

2. Background on the telecommunication and broadcasting sectors

This chapter is divided between a historical overview of telecommunication policies and a survey of the broadcasting and pay TV sectors in Brazil. Beginning with the establishment of the first Brazilian Telecommunication Code in 1962, the chapter moves to the creation of Telebrás in 1972, and the policy changes that set the stage for liberalisation in the mid-1990s. It then discusses the regulatory and policy framework for the post-privatisation era, including the emergence of mobile voice services and broadband services. The second part traces the development of a policy framework for a national broadcasting market since the liberalisation of the sector. It examines the digital television terrestrial transition, efforts to promote made-in-Brazil audio-visual content and recent trends in broadcasting and pay TV.

Background on the Brazilian telecommunication sector

The telecommunication sector in Brazil has transformed considerably since the first Brazilian Telecommunication Code (Código Brasileiro de Telecomunicações, CBT) was established in 1962. Since then, the sector has been governed by two telecommunication legal frameworks and a multitude of revisions, policy plans and regulatory measures (Table 2.1). Understanding the historical background is crucial for identifying lessons learnt, as well as avenues for improvement.

Table 2.1. Summary of telecommunication milestones in Brazil

Year	Action	Legal instrument
August 1962	Brazilian Telecommunication Code (Código Brasileiro de Telecomunicações, CBT)	Law No. 4 117
July 1966	Telecommunications Oversight Fund Law (Fundo de Fiscalização das Telecomunicações, FISTEL)	Law No. 5 070
July 1972	Creation of the State-owned Telecomunicações Brasileiras S/A (Telebrás)	Law No. 5 792
July 1996	Minimum Law (Lei Mínima)	Law No. 9 295
July 1997	General Telecommunications Law (Lei Geral de Telecomunicações, LGT)	Law No. 9 472
October 1997	Anatel Bylaws (Regulamento da Agência Nacional de Telecomunicações)	Decree No. 2 338
April 1998	1st General Concession Plan (Plano Geral de Outorgas, PGO)	Decree No. 2 534
May 1998	1st Universal Service Plan (Plano Geral de Metas de Universalização, PGMU)	Decree No. 2 592
July 1998	Privatisation of the Telebrás system	x
August 2000	Universal Service Fund (Fundo de Universalização dos Serviços de Telecomunicações, FUST)	Law No. 9 998
November 2000	Telecommunications Technological Development Fund (Fundo para o Desenvolvimento Tecnológico das Telecomunicações, FUNTTEL)	Law No. 10 052
June 2003	2nd Universal Service Plan	Decree No. 4 769
April 2008	Amendment to 2nd Universal Service Plan	Decree No. 6 242
October 2008	General Regulatory Plan to update the telecommunication regulatory framework in Brazil (Plano Geral de Atualização da Regulamentação das Telecomunicações no Brasil)	Anatel's Resolution No. 516
May 2010	National Broadband Plan (Programa Nacional de Banda Larga, PNBL)	Decree No. 7 175
June 2011	3rd Universal Service Plan	Decree No. 7 512
November 2012	1st Competition Plan (Plano Geral de Metas de Competição, PGMC)	Anatel's Resolution No. 600
April 2014	Internet Civil Rights Framework of Brazil (Marco Civil da Internet)	Law No. 12 965
December 2018	4th Universal Service Plan	Decree No. 9 619
June 2019	Structural Plan of Broadband Networks (Plano Estrutural de Redes de Telecomunicações, PERT)	Anatel's Board Decision No. 309
October 2019	Amendment to the LGT and FUST	Law No. 13 879

Note: x = not applicable.

The liberalisation of the telecommunication sector

Brazil liberalised its telecommunication sector in the mid-1990s, following the international trend that had begun in the mid-1980s. As such, its liberalisation process was inspired and informed by the effects of policies in other countries, especially the United States, Europe and Latin America. Brazil's economic liberalisation was accompanied by a consistent increase in investment in the communication sector, mainly in infrastructure expansion. This led to a progressive growth in service coverage and an increased diversification of services.

Telebrás system

Prior to the liberalisation process, a State-owned monopoly provided telecommunication services in Brazil as mandated by the 1988 Constitution. This model had already been established through the CBT in 1962 (Brazil, 1962^[1]), and the creation of Telebrás in 1972 (Brazil, 1972^[2]).

After its creation, Telebrás gradually acquired almost all local telecommunication providers. The company encompassed 27 different providers (i.e. one per state),¹ in addition to the long-distance company Embratel. Some exceptions existed such as Companhia Riograndense de Telecomunicações, Centrais Telefônicas de Ribeirão Preto, Sercomtel Telecomunicações and Companhia de Telecomunicações do Brasil Central (a privately owned company). However, due to historic developments in the sector, Telebrás was the only provider for all types of telecommunication services. At the time, these services were divided into local, intra-state long-distance, inter-state long-distance and mobile services.

The regional subsidiaries of Telebrás (e.g. Telesp, Telerj, Tebahia, Telemig), owned their local infrastructure. However, these companies were resellers of long-distance services, which they bought at regulated prices from Embratel under a revenue-sharing approach. Just before the government began restructuring the telecommunication sector in 1995, the State owned slightly more than half the voting shares of Telebrás, but only 21.7% of its total capital. While Telebrás shares of its 28 regional subsidiaries varied, ultimately it controlled all of them.

Prior to liberalisation, all communication prices were regulated and local services subsidised. Prices for basic plans for fixed telephony represented a considerable small proportion in consumers' income in Brazil in 1995 (i.e. USD 2.94 [BRL 2.7] for residential, USD 10.24 [BRL 9.42] for commercial)². However, prices for long-distance services were high and installation charges amounted to around USD 1 200 (BRL 1 100)³ (Guerreiro, 2006^[3]). All regional subsidiaries had a fixed-line waiting list and it could take two or three years until users were served (Teleco, 2019^[4]). As a consequence of the unmet demand, a large secondary market developed. This was especially the case in densely populated areas with high demand. In the cities of São Paulo and Rio de Janeiro, for example, the price for a line could reach over USD 5 435 (BRL 5 000) (Batista and Ferreira, 2004^[5]). As in some other countries, investments to expand the local network were mostly financed by issuing non-voting shares.

