ON JULY 1, 1994, AFTER 15 YEARS of relentless inflation, the Real Plan, carried out by the Itamar Franco administration, finally stopped the spiral of rising prices, bringing stability and order to the Brazilian economy. With macroeconomic stability, it was time to rebuild the country, which was devastated by the economic disorganization caused by high inflation. Infrastructure was particularly affected: telecommunications and electricity distribution were technologically backward, most roads and railways were run down, and there were no public resources to address the huge infrastructure bottlenecks that stifled economic activity.

The National Privatization Program, launched in 1991 by the Collor administration, had privatized many state-owned enterprises, transferring steel and petrochemical production to the private sector. The program was completed with the sale of Vale mining company in May 1997. Despite the success of the privatization program, it was urgent to start a program of infrastructure concessions to attract private investment in light poles, telephones, and roads and put trains on the tracks.

On February 13, 1995, the new president, Fernando Henrique Cardoso, signed Law No. 8987, the Law of Concessions. The first concessions granted under the new law were management and maintenance of the President Costa e Silva Bridge.
(Rio-Niterói) in June 1995, the President Dutra highway (Rio-São Paulo) in March 1996 and the Light Electricity Services in May 1996. From March 1996 to July 1997, concession contracts were granted for six regional networks of the Federal Railway Network (RFFSA).

On October 5 and 6, 2015, a seminar on “20 Years of the Concession Law,” was held at the Center for Regulation and Infrastructure (Ceri) and the Law School of Rio de Janeiro of the Getulio Vargas Foundation (FGV). It demonstrated that since the law was enacted, Brazil has made unquestionable advances in services infrastructure, such as a modern telecommunications network, nearly 10,000 kilometers of highways still in good condition, and expansion and modernization of major airports. But bottlenecks persist in almost all areas, especially in logistics and sanitation.

With the country’s fiscal crisis drying up subsidized financing from the National Development Bank (BNDES), it is necessary to find new funding sources to ensure needed investment in infrastructure. The fiscal crisis is also forcing the federal government to resort to concession contracts that maximize bonus collection, which may conflict with the demand for quality services at prices compatible with Brazilian incomes.

Regulatory agencies, created by the Law to monitor concession operators, have had their power and independence curtailed by government meddling. Joísa Dutra, director of CERI, described government’s “regulatory activism” as excessive, as in the disastrous reform of the electricity sector in 2012. At the seminar there were calls for greater transparency in concession contracts and in governance of concessionaires to ensure that society has more control over the quality of services provided.

Dutra pointed out that “despite the undeniable benefits” generated from the Concessions Law, Brazil fell from 57th to 75th position among 140 countries analyzed in this year’s World Economic Forum Global Competitiveness Report, and infrastructure was one of the main pillars analyzed: The report ranks Brazil in 121st place in the quality of roads, 120th in port facilities, and 98th in railways.

Dutra also cited major Brazilian government programs for infrastructure investments: the
Brazil government invests the least in infrastructure as a share of total public spending.

Government investment in infrastructure as share of total federal budgeted spending (%)

<table>
<thead>
<tr>
<th>Country</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil - 2014</td>
<td>1.47</td>
</tr>
<tr>
<td>United States - 2014*</td>
<td>2.64</td>
</tr>
<tr>
<td>Mexico - 2013</td>
<td>2.65</td>
</tr>
<tr>
<td>United Kingdom - 2014</td>
<td>2.86</td>
</tr>
<tr>
<td>Malaysia - 2014</td>
<td>3.2</td>
</tr>
<tr>
<td>Colombia - 2014</td>
<td>4.44</td>
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<tr>
<td>Portugal - 2014</td>
<td>7.23</td>
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<tr>
<td>India - 2014/2015</td>
<td>8.32</td>
</tr>
<tr>
<td>Paraguay - 2013</td>
<td>11.00</td>
</tr>
<tr>
<td>Peru - 2014</td>
<td>11.00</td>
</tr>
</tbody>
</table>

Sources: [wusgovernmentspending.com](http://wusgovernmentspending.com); [www.whitehouse.gov](http://www.whitehouse.gov); [www.treasury.gov.my](http://www.treasury.gov.my); [www.dgo.pt](http://www.dgo.pt); [www.abc.net.au](http://www.abc.net.au); [http://budget.gov.au](http://budget.gov.au); [http://india.gov.in](http://india.gov.in); [http://www.minhacienda.gov.co](http://www.minhacienda.gov.co); Siafi; Siga Brasil, Secretaria do Tesouro; BID, Banco Mundial.

