnover has a positive and significant relationship with RTI law strength on a ninety-nine per cent confidence interval, thus confirming **H2** (β_2 = 2.884). In addition, the coefficient for development is positive and significant at a ninety-five per cent confidence level (β_7 = 12.628). Therefore, a province's level of development seems to be strongly associated with RTI law strength. The adjusted R^2 in Model 6 shows that the model explains 33.1 per cent of the variability in the Public Access to Provincial Information Index scores for Argentine provinces.

In sum, these findings suggest that each policy area is associated with different factors: on the one hand, online fiscal disclosure seems to be associated primarily with electoral competition and population size. On the other hand, a

stronger RTI legal framework seems to be associated with gubernatorial turnover and level of development. The following section discusses these results in the context of the literature.

Table 8. Multivariate regression results for RTI law strength

Variable	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	–7.369 (11.099)	–4.019 (8.934)	–16.329 (10.557)	–8.859 (8.485)	–6.834 (8.127)	–2.778 (3.611)
Electoral competition	–0.013 (0.054)	–0.028 (0.046)		–0.068 (0.042)		
Turnover	2.623+ (1.503)	2.474+ (1.407)			2.743* (1.181)	2.884** (1.135)
Government digital capacity	2.591 (2.592)	1.445 (1.958)				
Citizens' internet access	–0.010 (0.039)		0.019 (0.039)			
Press visibility	–2.208E-7 (0.000)		–2.712E-07 (0.000)			
Population (log)	0.364 (0.687)	0.250 (0.615)	0.839 (0.689)	0.645 (0.584)	0.315 (0.564)	
Development	12.166 (9.574)	8.816 (7.960)	17.325 (9.426)	12.221 (7.541)	12.239+ (6.968)	12.628* (6.819)
R^2	0.449	0.431	0.268	0.327	0.399	0.390
Adjusted R^2	0.208	0.273	0.114	0.227	0.309	0.331
N	24					

Source: own elaboration.

Dependent variable: RTI law strength (based on Public Access to Provincial Information Index).

Note: + $p < 0.10$; * $p < 0.05$; ** $p < 0.01$. Standard errors shown in parentheses.

Discussion

The results of this study show that political and socioeconomic factors seem to be associated with higher levels of fiscal transparency and stronger RTI laws in Argentine provinces. Specifically, the findings suggest that fiscal transparency is positively related to electoral competition, thereby supporting **H1**. In addition, there is a positive and statistically significant relation between RTI law strength and gubernatorial turnover, thus supporting **H2**. Regarding the control variables, population size and development appear to be positively associated with fiscal transparency and stronger RTI laws respectively. Surprisingly, the study did not capture a significant relationship between transparency and government digital capacity (**H3**), citizens' internet access (**H4**) or press visibility (**H5**).

Regarding the influence of subnational democracy, the positive association between electoral competition and fiscal transparency is consistent with prior empirical studies (Alt et al., 2006; Gandía & Archidona, 2008; Esteller-Moré & Polo Otero, 2012; Cicatiello et al., 2017; Chen & Han, 2019). The positive association between turnover and RTI law strength is also consistent with the international literature (Berliner & Erlich, 2015). According to the agency and legitimacy theories, a competitive political environment can create the political incentives that lead to increased levels of government transparency (Curtin & Meijer, 2006). Conversely, the absence of contested elections is likely to produce a complacent government where governors find little reason – other than an idiosyncratic commitment to transparency – to enact reform (Bearfield & Bowman, 2017).

The results did not reveal a significant association between government digital capacity (**H3**) and transparency. This is contrary to the results obtained by

Chen et al. (2019) and Serrano-Cinca et al. (2009). Perhaps the indicator used was not appropriate to capture the provincial governments' technological capacity. Nonetheless, Justice and McNutt (2013) reported a similar finding in their study of fiscal transparency in the United States. They suggest that differences in technological capacity may not translate into variations in transparency.