The market structure established in the 1960s and 1970s did not meet the rising demand for telecommunication services towards the mid-1980s. In the early 1990s, fixed voice penetration measured by fixed-local telephone lines per 100 inhabitants was only 7.4. This was far below the 50 lines per 100 inhabitants in the United States and 52 lines per 100 inhabitants in Western Europe in 1994 (ITU, 2019^[6]). There was growing recognition that the telecommunication sector required large investments, which would probably have to come from the private sector. It also became increasingly evident that the public sector needed to strengthen its regulatory role, and invest in specific areas to fulfil social development and national security objectives.

In light of these developments, the Constitution was amended in 1995 to allow for private investment in the telecommunication sector (Emenda Constitucional No. 8 of 1995). A few months later, the Programme for Restoration and Expansion of the Telecommunications System and Postal System (Programa de Recuperação e Ampliação do Sistema de Telecomunicações e do Sistema Postal, PASTE) was published (Ministério das Comunicações, 1995^[7]). The PASTE aimed to set the guidelines, goals, programmes and projects to expand telecommunication and postal services, including an investment plan for 1995-99. This

would provide incentives for private capital to enter the market. The programme estimated that BRL 91 billion would be needed by 2003 to satisfy rising demand.

Setting the stage for liberalisation reforms in the telecommunication sector

To set the stage for liberalisation, Law No. 9 295 (Lei Mínima) was approved in 1996. This allowed for private investment and competition in certain markets, most notably, mobile telephony (Brazil, 1996^[8]). It set the basis for auctioning licences for the B-band spectrum (i.e. 835-845 MHz, 846.5-849 MHz paired with 880-890 MHz and 891.5-894 MHz). This was completed by mid-1997, raising revenues of over USD 7.6 billion. It resulted in the entry of international telecommunication players to Brazil (e.g. BellSouth, Telia, SK Telecom, TIM, DDI, Bell Canada, and TIW). In addition to introducing private investment in the mobile telephony market and enhancing competition, Law No. 9 295 obliged certain local telecommunication operators to create subsidiaries to provide mobile telephony services. This rule affected operators that had been granted spectrum in the A-band (i.e. 824-835 MHz and 845-846.5 MHz paired with 869-880 MHz and 890-891.5 MHz) with no initial payment in 1992-93.

After these first steps, Brazil reformed the sector extensively to carry out the liberalisation. The General Telecommunications Law (Lei Geral de Telecomunicações, LGT) (Brazil, 1997^[9]), published in 1997, set in motion several changes. It provided the framework for providing all communication services in a competitive environment; the creation of an independent sector regulator, the National Telecommunications Agency (Agência Nacional de Telecomunicações, Anatel); and established the foundation for the privatisation of Telebrás. Through laws passed in 2000, the LGT mandated the creation of two telecommunication funds that still exist: the Universal Service Fund (Fundo de Universalização dos Serviços de Telecomunicações, FUST) and the Telecommunications Technological Development Fund (Fundo para o Desenvolvimento Tecnológico das Telecomunicações, FUNTTEL). The LGT also maintained oversight of the Telecommunications Oversight Fund (Fundo de Fiscalização das Telecomunicações, FISTEL), created in 1966 (Box 2.1).

At the time, the LGT divided licensing for provision of communication services into concessions (public regime) and authorisations (private regime).⁴ On the one hand, the concession regime implies the obligation to provide universal service and continuity of service. On the other, it implies the State is obliged to guarantee the economic feasibility of the provision of services. Concessions for public services in Brazil generally require return of all assets needed to provide the service to the state at the end of the concession (reversibility of assets). The LGT also established that at least one provider needed to deliver fixed telephony through a concession, whereas other communication services could be provided exclusively through an authorisation. This implies that different operators in the same area could provide the same service (i.e. fixed telephony) under both the authorisation and concession regimes.

Once the LGT was approved, the structure of the sector regulator, Anatel, was defined in October 1997 with the publication of Decree No. 2 338 and its bylaws (Regulamento da Agência Nacional de Telecomunicações) (Brazil, 1997^[10]). Anatel became operational in November of the same year. The LGT provided that FISTEL would give Anatel financial independence (Box 2.1).

Box 2.1. The Brazilian telecommunication funds

The LGT mandated the creation of two funds, one for universal service (LGT, art. 81, II) and another one for technological development (LGT, art. 77):

- The Universal Service Fund (Fundo de Universalização dos Serviços de Telecomunicações, FUST) was created with the enactment of Law No. 9 998 (Brazil, 2000_[11]). This law established a contribution of 1% of telecommunication revenues to the fund for the expansion of telecommunication services. As its main objective, FUST finances expansion of services provided under the “public regime”. Since the government decided in 1997 that fixed telephony was the only service to be provided under such a regime, the use of FUST is restricted to this service. As time has passed, it has become clear that the fund’s objective – namely, increasing the number of fixed lines in service – does not match market needs and technological developments. While attempts have been made to update the laws restricting the use of funds to expand broadband access, none have succeeded.
- The Technological Development Fund (Fundo para o Desenvolvimento Tecnológico das Telecomunicações, FUNTTEL) was enacted by Law No. 10 052 (Brazil, 2000_[12]). The fund collects 0.5% of operators’ gross revenues. In contrast to FUST, significant parts of the revenues have been used for multiple purposes linked to research and development in the telecommunication sector.

The LGT also maintains the Telecommunications Oversight Fund (Fundo de Fiscalização das Telecomunicações, FISTEL) based on Law No. 5 070 from 1966 used to finance the Telebrás system (Brazil, 1966_[13]). Since creation of the LGT, the fund has financed the administrative costs of the National Telecommunications Agency (Agência Nacional de Telecomunicações, Anatel). Telecommunication operators contribute to this fund based on every telecommunication station in service (i.e. not only antennas and base stations, but also mobile phones, among others). More details about the funds are provided in Chapter 7.

Sources: Brazil (1966_[13]), “Lei No. 5 070, de 7 de julho de 1966”, http://www.planalto.gov.br/ccivil_03/LEIS/L5070.htm; Brazil (2000_[11]), “Lei No. 9 998, de 17 de agosto de 2000”, http://www.planalto.gov.br/ccivil_03/leis/L9998.htm; Brazil (2000_[12]), “Lei No. 10 052, de 28 de novembro de 2000”, http://www.planalto.gov.br/ccivil_03/LEIS/L10052.htm.