Elaboration: Inter.B.

second stage of the Logistics Investment Program (PIL-2) foresees R$198.4 billion in infrastructure investments, R$86.4 billion for railways, R$66.1 billion for roads, R$37.4 billion for ports, and R$8.5 billion for airports. As these investments ultimately depend on private participation, she underscored the urgency of reforming the regulatory framework if the investments are to be successful.

Pillar to grow

In opening the seminar Finance Minister Joaquim Levy said that building infrastructure “is a central part of the growth strategy of countries,” especially Brazil, and that “in the fiscal environment in which Brazil and most of the world live today, private sector participation in investments is critical.” He stressed that private operators from all over the world are now working successfully, despite economic ups and downs, in various infrastructure sectors, and the goal continues to be to attract both international operators and investors.

“The BNDES played a key role in 1990–2000, and will continue to do so, but we need to attract private financing,” Levy said, noting that this was at the heart of the challenges of all the G-20, not just Brazil.¹ To attract these resources, Levy considers it essential for Brazil to better design projects and draft contracts so as to reduce costs and delays in execution and thus reduce the risk to lenders.

“Whenever there is ambiguity in projects and contracts, fewer firms [bid],” he said.

¹ The Group of Twenty (G-20) is an international forum for governments and central bank governors from the 20 major economies — Argentina, Australia, Brazil, Canada, China, France, Germany, India, Indonesia, Italy, Japan, South Korea, Mexico, Russia, Saudi Arabia, South Africa, Turkey, the United Kingdom, the United States, and the European Union.
Later in the seminar, Flávio Amaral Garcia, State Attorney of Rio de Janeiro, described practical details related to Levy’s comments: the Ministry of Finance has established a working group of ministry staff and external experts, such as Carlos Ari Sundfeld, professor at the FGV Law School of São Paulo, to propose improvements in regulation of infrastructure concessions. The group’s four main concerns are governance, planning, legal certainty, and efficiency. One topic being discussed is amendment of the Public Procurement Law, although Garcia believes that not much can be done while corruption schemes in state-oil company Petrobras are being investigated. But that does not prevent changes in regulations, such as the Concessions Law, that in practice imply change in the procurement law.

Also being discussed is a change in the Civil Code proposed by Senator Antonio Anastasia (PSDB-MG) to give public officials legal protection for making decisions without fear of making mistakes or suffering sanctions by regulatory agencies. According to Garcia, fear of punishment has caused paralysis in some government sectors.

Both Levy and Garcia made it clear that given the current crisis the goal of the government economic team is to build the foundations for a recovery based on stronger institutions.

The Commercial Secretary to the Treasury of the United Kingdom, Lord O’Neill of Getley, said one of the few things he had learned in his 30 years in finance was that “you never let a serious crisis go to waste.” O’Neill stressed the importance of creating the right conditions for attracting investment, and that among these it is “very important to have a national plan for the long term.”

O’Neill believes that one reason the U.K. has achieved great success with public-private partnerships (PPPs) is “a relatively stable legal system and tax regime.” In recent years the U.K. has attracted more than 730 PPP projects, with investments valued at £54 billion (over US$80 billion), and about 40% of investments in the British economy come from abroad.

Brazil fell from 57th to 75th position among 140 countries analyzed in this year’s World Economic Forum Global Competitiveness Report, and infrastructure was one of the main pillars analyzed: The report ranks Brazil in 121st place in the quality of roads, 120th in port facilities, and 98th in railways.