According to García-Tabuyo et al. (2015), technological developments should promote online information disclosure, since internet access makes information more accessible and easier to circulate. In addition, Ma and Wu (2011) proposed that internet users are more politically engaged and may push governments to increase transparency. However, there appears to be no association between transparency and citizens' internet access (**H4**). These results are surprising, since most studies find a positive association (Gandía & Archidona, 2008; Caba Pérez et al., 2008; Ortiz-Rodríguez et al., 2018; Tejedo-Romero & Araujo, 2020; Shin et al., 2020). Despite internet access, there might not be enough 'bottom-up' pressure for governments to promote public access to information. In this way, higher levels of internet penetration have not led to higher political engagement or government responsiveness.

Similarly, there is no evidence that press visibility (**H5**) has a statistically significant impact on levels of transparency. Conversely, previous research found a strong association – both positive and negative – between press visibility and transparency (Ingram, 1984; Laswad et al., 2005; Gandía & Archidona, 2008; Cárcaba García & García-García, 2010; Cuadrado-Ballesteros et al., 2017). This may be due to country-specific dynamics. For media to play an intermediary role between governments and citizens, it has to be fairly strong and independent.

However, the media market in Argentina is relatively uncompetitive (Michener, 2010). This may undermine efforts to put transparency on the public agenda.

Regarding the control variables, the study shows that population size has a significant positive relationship with fiscal transparency, thereby supporting prior research (Serrano-Cinca et al., 2009; Guillamón et al., 2011; Esteller-Moré & Polo Otero, 2012; Baldissera et al., 2020). The literature on technology adoption suggests that states with large populations tend to have large governments and, thus, are better equipped with the financial resources necessary to increase transparency (Moon, 2002). In addition, larger governments may be more responsive to external pressure (Berliner, 2017).

Moreover, there is evidence that RTI law strength is associated with better human development indicators, in line with other studies (Kaufmann & Bellver, 2005; Zuccolotto & Teixeira, 2014). In this way, the relative differences in provincial levels of development may be driving transparency levels. According to the agency theory, a population with higher per capita income and levels of education may demand more information from the provincial government, thereby leading to more transparency.

Lastly, the results suggest that provincial government transparency in Argentina is primarily associated to supply-side determinants rather than demand-side factors, such as pressure from citizens and the media. These results seem consistent with the strong governor model characterising the Argentine provincial government system. Tavares and da Cruz (2017) noted a similar pattern in a local transparency study in Portugal.

Conclusion

As Hood (2006) observes, transparency has achieved a ‘quasi-religious’ significance in modern debates about governance and institutional quality (p. 3). Much research has been devoted to analysing transparency initiatives in national settings. Nonetheless, less is known about the factors that drive subnational government transparency. To fill this gap in the literature, this study examined the determinants of fiscal transparency and RTI law strength in Argentine provinces by using the multiple linear regression technique. The results suggest that fiscal transparency is positively associated with electoral competition and population size. RTI law strength appears to be positively associated with gubernatorial turnover and development. However, government digital capacity, citizens' internet access and press visibility did not appear to significantly influence transparency levels.

This study makes several contributions to the transparency literature. First, it provides evidence that subnational political factors may promote or hinder efforts to improve transparency. If political competition is diminished or the same party stays in power for a long period of time, transparency initiatives are more likely to be blocked due to the absence of any real political incentives. Second, it analyses the determinants of subnational transparency in Argentina for the first time. In this way, it presents new evidence in the ongoing debate regarding the factors that drive subnational transparency in developing countries.

Despite the study’s contributions to the literature, some limitations persist. On the one hand, as a cross-sectional study, this dissertation analysed transparency at a specific point in time – that is, only one year was examined. This means that the results should not be interpreted as conclusive evidence of causal

relationships. Still, these are the only transparency indexes currently available for Argentine provinces.

Similarly, the relatively small number of observations means that the findings should be interpreted with caution. The reduced sample size also limited the number of relevant determinants that could be tested. In this way, it is possible that other factors, not discussed in this study, may better explain the different levels of transparency. Nonetheless, the study was based on previous empirical work and the results seem to be consistent with other research which found a positive association between political competition and transparency (Alt et al., 2006; Gandía & Archidona, 2008; Esteller-Moré & Polo Otero, 2012; Berliner, 2014; Berliner & Erlich, 2015).