The General Concession Plan and the Universal Service Plan for expanding access to fixed telephony services

The LGT established the development of several types of complementary regulation. These included the General Concession Plan (Plano Geral de Outorgas, PGO, Decree No. 2 534, 1998) and the Universal Service Plan (Plano Geral de Metas de Universalização, PGMU, Decree No. 2 592, 1998). Both were prerequisites for the privatisation of Telebrás.

The General Concession Plan set the competition conditions for public services i.e. fixed telephony based on the concession model. At the time, the government understood that concessions should only apply to fixed telephony, including long distance. The plan introduced four different service areas: three local regions and one national for long-distance services. For each region, the General Concession Plan established that one authorisation and one concession would be reserved exclusively for Telebrás subsidiaries. On the one hand, it served as a basis for the divestiture of Telebrás into regional companies during privatisation. On the other, it paved the way for transitional regional duopolies between

concessionaires of the public regime (i.e. Telebrás subsidiaries) and the regional companies with an authorisation under the private regime (“mirror companies” or “companhias espelho”). Both the regional limitation and duopoly were transitory measures that could be lifted before the 2003 deadline (when this clause would automatically expire) if the goals of the Universal Service Plan were met.

Complementing the objectives of the General Concession Plan, the Universal Service Plan set minimum growth targets of installed fixed lines for concession holders. It thus set the minimum pace of investment for the Telebrás subsidiaries that would be privatised. It mandated that Brazil would need at least 33 million fixed lines installed by 2001. Furthermore, local telephony service had to be available in all localities of more than 300 inhabitants by 2005; line-installation requests for local telephony had to be satisfied within a week.

The Universal Service Plan recognised that public access infrastructure was needed to provide general access to voice telephony. It mandated the installation of at least 981 300 public phones by 2001 and required general availability of the service. By 2005, public phone density had to be at least eight phones per 1 000 inhabitants. All localities with more than 100 inhabitants had to have at least one public phone.

Privatisation of Telebrás

In July 1998, the government privatised Telebrás. The government’s 19.3% ownership stake in Telebrás was sold in a sealed-bid auction for USD 19 billion⁵ (BRL 22 billion). This was 63.7% above the minimum reference price set by the Brazilian Development Bank (Banco Nacional de Desenvolvimento Econômico e Social), which was in charge of the process. Telebrás was divided into 11 different regional companies (i.e. three fixed-line and eight mobile companies), and one national company (i.e. Embratel). Large international operators entered the market (Telefónica, TIM, BellSouth, MCIWorldCom and Portugal Telecom, among others). This was in keeping with the regionalisation provision set forth by the General Concession Plan and during the B-band auction (i.e. 835-845 MHz, 846.5-849 MHz paired with 880-890 MHz and 891.5-894 MHz).

For each of the four regions defined in the General Concession Plan, Anatel awarded one authorisation through a bidding process in 1999 to provide fixed telephony services. This sought to gradually introduce competition into the fixed telephony market. In contrast to the privatisation of Telebrás, this auction process was not entirely successful. Market players deemed the original reserve prices set by Anatel were too high. Even after these prices were reduced, only two mirror companies were sold during the first round of the auction. The remaining companies had to be auctioned during a second round. The last company to be auctioned in 1999 (i.e. GVT in the Southern region) raised only USD 55 249 (BRL 100 000).⁶ While concessionaires were subject to price caps included in their concession contracts, companies with authorisations were not subject to retail price regulation.

The regulatory and policy framework post-privatisation

The emergence of mobile voice services and broadband services

In 2001, Anatel auctioned spectrum licences for mobile services in three regions of the country. These licences were in the “C band” (1.725-1.740 GHz and 1.820-1.835 GHz), the “D band” (1.805-1.820 GHz) and the “E band” (1.835-1.85 GHz)” in the 1.8 GHz frequency band. Although the C band was auctioned twice, no bidders presented offers. The D band was awarded to Oi and TIM. While Oi became a full-service provider within its regional concession area, TIM achieved nationwide spectrum coverage through its participation in the E-band auction. By 2005, all blocks of the E band were assigned. The auction process,

carried out in 2000 and then 2004, awarded the authorisation in 2005. This ensured the transition from a concession model for mobile voice services, classified as Mobile Cellular Service (Serviço Móvel Celular) to an authorisation regime called Mobile Personal Service (Serviço Móvel Pessoal, SMP). This process completed the transition of mobile services from the concession regime – which existed before the LGT – to a new regime, in compliance with the LGT. The concession regime, however, persisted for fixed telephony services.

The first commercial Internet services were launched in 1995, following a policy known as Norm 4 of 1995 issued by the Ministry of Communications. The norm established that two firms would share Internet service provision. On the one hand, the telecommunication service provider (back then, the telephony concessionaire) would be responsible for the “last mile” access to users. On the other, the Internet service provider (ISP) (*provedor de serviço de conexão à Internet*) would be responsible for the Internet service layer (i.e. Transmission Control Protocol/Internet Protocol [TCP/IP] stack or any value-added service) (Ministério das Comunicações, 1995^[14]).

This norm had a profound impact on how broadband services evolved in Brazil. Small and local ISPs emerged to provide Internet services using the last mile of the telephony networks. These were still regulated by the public regime and provided by State-owned monopolies at that time. The LGT expressly prohibited concessionaires to offer any service other than those stemming from their original concession. Therefore, a different company (i.e. ISPs) provided access to the Internet as a value-added service. In 1995, several dial-up providers emerged as ISPs.

In 2001, Anatel classified the last mile access layer of the non-dial-up Internet connection as a “multimedia communication service” (Serviço de Comunicação Multimídia, SCM) (Resolution No. 272, 9 August 2001). It established this service would be framed under the private authorisation regime.

Anatel’s resolution set the criteria to obtain and transfer such an authorisation. Specifically, it allowed unlimited authorisations, determined quality of service parameters and prohibited use of SCM networks for services similar to fixed telephony. This allowed several smaller ISPs (formerly banned from providing last mile access) to request SCM authorisations. Many did, driving the expansion of broadband in the country (Knight, Feferman and Foditsch, 2016^[15]).