Far short of what is required
The executive director of the Harvard Electricity Policy Group (HEPG), Ashley
In recent years the U.K. has attracted more than 730 PPP projects, with investments valued at £54 billion (over US$80 billion), and about 40% of investments in the British economy come from abroad.

Brown, a respected international expert on infrastructure regulation, identified two current issues in Brazil: incentives for concessions and conflicting government interests between improving infrastructure services and maximizing financial compensation for the concession operator. He considers a major obstacle to the development of natural gas distribution infrastructure in Brazil to be the lack of free access to the pipeline network, of which Petrobras has a virtual monopoly.

Portuguese consultant Jorge Vasconcelos, founder of the Florence School of Regulation, recalled the liberalizing context of the late 1980s and early 1990s in which infrastructure concession frameworks throughout the Western world, including Brazil, solidified. However, he said, “The rights and participation of users today, with the resources of the Internet, have nothing to do with what existed in the 1990s.” In a world where people are discovering new opportunities that trample markets, as with the Uber transport company taking the place of conventional taxis, Vasconcelos said it is time to adapt regulation to this new world.

Marçal Justen Filho of Justen, Pereira, Oliveira & Talamini, lawyers, said that given the speed at which reality has been changing, the watchword for regulation is “flexibility,” rather than putting the Concession Law in a straight-jacket. “What do we do if reality changes?” he asked. “Be flexible,” he answered. Among strengths in the Concessions Law that he identified was that it eliminates legal uncertainty, eases the application of the procurement law, disciplines the bidding process, and establishes “fundamental principles” of the relations of government, operators, and users. Among shortcomings, he said, the law lacks flexibility to adapt to new situations, has a static concept of the contractual economic-financial balance, and has brought about multiplication of regulatory agencies with overlapping competencies.

Justen pointed out that reality has prompted changes since the early years of the Concessions Law, such as sectoral regulation like the General Telecommunications Law (9472/1997) and the PPP Law (11,079 / 2004). In sum, he said, “It is impossible to fit all public concessions in the framework of the Concessions Law.”

The benefits in terms of upgraded infrastructure under current regulation have been significant, but insufficient. Regis Bonelli, researcher, Brazilian Institute of Economics, and moderator of the current
Brazilian infrastructure panel, said efficient infrastructure generally increases the productivity of the whole economy, but in Brazil infrastructure investments have not been sufficient to boost productivity.

Bonelli pointed out that the annual increase in Brazil’s total factor productivity fell from 2.3% in the second term of Lula da Silva (2007–10) to –0.2% in the first Rousseff administration (2011–14). He suggested that the decline in productivity is associated with, among other factors, a larger share of low-productivity services in gross domestic product and “wrong economic policy choices,” such as poorly planned and executed infrastructure projects. Among these he cited construction of a wind farm in Bahia state without the necessary power transmission line and Petrobras refinery projects that have been dragged out or discontinued.

Claudio Frischtak, president of Inter B consultancy, underscored the major effects of infrastructure shortcomings on productivity and growth. The problems of the Brazilian economy are so complex that Frischtak does not rule out the possibility that the 2010s will go down in history as a second “lost decade,” rivaling the hyperinflation of the 1980s. He showed, for example, that between 1996 and 2015 labor productivity in Brazil grew only 0.69% a year compared to 7.99% in China and 4.56% in India. Frischtak attributes the low productivity growth to such factors as poor education, poor management, regulation uncertainty, the complex tax structure, high taxes, an adverse business environment, and limited investment.