Further research could study transparency in provincial governments over time in order to learn more about the causal relationships and confirm the validity of the theoretical mechanisms. A longitudinal study could also incorporate additional variables not studied here, such as the effect of partisan alignment between provincial and central governments on transparency.

This study also noted that some clusters of neighbouring Argentine provinces tended to share similar index scores. Da Cruz et al. (2016) measured transparency practices in Portuguese municipalities and observed that, in some cases, municipalities with the worst (and best) performance were territorially adjacent. This may be due to diffusion effects: policy diffusion typically exhibits a distinct geographic pattern, since ‘proximity prompts imitation’ (Weyland, 2015, p. 266). Further studies could provide more evidence about the potential impact of diffusion mechanisms in the implementation of subnational transparency reforms.

Finally, perhaps future research could expand this model by incorporating municipalities as the units of analysis. There are over 2,200 municipalities in Argentina. By increasing the sample size more variables could be considered, such as fiscal factors, or qualitative measures citizens' and elected officials' perceptions. This would contribute to a deeper understanding of the determinants of transparency at the local level. It would also be interesting to extend this study across the Latin American region and compare subnational transparency levels in Argentina with similar federal states, such as Brazil or Mexico.

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Appendices

Appendix A. Data collection for subnational democracy (H1 and H2)

Province	Average margin of victory (%)	Turnover	Incumbent party defeated and date	RTI laws (year of adoption)
Buenos Aires	26.5225	1	FPV: 2015	Law 12475 (2000); Decree 2549 (2004)
CABA	14.3225	1	AFP: 2007	Law 104 (2016); Decree 260/17 (2017)
Catamarca	10.41	1	FCS: 2011	Law 5336 (2011); Decree 2089 (2011)
Chaco	15.525	1	UCR: 2007	Law 7847 (2016); Law 1774-B (2017); Decree 685 (2017)
Chubut	17.2725	0		Law 156 (1992); Decree 486/93 (1993); Law 511 (2013); Law 584 (2016)
Córdoba	8.75	0		Law 8803 (1999)
Corrientes	11.6175	0		Law 5834 (2008)
Entre Ríos	19.3575	0		Decree 1169/05 (2005)
Formosa	50.6325	0		—
Jujuy	20.215	1	FPV: 2015	Law 5886 (2015); Decree 1451-G/16 (2016)
La Pampa	16.825	0		—
La Rioja	22.545	0		—
Mendoza	7.6625	1	UCR: 2007 FPV: 2015	Law 9070 (2018)
Misiones	35.925	0		Law 58 (2012); Decree 846/12 (2012)
Neuquén	17.6675	0		Law 3044 (2016)
Río Negro	10.3425	1	UCR: 2011 FPV: 2015	Law 1829 (1984); Law 3441 (2000); Law 4698 (2010)
Salta	20.35	0		Decree 1574/02 (2002)
San Juan	22.7525	0		—
San Luis	56.8925	0		Law V-0924 (2015); Decree 5063/16 (2016)
Santa Cruz	18.0325	0		Law 3540 (2017); Decree 894/17 (2017)
Santa Fe	5.0475	1	PJ: 2007	Decree 692/09 (2009); Decree 1774/09 (2009)

Appendix A. Data collection for subnational democracy (H1 and H2)

Province	Average margin of victory (%)	Turnover	Incumbent party defeated and date	RTI laws (year of adoption)
Santiago del Estero	46.2675	0		Law 6753 (2005)
Tierra del Fuego	–3.3375	1	PJ: 2003 PSP: 2015	Law 653 (2004)
Tucumán	38.875	0		—

Source: own elaboration based on provincial election commissions; media sources; Tow (2019); World Bank (2019).