Meanwhile, the 1995 norm was still in place. This meant that Internet services provided by ISPs were considered separate from the last mile access services. They were classified by Anatel as value-added services (serviços de valor adicionado, SVAs). As such, these services were not subject to telecommunication regulation. Anatel’s oversight was limited to specific consumer-related issues, such as bundling of SVAs and telecommunication services.

The differentiation between multimedia communication services (SCMs) and SVAs used to be a historic driver for the development of broadband services in Brazil. However, it causes a series of legal uncertainties, particularly concerning tax arbitrage. The distinction between SCMs and SVAs for tax purposes is subject to discussions and legal disputes between companies in the sector and tax authorities. This leads to lack of clarity for the sector, affecting administrative resources needed by both companies and tax authorities (Chapter 7).

Updating universal service goals, the regulatory framework and Brazil’s National Broadband Plan

The LGT established the end of 2005 as the expiration date for the fixed telephony concession contracts. It allowed the possibility of a one-time extension for an additional 20 years (i.e. until 2025). These conditions were initially stated in the original concession contracts.

The LGT also foresaw establishing new conditions for the concessions, including new universal service targets and quality parameters. The LGT established a minimum of 30 months before the 2005 deadline for concessionaires to express interest in the renewal of contracts. Therefore, negotiations began towards the end of 2002. The revised concession contracts included new conditions and universal service targets, stating that new conditions would be established every five years.

In 2003, new universal service conditions were established under an updated Universal Service Plan (PGMU II, Decree No. 4 769, 2003). These included the installation of urban and rural Public Access Stations for Telecommunication Services (Postos de Serviço de Telecomunicações) throughout Brazil. It also established that concessionaires had to provide a low-cost telephony option called “Special Class Individual Access” (Acesso Individual de Classe Especial, AICE).

In 2008, the obligation to install public access stations for telecommunication services was considered outdated due to technological change. Consequently, part of this obligation (for urban stations) was replaced by the commitment of concessionaires to expand Brazil’s national backbone. This occurred in the context of an amendment to the updated Universal Service Plan (PGMU II, Decree No. 6 424, 2008). The change recognised that a national backbone to provide broadband services would have better economic effects than the installation of fixed telephony access points. Such access points required significant investments and would only have limited local benefits.

Anatel issued the General Regulatory Plan in 2008 to update the telecommunication regulatory framework in Brazil (Plano Geral de Atualização da Regulamentação das Telecomunicações no Brasil, Resolution No. 516, 2008). This recognised the need to revise regulation periodically to reflect changes in the market and technology. This plan, which served as a regulatory agenda for Anatel for subsequent years, had the following main objectives:

- increase broadband deployment
- reduce barriers to access and use of communication services by low-income families
- increase quality of services
- encourage development of bundled and convergent offers
- increase availability of specific products at lower prices in rural areas
- guarantee adequate levels of competition
- promote expansion of pay TV services
- foster development of national technologies, and the local information and communication technology (ICT) industry.

In 2010, the government published Brazil’s National Broadband Plan (Programa Nacional de Banda Larga, PNBL, Decree No. 7 175, 2010). This set the target to connect 35 million households with broadband by the end of 2014. It also set the conditions so that Telebrás, the former holding of the privatised telecommunication companies, could play a role in implementing the PNBL.

In 2011, the National Broadband Plan was updated (Decree No. 7 512, 30 June 2011) again. This established new objectives for the low-cost telephony option (AICE) and public phones. It foresaw multifunctional stations providing telecommunication services, including Internet access, replacing rural Public Access Multifacility Stations (Posto de Serviço Multifacilidade). It also mandated access for people with disabilities, as well as a

“segmented fixed telephony offer” for rural areas. As well, it ratified obligations for the expansion of backhaul infrastructure set forth in the previous version in 2008. In addition, MCTIC and Anatel established terms of agreement with local telephony concessionaires to provide broadband services at a predetermined price to Brazilian municipalities.

In 2012, Anatel published the General Competition Plan (Plano Geral de Metas de Competição, PGMC) (Resolution No. 600, 2012). This increased competition by introducing interconnection rules, access to wholesale services and infrastructure sharing. Additionally, the Competition Plan put forward the concept of significant market power, based on the definition of relevant markets. It included the possibility of imposing *ex ante* asymmetric regulation based on the outcomes of the market assessment.

In 2013, Anatel updated the “multimedia communication” services’ (SCM) regulation regarding broadband services (Resolution No. 614, May 2013). This resolution streamlined authorisation for broadband service to a single SCM (without the strict need of an ISP responsible for the layer of value-added services). It also obliged broadband providers to comply with network neutrality principles and to keep Internet log registries for all connections for one year.

The changes also substantially reduced the price of authorisations for broadband services (from USD 4 167 [BRL 9 000] to USD 185 [BRL 400]),⁷ thus reducing an important entry barrier for small ISPs. Furthermore, it exempted small providers (with fewer than 50 000 subscribers) from burdens related to customer service.⁸ The changes also allowed the possibility of bundling offers with a predetermined ISP (a commercial arrangement prohibited for larger ISPs).

Anatel introduced additional exemptions for small providers with fewer than 5 000 subscribers. These related to service interruption notice to Anatel, user complaint registry and a call recordings archive. In 2017, Anatel’s Resolution No. 680 further simplified the procedure for obtaining an SCM authorisation. It also exempted ISPs with fewer than 5 000 subscribers from the need to obtain an authorisation.

In 2014, Brazil became one of the first countries to adopt an Internet Civil Rights Framework (Marco Civil da Internet) (Brazil, 2014_[16]). This framework was an important development in the legal and regulatory environment for broadband services and the use of the Internet in Brazil. It included issues related to network neutrality, freedom of expression, privacy, data protection and the limited responsibility of ISPs.

In 2016, Brazil launched a second phase of the National Broadband Plan (Programa Brasil Inteligente). It sought to cover at least 75% of municipalities with fibre optic infrastructure backhaul. It also aimed to connect 30 000 schools with broadband connection speeds of 72 Mbps. In addition, it would promote investments in the next generation of wireless networks, 5G and the Internet of Things (IoT). Other objectives included covering rural villages with mobile broadband, serving government facilities, increasing international connectivity and making satellite broadband connectivity available for civil and military activities. The Amazônia Conectada programme, created in 2015, was incorporated into this new plan. The government committed to invest USD 115 million (BRL 400 million)⁹ by 2020 into Amazônia Conectada.