**Growth in labor productivity is key for higher income and economic growth. Brazil has one of the lowest productivity growth rates among emerging countries.**

Labor productivity measured by GDP in US dollar per employed person (average annual % growth)

1996-2015

<table>
<thead>
<tr>
<th>Country</th>
<th>1996-2015 Growth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Germany</td>
<td>0.67</td>
</tr>
<tr>
<td>Brazil</td>
<td>0.69</td>
</tr>
<tr>
<td>China</td>
<td>7.99</td>
</tr>
<tr>
<td>South Korea</td>
<td>3.01</td>
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<tr>
<td>Slovakia</td>
<td>3.44</td>
</tr>
<tr>
<td>US</td>
<td>1.59</td>
</tr>
<tr>
<td>Netherlands</td>
<td>0.86</td>
</tr>
<tr>
<td>India</td>
<td>4.56</td>
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<tr>
<td>Indonesia</td>
<td>2.31</td>
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<tr>
<td>Ireland</td>
<td>1.98</td>
</tr>
<tr>
<td>Malaysia</td>
<td>1.47</td>
</tr>
<tr>
<td>Poland</td>
<td>3.42</td>
</tr>
<tr>
<td>United Kingdom</td>
<td>1.15</td>
</tr>
<tr>
<td>Thailand</td>
<td>2.07</td>
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</tbody>
</table>

Source: Conference Board Total Economy Database, 2015.
With regard to infrastructure investment, Frischtak said, Brazil annually invested 2.12% of GDP in 2001–10 and 2.29% in 2011–14, when it needed to invest 5–6% a year for at least two decades to overcome its infrastructural deficit. Brazil’s annual investment in infrastructure is less than the 3% the World Bank considers the minimum necessary to make up for the depreciation of fixed capital. Brazil invests little and poorly in infrastructure, says Frischtak. And why? He highlights flaws in planning, the low quality of public projects, low government execution capacity, limited fiscal space, and little availability of long-term financing.

He also sees a lack of the predictability, stability, and transparency necessary to attract private sector interest in concessions. He calls for regulatory agencies that are depoliticized and have decision-making and financial autonomy. He also recommended a reform agenda that supports increased public investment and attracts more private investment.

Bruno Dantas, Minister of the Court of Audits (TCU), stated that “Brazil does not know how to do planning,” and the lack of planning leads to insufficient financing for proper execution of projects. He also said that the disorganization prevailing in Brazil “torments entrepreneurs and does not allow the execution of necessary investments.” Among examples of messy execution of infrastructure projects, Dantas cited the recent TCU ruling that criticized the government’s decision to change the criteria for granting eight ports under the Logistics Investment Program (PIl). The criteria changed from “greater cargo handling capacity” to “higher value award.” With this change, the TCU believes the government lost an opportunity to seek greater efficiency in port operations.

Engineering consultant Rui Marques, professor at the University of Lisbon, believes the Brazilian infrastructure deficit can be resolved by more PPPs, a public service concession arrangement that is not well developed in Brazil. PPPs could help encourage investments, particularly in sanitation and transport; currently annual investments in infrastructure average R$1 billion a year when the country needs to invest R$240 billion a year. Marques sees as one problem the lack of capacity in the public sector in general to participate in PPPs; Brazil needs to invest in training public sector technical staff.
The eternal conflict between energy and environment

“BRAZIL NEEDS DEVELOPMENT that is neither the National Confederation of Industry, nor the National Confederation of Agriculture and Livestock of Brazil, nor Greenpeace,” said Marilene Ramos, president of the Brazilian Institute of Environment and Renewable Natural Resources (IBAMA), during the seminar panel on “Energy and Environment.” She was referring to the eternal conflict between electricity power generation and transmission and environmental agencies.

Ramos, who took office in May, reported that three federal working groups are looking into how to find a solution to the current conflict. She said that sometimes the electricity sector calls for something and IBAMA seems to agree, but IBAMA imposes so many requirements that in fact it seems to deny it.

One suggestion Ramos made was to streamline the process of environmental licensing so that that each priority project submitted to IBAMA comes with a stamp of “strategic” placed by a multisector agency; in the case of electricity, she said, that could be the National Council of Energy Policy. She also said the three environmental licenses—preliminary, installation, and operation—are not the only ones causing delay. Often specific sublicenses, such as vegetation removal, slow the effects of the major environmental licenses.