Note: AFP: Alianza Fuerza Porteña; Frente Cívico y Social (a UCR-led coalition); FPV: Frente para la Victoria (a PJ-led coalition); PJ: Partido Justicialista (or Peronista); PSP: Partido Social Patagónico; UCR: Unión Cívica Radical.

While decrees may easily be repealed at any time (Berliner, 2014), some still show the same force as RTI laws. For example, Santa Fe only has RTI decrees yet scores 7.5 in the IAIPP. Thus, decrees are included in this study.

Appendix B. Data collection for government digital capacity (H3)

Province	Website	Online reporting tool	Online transaction tool	Online appointments	Contact	Personal user account	Mobile app	Final score
Buenos Aires	gba.gob.ar	0	1	1	1	1	0	**0.67**
CABA	buenosaires.gob.ar	1	1	1	1	1	1	**1.00**
Catamarca	portal.catamarca.gob.ar	0	0	0	0	0	0	**0.00**
Chaco	chaco.gov.ar	0	0	1	0	1	0	**0.33**
Chubut	chubut.gov.ar	0	0	1	1	0	0	**0.33**
Córdoba	cba.gov.ar	1	1	1	1	1	1	**1.00**
Corrientes	corrientes.gob.ar	0	0	0	1	0	0	**0.17**
Entre Ríos	entrerios.gov.ar	0	0	1	1	0	1	**0.50**
Formosa	formosa.gob.ar	0	0	0	1	1	0	**0.33**
Jujuy	jujuy.gob.ar	0	0	0	1	0	0	**0.17**
La Pampa	lapampa.gob.ar	0	0	0	0	0	0	**0.00**
La Rioja	web.larioja.org	0	1	1	1	1	0	**0.67**
Mendoza	mendoza.gov.ar	0	1	1	1	0	1	**0.67**
Misiones	misiones.gob.ar	0	0	0	0	0	0	**0.00**
Neuquén	neuquen.gov.ar	1	1	1	0	1	1	**0.83**
Río Negro	rionegro.gov.ar	0	0	0	0	0	0	**0.00**
Salta	salta.gov.ar	1	0	1	1	0	1	**0.67**
San Juan	sanjuan.gov.ar	0	0	1	1	1	1	**0.67**
San Luis	sanluis.gov.ar	1	1	1	0	1	1	**0.83**
Santa Cruz	santacruz.gob.ar	0	0	1	0	0	0	**0.17**
Santa Fe	santafe.gov.ar	0	1	1	1	0	0	**0.50**
Santiago del Estero	sde.gov.ar	0	0	1	0	0	0	**0.17**
Tierra del Fuego	tierradelfuego.gob.ar	1	1	1	0	1	0	**0.67**
Tucumán	tucuman.gob.ar	0	0	0	0	0	0	**0.00**

Source: own elaboration.

Note: Grimmelikhuijsen and Feeney (2017) consider whether users can access online employment information or submit job applications through official government websites in the United States. Since this is not a customary practice in Argentina, these items were replaced with suitable alternatives (e.g. access to personal user account or ability to download mobile application).

Appendix C. Data collection for press visibility (H5)