In 2018, the fourth version of the Universal Service Plan was published (Decree No. 9 619, 20 December 2018), building extensively on previous versions. The main change was inclusion of the obligation to install fixed wireless broadband services in 1 473 localities using 4G technology or higher. In addition, 10% of all localities should have this service available by the end of 2019.

In 2018, Anatel's Resolution No. 694 revised the relevant markets, as well as the players with SMP. According to its Competition Plan, an operator was considered a small provider if it had less than 5% national market share in the segments in which it operated. It also introduced the adoption of cost-oriented models for monitoring prices of wholesale products.

Although the regulatory framework has made it difficult to shift efforts and resources from fixed telephony to other priorities such as broadband, Brazil has managed to foster development of broadband services through other initiatives. In June 2019, Anatel approved a new plan, to be updated yearly. It aimed to increase broadband penetration by promoting co-ordinated efforts and investments between the private and public sectors (Plano Estrutural de Redes de Telecomunicações, PERT). The plan analyses the state of broadband deployment, including mapping broadband access network infrastructure with different technologies (mobile, fixed and satellite), as well as backbone infrastructure (fibre and radio). Additionally, it puts forward projects to reduce gaps. These include expanding the backbones (fibre, radio and satellite); extending mobile broadband coverage to unserved areas, improving mobile coverage (4G and 5G) in cities; developing high capacity networks in cities (e.g. fibre-to-the-home); and further deploying networks to support public services.

As described above, Brazil's telecommunication policy and regulatory agenda has focused on two pillars of the LGT set in 1997, i.e. universal service coverage and competition. The main measures introduced aimed at promoting investment in network deployment to increase coverage and addressing digital divides in underserved areas. Brazil is implementing or analysing several initiatives to reduce entry barriers to communication markets. Other recent government initiatives include modernising the licensing regime, incentivising infrastructure sharing and developing a framework to ease infrastructure deployment. In addition, Brazil is reviewing use of tax levies on emerging technologies (e.g. changes in FISTEL charges for the IoT), as well as measures to increase spectrum availability and improve spectrum management (Chapter 5).

Reforming the LGT and implementing the reform

Discussions around updating Brazil's legal and regulatory framework have been taking place for over a decade. Since 2008, Anatel has sought out mechanisms to update the regulatory framework under its responsibility. Due to these efforts, it has made advances on collecting data from the sector, reporting on access and quality of services, and conducting market reviews. These are all essential activities both to improve effectiveness of regulation and to increase certainty for stakeholders.

Most recently, in October 2019, after four years of discussions in Congress, a substantial reform for the telecommunication sector was approved. Law No. 13 879 (formerly known as Projeto de Lei da Câmara No. 79 of 2016, PLC 79) amended the LGT to allow fixed telephony concessions to migrate to the private authorisation regime (Brazil, 2019^[17]). The initial proposal to modify the fixed telephony regime in Brazil was first presented to the Chamber of Deputies in 2015 (Bill No. 3 453) and approved in 2016. The Senate discussed the bill until September 2019, when it was finally approved.

As the main change of Law No. 13 879 (hereafter the "2019 reform"), operators under the public regime (fixed telephony) could apply to migrate their concession into an authorisation, and thus provide their services under the private regime. The reform recognises that fixed telephony is no longer the core of telecommunication services as deemed in the original 1997 framework. Moreover, it recognises the asymmetric regulation established in 1997 on incumbent players due to the privatisation of Telebrás was no longer necessary.

Another important point of the reform consists in addressing the reversion of assets linked to concessions. As a rule, when a concession ends, the assets used to provide public regime services should be returned to the State (i.e. “reversible assets”). This does not apply to services provided under an authorisation. By allowing migration to the authorisation (i.e. private) regime, the reform allows current concessionaires to anticipate the end of their contracts without returning the reversible assets, while nonetheless making investment commitments. Anatel approves the methodology to establish the value of these “reversible assets”.

It has long been argued that the reversibility clause within the public regime has deterred further private investment. In a converging communication market, an IP network arguably allows for the provision of multiple services, most of which are provided under the private regime. Since 1994, service authorisations are valid indefinitely (Law No. 9 472 of 1994). One technical restriction is the availability of spectrum, which is usually assigned through auctions.

The 2019 reform allows for an indefinite renewal of spectrum licences without an auction process. The latter change, however, reduces tools available to foster competition in the mobile market. It may hinder new entrants from entering the market through spectrum auctions (Chapter 5). The 2019 reform also opened up the possibility for a secondary market for spectrum.

The 2019 reform further enabled in-kind payments for licences. In other words, concessionaires can make the transition to the private regime by committing to invest in their own network. Anatel will calculate the value of this investment by considering the difference between the value to be created by operating in the private vs. public regime. This calculation will consider the value of all reversible assets (active and essential assets effectively used for fixed telephony). Anatel has to approve these investment commitments. The possibility of replacing fees by investment commitments also applies to spectrum licences.

When calculating the values to be paid or converted into investment, the main issue for Anatel will be how to determine the value of reversible assets. The 2019 reform does not indicate the need of an inventory. Rather, it states generally that Anatel should calculate the value of active and essential assets effectively used to provide public regime services. The Federal Court of Accounts (Tribunal de Contas da União, TCU)¹⁰ had previously defended the position that Anatel should keep a detailed inventory for the valuation of reversible assets. TCU may audit all calculations as the reversible assets in principle belong to the state. Anatel published on 7 February 2020 a public consultation on the methodology to assess the reversible assets (CP No. 5 of 2020).¹¹

One of the main historical challenges of Brazil’s legal and regulatory framework for telecommunication has been to move from a focus on fixed telephony to convergence, including access to broadband services. The original framework, reflected in both the LGT and other adjacent laws, was built on the need to provide universal voice services. To a certain extent, the development and expansion of all other services was left to the private sector. As convergence started accelerating, and data transmission started to become central, the former universal service objectives quickly became outdated.

The reform of the LGT through Law No. 13 879 is an important first step for Brazil to move from the original framework to one based on convergent communications. Nevertheless, regulations need updating, including use of the Universal Service Fund (Fundo de Universalização dos Serviços de Telecomunicação, FUST) to expand broadband services. A transition process will be needed to minimise disruptions and create the right incentives and conditions for all stakeholders in the entire value chain.