Mario Menel, president of the Forum of Associations of the Electricity Sector, pointed out a little-known area of dispute between the electricity sector and the environmental agencies that goes beyond technical issues: Since granting a preliminary license is conditional on the auctions of transmission lines, mayors tend to create environmental reserves in the stretches through which transmission lines will run in order to gain bargaining power in the later licensing stages.

Menel added that the initial effect of the Law of Concessions “was spectacular,” unlocking 22 electricity projects, but over time the law became cluttered with alterations, the most significant being that embodied in Law No. 12,783, which sets conditions for renewal of power generation contracts. That, Menel said, “broke the electric sector.”

Lawyer Elena Landau, former director of privatization of the National Development Bank, agreed that the Concessions Law started well in 1995, but the interventionism historically characteristic of Brazilian governments as always ended up messing it up. She believes that the large exchange devaluation in 1999 made a clear case for concessionaires to request economic and financial review of their contracts as the regulation calls for, but “the central bank opposed it,” she said.

In addition, Laudau said, the National Electric Energy Agency has hypertrophied and is dictating electric sector policy. “A concession contract is worth nothing before the Aneel,” she said.
The search for a new transport agenda

SEMINAR PARTICIPANTS were surprised when the executive secretary of the Ministry of Transport, Natâlia Marcassa, said the 7,000 kilometers of new railways planned for the second phase of the Logistics Investment Program (PIL 2), which total R$86.4 billion in investment, will only make up for the first program’s lack of success: None of the railway projects of the first Logistics Investment Program (PIL 1) were completed.

The announcement confirmed what everybody suspected. The PIL 1 model established state-owned Valec as guarantor of cargo for railways to be built by the private sector: Valec would purchase all cargo capacity from railway operators and sell it to users. This seemed the ideal response to the railway operators’ risk of losses, but in practice it drove away investors who feared that the government would not fulfill its contractual role if operator cash flow should dwindle. In fact, Marcassa said, PIL 2 has buried the Valec guarantee of cargo for railway operators precisely because the government fears it might not be able to fulfill its commitment.

Marcassa reported that the government celebrated the 20 years of the Concession Law by rebidding operation of the Rio Niterói Bridge this year, after the first concession agreement was fully completed. The concession auctioned was again for 30 years, but with a reduction in the toll. The reduction was extensively criticized, during the seminar and elsewhere, because the bridge has excess demand and is at risk of saturation with the cheaper toll.

The government does not have a business model for the new phase of the program. It is considering alternatives to limit risks to investors that would replace Treasury guarantees and cheap and unlimited BNDES financing.

“We need private funding from any source. In Europe there is huge liquidity in search of more attractive yields,” said Paulo Correa, Secretary of Economic Policy of the Ministry of Finance, explaining changes that bring greater legal security for investors.

The panel on international experience revealed that there is no easy life in logistics, even in Europe where infrastructure is already largely built. Consultant Mathias Finger of the Florence School of Regulation made it clear that railways are not self-financing. “In the most efficient systems, perhaps the cost of recovery is no more than 50%. The rest is public money,” he said, pointing out that cargo, which is the Brazilian option, is profitable, which is no longer true for passengers. As for the business model, Finger said he was not convinced that it is
efficient to separate infrastructure and operations, because the interaction between the two parties ends up generating high costs.

Another European specialist, Duarte Silva, director of the state-owned Infrastructure of Portugal, reported that in his country the option for cargo is total separation of infrastructure and operation (100% private as of January 2016), but with integration between rail and road, with the aim of defining an optimal model that takes advantage of synergies to increase scale and reduce costs.

In Brazil, Armando Castelar, IBRE coordinator of Applied Economics, identified two factors: The successful privatization of railways in the 1990s, which can be measured by increased investment—R$574 million in 1996/1997 and R$5.94 billion in 2014—and the reduced accident rate, which fell from 75.5 per million kilometers traveled in 1997 to 11.6 in 2014. But there is government dissatisfaction with some aspects of the privatization, especially the restricted access of new users to cargo services and the lack of incentives for construction of new lines. Castelar pointed out among serious problems to be addressed is the low speed of trains and the low viability of new projects, such as the East-West Integration railway and Transnordestina railway.