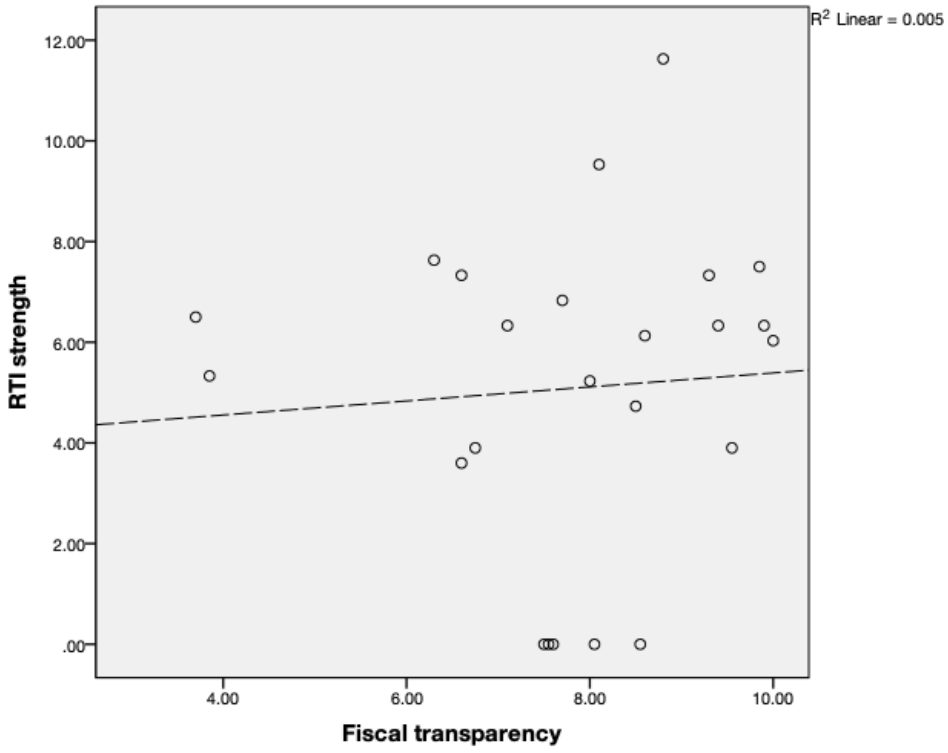
Province	Number of news items	Keywords
Buenos Aires	5,180,000	Gobierno + provincia + Buenos Aires + Argentina
CABA	7,760,000	Gobierno + ciudad + Buenos Aires + Argentina
Catamarca	66,600	Gobierno + provincia + Catamarca + Argentina
Chaco	61,900	Gobierno + provincia + Chaco + Argentina
Chubut	114,000	Gobierno + provincia + Chubut + Argentina
Córdoba	6,840,000	Gobierno + provincia + Córdoba + Argentina
Corrientes	95,100	Gobierno + provincia + Corrientes + Argentina
Entre Ríos	231,000	Gobierno + provincia + Entre Ríos + Argentina
Formosa	68,300	Gobierno + provincia + Formosa + Argentina
Jujuy	102,000	Gobierno + provincia + Jujuy + Argentina
La Pampa	56,000	Gobierno + provincia + La Pampa + Argentina
La Rioja	85,200	Gobierno + provincia + La Rioja + Argentina
Mendoza	152,000	Gobierno + provincia + Mendoza + Argentina
Misiones	77,300	Gobierno + provincia + Misiones + Argentina
Neuquén	136,000	Gobierno + provincia + Neuquén + Argentina
Río Negro	178,000	Gobierno + provincia + Río Negro + Argentina
Salta	163,000	Gobierno + provincia + Salta + Argentina
San Juan	5,740,000	Gobierno + provincia + San Juan + Argentina – submarino
San Luis	7,440,000	Gobierno + provincia + San Luis + Argentina
Santa Cruz	206,000	Gobierno + provincia + Santa Cruz + Argentina
Santa Fe	1,290,000	Gobierno + provincia + Santa Fe + Argentina
Santiago del Estero	56,400	Gobierno + provincia + Santiago del Estero + Argentina
Tierra del Fuego	119,000	Gobierno + provincia + Tierra del Fuego + Argentina
Tucumán	143,000	Gobierno + provincia + Tucumán + Argentina

Source: own elaboration based on Google News search engine.

Note: In the case of the San Juan province, the keyword ‘submarine’ was excluded from the search. Many news articles refer to the ARA San Juan submarine, which disappeared off the Argentine coast in November 2017. In all cases, Google ‘incognito’ search results were applied in order to reduce algorithmic bias and personalisation.

Appendix D. Pearson's correlation coefficient and scatterplot for dependent variables (N = 24)

		RTI law strength
Fiscal transparency	Pearson correlation	0.073
	Sig (2-tailed)	0.734



Source: own elaboration based on data compiled by Carciofi et al. (2020) and World Bank (2019).

Note: dashed line represents linear regression trend line.