Background on the broadcasting and pay TV sectors in Brazil

A policy framework designed for a national broadcasting market

With over 200 million people, Brazil is the largest Portuguese-speaking market for audio-visual services in the world. Most of its neighbours share Spanish as their official language. This linguistic isolation sets Brazil apart in the region. It is particularly relevant for understanding the background of the production of audio-visual services in the country. It also speaks to why the country creates laws to foster Brazilian and regional culture and promote the Portuguese language.

Brazil launched commercial free-to-air (FTA) television in 1950.¹² In 1962, it adopted the Brazilian Code of Telecommunications (Código Brasileiro de Telecomunicações, CBT), which was implemented a year later (Brazil, 1962_[1]). The CBT was the first law to regulate the broadcasting and telecommunication sectors. It is still the main legal framework for broadcasting in the country, despite significant changes in this market.

When the CBT was issued, the broadcasting market in Brazil was dominated by Diários Associados, which owned 17 of around 30 FTA stations. However, the entry of Globo in 1965 soon decreased the market share of Diários Associados. Globo quickly became the broadcaster with the largest audience. To counter this market concentration trend, Decree No. 236 of 1967 stated a given broadcaster could only own five stations. This was inspired by regulations issued by the Federal Communications Commission (FCC) in the United States.¹³ Following the American model, Brazil sought to establish a third national broadcasting network to foster competition between the two main commercial players.

In general, different administrations in Brazil based their approach to FTA television on Decree No. 20 047 of 1931. This decree established the principles that broadcasting, understood then as radio broadcasting, was a sector of national interest requiring State supervision. The decree separated regulation of broadcasting infrastructure and content; the State aimed at expanding these services. Moreover, the decree contributed to the understanding that broadcasting regulation depended on the technology in use and not on the services provided. Finally, another inheritance from the decree is the understanding that broadcasters had a set of rights (e.g. licences) that emerged in the 1930s. This included holding spectrum, which was recognised in the regulatory framework of 1931 (Penna Pieranti, 2011_[18]).

While the CBT was a first step towards regulating FTA television, it still lacked objective criteria (such as financial requirements) for the concessions for these services. Since then, some economic criteria have become part of the process, such as financial viability. However, broadcasting concessions continue to rely on subjective criteria and to be the prerogative of the President (delegated to a minister). Lack of improvements in the legal framework could be due partly to lack of ministry staff to develop technical or public policy standards for broadcasting (Penna Pieranti, 2011_[18]).

The Ministry of Communications only issued the first plan to regulate technical issues related to spectrum interference and coverage for broadcasting services in 1973. Before then, spectrum was a free resource for broadcasters. Each interested party would use it at will, and then register in the ministry without any planning.

While the 1988 Constitution addressed several sectors, it maintained the previous understanding of the State and private agents in the area of broadcasting. It incorporated the already established actors in the new constitutional framework of the country (and consequently, their use of the already assigned spectrum). The Constitution also affirmed the principle of national interest in the area of broadcasting and established a set of policy principles and regulatory guidelines, including the following:

- Article 220 ensures freedom of expression in the media, but allows for regulation to protect minors or to enable individuals or families to protect themselves against advertisement for potential harmful products or services (e.g. tobacco, pesticides).
- Article 221 establishes preferred content in areas such as: i) educational, artistic, cultural and news content; and ii) independent productions that foster national and regional culture, with regional differentiation being envisioned.
- Article 222 establishes strict limitations on ownership and cross-ownership. Audio-visual, radio and print (newspaper) media may only be owned by native Brazilians or those naturalised for more than ten years, or by firms registered and headquartered in Brazil. Native Brazilians or those naturalised for more than ten years must own at least 70% of the voting stock and capital of a firm that owns the media organisation. They must also have exclusive editorial responsibility and selection of programming. As a consequence, foreign direct investment (FDI) is limited to 30%.
- Article 223 states the Executive Power will manage licences. Congress must approve granting or renewal of any licence or concessions (or any decision not to renew). Broadcasting is divided into three systems: public, private and State-owned.

In addition to general provisions in the Constitution, Decree No. 236 of 1967 – established under the Institutional Act No. 4 – further limits economic concentration in the audio-visual market in three ways. First, it prohibits a natural person from controlling more than four medium wave (MW) local radio stations and six frequency modulation (FM) local radio stations. Second, it prohibits more than three regional MW stations and three regional tropical wave (TW) stations, with a maximum of two per state. Third, it prohibits more than ten FTA concessions at the national level; no more than five very high frequency (VHF) television stations are permitted, with no more than two per state.

Decree No. 236 of 1967 established that a single natural person or company is prohibited from owning two stations of the same nature in the location of the service (city or region). However, the provision is not respected. The lack of oversight has enabled broadcasters to bypass this limitation on concentration. Specifically, they use a series of networks and retransmitting stations and report different people as shareholders (Reporters Without Borders and Intervozes, 2017_[19]). This enabled a perpetuation of conglomerates that concentrate political and economic power in the broadcasting sector.

Discussions around the privatisation of telecommunication services raised the issue of a converged regulator to oversee both telecommunication and broadcasting. The intention was to have an Agency for Communications instead of Anatel. This plan was never implemented due to pressure from the broadcasting sector.

In the 2000s, several discussions around media plurality took place on the access of minorities and the workers' unions to radio and FTA television. However, they had little practical effect on public policies (Reporters Without Borders and Intervozes, 2017_[19]).

Digital terrestrial television transition

Many countries have transitioned to digital terrestrial television (DTT). On the one hand, DTT seeks to free-up the 700 MHz spectrum frequency band used by the analogue television broadcasters. This would allow its use for wireless broadband services (LTE/4G and now 5G). On the other, it acts to modernise broadcasting by providing more channels and higher image quality to viewers. In Brazil, Decree No. 5 820 of 2006 set out the rules for the transition; the DTT switchover started in 2007. By the end of 2018, the analogue signals of

1 379 municipalities had been switched off. Out of 5 570 of total municipalities, this makes about 24% of municipalities, which cover 62% of the Brazilian population. By 2023, all analogue television transmitters are expected to be switched off.