Mauricio Portugal of the Portugal Ribeiro law firm said that the railway business model that was abandoned, with its inevitable fiscal costs, was appropriate for a much richer country than Brazil and therefore did not prosper. He thought that Brazil faces serious risks in achieving its infrastructure investment objectives and said it was not true that more recent concessions, such as airports, were successful. Without resources to pay for subsidies, and without a good payment history, except in securitized debt, in Portugal’s view, even the idea of hiring guarantees with multilateral organizations, such as the Inter-American Development Bank and the World Bank, though good in theory, would suffer from the slowness of the institutions.

**Some measure of success**

Despite setbacks, doubts, recent mistakes, and necessary course corrections, numbers presented by Luiz Ugeda, Director of Regulation and Institutional Relations of the Brazilian Association of Highway Concessionaires, support the correctness of the decision to grant such concessions. He said that since 1995 concessionaires in the road sector have invested R$44 billion and plan investments of R$55 billion over the next five years, although only 30% of users of road concessions pay tolls. He proposed establishment of a center of excellence in logistics, modeled on the Center for Energy Research of Eletrobras.

Marcelo Bruto, director of the National Land Transportation Agency, pointed out that despite the progress so far, it is time to look for new business models for concessions to make it possible to hand over to the private sector roads that may not have enough traffic yet to justify the investment required.

In the airport industry, according to Tomas Serebrisky of the Inter-American Development Bank, “the international assessment is that Brazil’s [concessions] program has been successful,” in that it has interested operators of the best airports in the world, although there continue to be challenges. One of them is how to manage in times of economic crisis, since the income elasticity in the airline industry is very high. He is also concerned that only airports that give good returns were privatized, eliminating cross-subsidies that supported loss-making airports. Brazil has more than 120 airports in operation. He believes that PPPs can work out solutions for loss-making airports. “Peru has done it successfully,” he said.
Telecoms: The new concessions frontier

FOR THE PANEL ON TELECOMMUNICATIONS the sector was seen to be “at a crossroads,” as Caio Mario Pereira Neto, professor, FGV Law School of São Paulo, said. Given technological development, it does not make sense to insist on universal fixed telephony, which was the mainstay when Telebras was privatized in 1998. “Today, broadband is the main sector expansion axis,” said Pereira Neto, noting that Brazil today has 70 million fixed telephony lines but only 40 million are actually in service.

Pereira Neto argued that to refocus Brazilian telecoms on broadband it is necessary to create a new policy of expansion with multiple instruments, adding “This is more like it was in 1998, when there was a large pent-up demand.”

For broadband to be universal, for example, he recognized the need to find mechanisms to reach the poorest areas of Brazil. He suggested use of the Universal Service Fund for Telecommunications Services (Fust) to cover the additional costs for telecom companies to serve these areas. From 2000 to 2013, he said, Fust raised about R$16 billion—resources that were used almost entirely to ensure the government’s primary fiscal surplus.

Igor Vilas Boas de Freitas, board member of the National Telecommunications Agency (Anatel), said that of Fust’s R$16 billion, only R$200,000 was used. He agreed that the sector is at a turning point and said Anatel is preparing for this new phase; he noted that “Until 2013, Anatel consisted of mini agencies separated by areas. Today it is organized in a centralized way.”

Freitas believes that new challenges also require changes in the accounts of telecom companies, which are today separated by areas and independent services. “Trying to solve the problem of broadband with this accounting separation is not possible,” he said. Some broadband service in poor areas, for example, is already being offered by small operators. “With a little encouragement, small operations can solve the problem in small markets.”

There were also concerns about telecoms quality and prices. Joisa Dutra, director of Ceri, noted that the telecommunications sector is the “champion” in terms of numbers of user complaints to consumer protection agencies and that this situation is incompatible with progress.