Audio-visual content

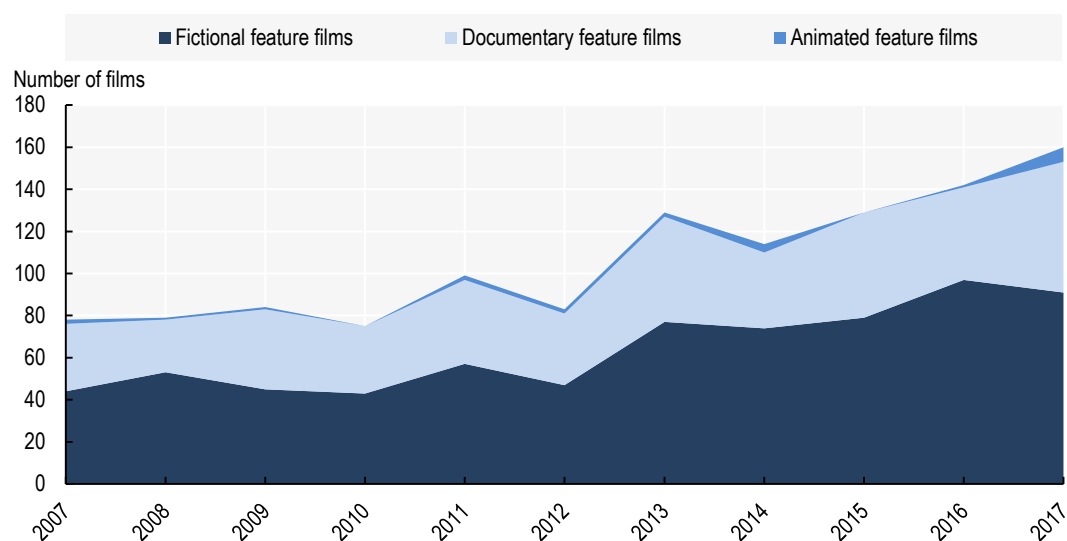
Brazil has historically been active in the production of audio-visual content. Embrafilme, for example, was a State-owned (70%) Brazilian company created in 1969. It functioned both as a producer and distributor, as well as the regulatory authority. Embrafilme produced some 25 new feature films per year, at an average budget of some USD 500 000 to USD 600 000 each (Nogueira, 1998_[20]).

In 1990, in a period of privatisation, Embrafilme got out of the production market. The abrupt ending had strong implications for the audio-visual industry in Brazil, given its dependency on Embrafilme for financial support to produce audio-visual content. From 1994 to 1998, Brazil produced only 40 films (UNESCO, 2000_[21]). This represented an average of 8 per year instead of 25, a decline of two-thirds from Embrafilme's output. Cinema attendance fell to just 0.8 per person per year (UNESCO, 2000_[21]). In 1993, the Brazilian film industry produced only about 0.6% of all films exhibited in the country (Silva and Silva, 2015_[22]).

The situation changed in 2001 with Provisional Measure No. 2 228, which created the National Agency for Cinema (Agência Nacional do Cinema, Ancine). This, in turn, established the Programme for Support to the Development of the National Cinema (Programa de Apoio ao Desenvolvimento do Cinema Nacional, PRODECINE) and the Audio-visual Fund to Foster National Cinema (Contribuição para o Desenvolvimento da Indústria Cinematográfica, CONDECINE).¹⁴

Three main instruments were put in place to foster audio-visual content promotion. First, the Audio-visual Sectoral Fund (Fundo Setorial do Audiovisual, FSA) was established to subsidise the production of Brazilian content. Second, quotas determined when Brazilian movie theatres must show films of Brazilian origin. Third, quotas for Brazilian content were set for television channels.

Figure 2.1. Number of feature films produced in Brazil by genre, 2007-17



Note: For a data dictionary and for background, see <http://data.uis.unesco.org/>.

Sources: UNESCO (2020_[23]), *UIS.stat* (database), <http://data.uis.unesco.org/> (accessed on 15 March 2020).

The combined effects of these measures have been substantial. The 160 films produced in Brazil in 2017 equalled four times the combined production from 1994 to 1998. From 2007 to 2017, the Brazilian audio-visual sector produced a large number of fictional feature films, a substantial number of documentary feature films and some animation feature films (Figure 2.1). This level of production is comparable to that of other countries.

Within this growing domestic production, complementary measures were needed. These would ensure sufficient production by suppliers that was independent of broadcasters, as well as a sufficient supply of regional (versus national) content. Moving from the supply side to the demand side, regional and independent audio-visual works also needed to be widely available on Brazilian television and widely exhibited in Brazilian movie theatres.

Recent trends in broadcasting and pay TV

Since the 1988 Constitution, little has changed in broadcasting regulation beyond the revision of technical standards and technical co-operation agreements between the Ministry of Science, Technology, Innovation and Communications (Ministério da Ciência, Tecnologia, Inovações e Comunicações, MCTIC) and Anatel.

Amendments to the Constitution in 1995 allowed for liberalisation of the telecommunication sector. They also produced a stronger separation between telecommunication services and broadcasting services. Previously, these services were understood to be under the same “public telecommunication services” umbrella. Despite the profound changes deriving from the LGT and the creation of the telecommunication regulator in 1997-98, the role of managing broadcasting concessions was excluded from Anatel’s mandate. Its only responsibilities in this area included elaboration of spectrum plans and technical monitoring of channel distribution plans for broadcasting (Wimmer and Penna Pieranti, 2009^[24]).

Regulation of pay TV services was left in a grey area. Anatel was gradually charged with issuing certain regulatory measures. For historical reasons, including those mentioned above, pay TV had been regulated by the deployed technology, and not by the service provided. In 1995, the cable TV law was approved (Lei do Cabo, Law No. 8 977, 1995). This law was not changed with the publication of the LGT, which regulated other forms of pay TV services (multichannel multipoint distribution service) and satellite TV (“direct-to-home”, DTH). It established a limit on foreign ownership of 49% on these services.

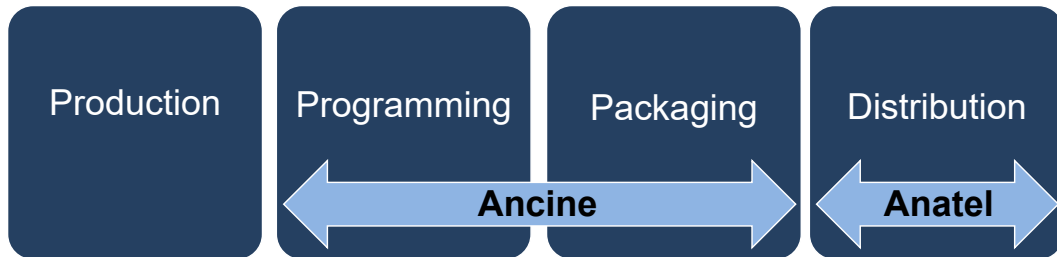
In 2001, Provisional Measure No. 2 228, altered by Law No. 10 454 in 2002, introduced a fee for the film industry. This fee – CONDECINE – was levied on the marketing and promotion, production and distribution of commercial motion pictures and videos.

In 2011, however, a specific pay TV law (Lei do Serviço de Acesso Condicionado, SeAC) was approved (Brazil, 2011^[25]). The legal framework transitioned to a framework based on the service provided, and not the technology used. It divided the value chain for pay TV services into four elements: production, programming, packaging and distribution. It also distributed regulatory roles. Ancine would be responsible for programming and packaging, while Anatel would oversee distribution (Figure 2.2).

The SeAC law intended to open the market to new competitors (allowing more foreign ownership of pay TV services) and stimulate the production of Brazilian audio-visual content. However, it also aimed at avoiding excessive vertical integration in the market. In so doing, it sought to protect Brazilian audio-visual producers and programmes from competition by telecommunication or foreign providers. Provisions in articles 5 and 6 are especially relevant:

- Article 5 prohibits Brazilian telecommunication service providers from owning (or controlling) more than 30% of a producer or programmer with headquarters in Brazil, excluding those that produce works exclusively for distribution outside Brazil.
- Article 6 prohibits Brazilian telecommunication service providers and all of their affiliates (with or without headquarters in Brazil) from hiring national artistic talents or licensing events of national interest with a view to producing audio-visual content for distribution by those service providers.

Figure 2.2. Pay TV value chain and oversight according to the SeAC law



In addition, the SeAC law established that CONDECINE had to be collected from telecommunication providers that were offering pay TV services. These fees would help the FSA foster Brazilian audio-visual content. Collected and managed by Ancine, CONDECINE is the most important fund for the promotion of local audio-visual content in Brazil (Chapter 7).

Shortly after enactment of the SeAC law, the Brazilian audio-visual sector again witnessed profound developments. Since 2015, audio-visual services provided by streaming (over-the-top [OTT] services) have been growing exponentially in Brazil. Netflix, for example, has the largest market share among all OTT providers (Chapter 3). New entrants driven by technological developments and new business models have exerted pressure on pay TV providers, which have seen competition increase and subscriptions decline. This shift has also brought into question the regulatory limitations on the integration of the pay TV value chain. OTT providers, for example, are involved in production, programming and packaging. In this respect, recent discussions have emerged around the SeAC law on the fragmentation between Ancine and Anatel; the prohibition against vertical integration; and the strict limits imposed on cross-ownership between telecommunication and pay TV services.

In April 2019, Anatel's president formalised a position in a letter to Congress regarding a potential SeAC reform, noting

(the) need to revisit the limitations on cross-ownership between telecommunication service providers and content-producing and programming companies, established in the SeAC law. Besides no longer being useful, such a prohibition today creates non-equal treatment between companies and impedes the emergence of new business models and innovation in the sector, to the detriment of serviced consumers (Anatel, 2019_[26]).

In February 2020, Anatel's Board of Commissioners decided the limitation on cross-ownership was not valid for foreign companies. The decision was informed by the merger case between AT&T and Time Warner.

The telecommunication sector has evolved enormously since the 1960s. However, dichotomies imposed on the regulatory and institutional frameworks for FTA broadcasting and pay TV in Brazil have a legal basis that dates back more than 50 years. At the time of the CBT, it

may have made sense to distinguish between broadcasting (which in many ways functions as a non-excludable national public good), commercial pay TV and the provision of communication services. However, these arrangements may have outlived their usefulness: the ways of distributing audio and audio-visual content proliferate and converge over IP networks. A thorough review is required to foster a more integrated and future-oriented approach. Such a review should encompass several areas such as concessions, spectrum licences, ownership and cross-ownership, FDI and general broadcasting.

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Notes

- ¹ With the exception of Rio Grande do Sul, which did not have a Telebrás company.
- ² Using the exchange rate of 0.918 BRL/USD for the year of 1995 from OECD.stat (<https://stats.oecd.org/>).
- ³ Using the exchange rate of 0.918 BRL/USD for the year of 1995 from OECD.stat (<https://stats.oecd.org/>).
- ⁴ Permissions also existed, although this legal figure has never been used.
- ⁵ Using the exchange rate of 1.16 BRL/USD for the year 1998 from OECD.stat (<https://stats.oecd.org/>).
- ⁶ Using the exchange rate of 1.81 BRL/USD for the year 1999 from OECD.stat (<https://stats.oecd.org/>).
- ⁷ Using the exchange rate of 2.15 BRL/USD for the year 2013 from OECD.stat (<https://stats.oecd.org/>).
- ⁸ This meant, for example, that call centres could be available at least 12 instead of 24 hours per day, and that call records could be kept for 90 rather than 100 days.
- ⁹ Using the exchange rate of 3.33 BRL/USD for the year 2015 from OECD.stat (<https://stats.oecd.org/>).
- ¹⁰ TCU’s role is described in detail in Chapter 4.
- ¹¹ See <https://sistemas.anatel.gov.br/SACP/Contribuicoes/TextoConsulta.asp?CodProcesso=C2305&Tipo=1&Opcao=andamento>.
- ¹² Assis Chateaubriand carried out the first commercial FTA transmission through TV Tupi on 18 September 1950.
- ¹³ The FCC employs a limitation on number of audience rather than number of stations.
- ¹⁴ This legal act was further amended by Law No. 10 454 of 2002, on the CONDECINE, and Law No. 11 437 of 2006 and Law No. 12 485 of 2011 (SeAC).



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